



Rusty Raiders Dive Into Research

Learning the importance of teamwork and making connections with their local watershed, elementary students build under water robots in science class to research local invasive species.

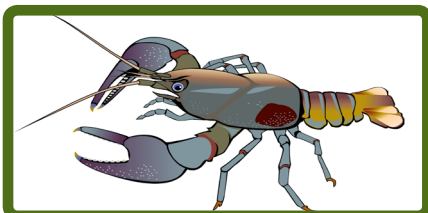
Each spring and fall classes from Sanborn Elementary don their waders, load the bus and travel to various sites along the Thunder Bay River. Their mission is to capture, mark, and recapture rusty crayfish for purposes of a population survey. These students are leading the charge developing unique methods to address invasive species control.

Taking Control

Rusty Raiders is a student-led research project from Sanborn Elementary (Alpena Public Schools) that is part of the Thunder Bay River Watershed Project. The Thunder Bay River Watershed Project (TBRWSP) was created and developed by students wanting to preserve their local freshwater resources. The project goal is to support, sustain, and secure the ecological and economic health of our fresh water resources. This includes a research-heavy focus on understanding how invasive species are changing our local freshwater ecosystem.

Did You Know?

Rusty crayfish have invaded much of Michigan, Minnesota, Wisconsin, Illinois, Ontario, and portions of 17 other states. Although native to the Ohio River basin and the states of Ohio and Kentucky, rusty crayfish continue to spread into many lakes and streams where they cause a variety of ecological



The rusty crayfish (*Orconectes rusticus*) is most easily identified by a dark, rusty colored spot found on each side. Illus. by SeaGrant



"Rusty Raiders has been the coolest experience because in any other class we have never done projects like this. We get to be more hands-on and explore the rivers and lakes."

-Chase Allen, 5th grade student

problems. Rusty crayfish displace native crayfish, reduce the amount of aquatic plants, decrease the density and variety of invertebrates, and reduce some fish populations. However, not all crayfish are bad! Michigan is home to eight crayfish species, only one of which is invasive. Sanborn students have developed a community action plan to prevent and slow the spread of the invasive rusty crayfish into new waters and are working to get the community to remove these crayfish from infested areas of our local watershed.

From Problem, to Plan

The students, with help from local research scientists, have developed a three year research project that has three main phases. The first phase focuses on



schools and students to develop multiple survey sites along the river to assess the rusty crayfish population. The second is encouraging local residents to practice catch and release protocol when fishing for small mouth bass and educating the public to prevent the spread of invasive species. The final phase, a few years out, will involve reintroduction of native crayfish.

Proven Partnerships

Rusty Raiders is surrounded with a strong network of collaborators committed to making this research project successful. Project and student support comes from within the Northeast Michigan Great Lakes Stewardship Initiative: the Thunder Bay National Marine Sanctuary, B-WET, the Thunder Bay River Watershed Project, MSU Extension 4-H, and Huron Pines. Research support comes from NOAA, U.S. Fish & Wildlife Service, Michigan DNR-Alpena Fisheries



Project Partners



Research Station, and both Minnesota and Michigan Sea Grant. AmeriCorps members have helped in the classroom and with field research as well.

The students are working directly with MDNR-Alpena Fisheries Research Manager Jim Johnson, fish biologist, to develop the initiative to catch and release small mouth bass in order to increase a natural biological control. Anjie Bowen of the U.S. Fish & Wildlife Service is guiding the students in developing their community awareness presentations and Brandon Schroeder, from Michigan Sea Grant, is helping to establish research sites to create an on-going population count of rusty crayfish in order to see if the project is effective.

Research Sharing and Education

By allowing these fourth and fifth graders to create, develop, and institute their own solution to a problem, it engages them in the most effective way.

For example, Rusty Raiders provided Sea Grant with collected rusty crayfish specimens to be preserved in transparent blocks used for educational purposes and utilized their writing skills to develop a Lake Huron's "Most Wanted" profile for the rusty crayfish to be added



"The hard work is worth it when you see a student in the river with a huge smile saying, 'thank you.'"

-Mr. Bob Thomson

5th grade Teacher, Sanborn Elementary

to Sea Grant's invasive species poster collection. These actions are not going unnoticed in the community either. Rusty Raiders also play a vital role in communication to a larger audience through public service announcements such as: radio features, local news releases and board presentations. The class has a calendar full of outreach events where students deliver educational information about the issue of aquatic invasive species. Events include an Earth Day celebration, the Northeast Michigan Youth Watershed Summit and other various student events within and without the school.

Visit www.nemiglsi.org for this and more Projects In Action.

What is Place-Based Education?

Place-Based Education (PBE) or Community Based Education (CBE) utilizes the local, natural and built environments as a context for learning and in doing so brings students into closer contact with their communities. This method is proven to develop knowledgeable and active stewards of the environment. When schools and communities work together, everybody wins!

Why:

This education strategy protects Great Lakes ecosystems, strengthens Northeast Michigan communities and provides critical support to schools as they strive to serve the academic and developmental needs of their students.

How:

Teachers and students are supported through project mini grants, connection to resource partnerships, and high-quality Professional Development that provides essential tools and techniques for fostering a collaborative culture of place-based learning within and among schools and their communities.

Supporting Community Development and Resource Stewardship Priorities through education:

Since 2006, numerous local and regional partners have engaged in Great Lakes education, networking and planning efforts across Michigan's "sunrise side." These efforts mobilized a network of school and community partners committed to identifying needs and developing strategies for enhancing coastal access, education, and sustainable resource management. Empowered through funding support from the Great Lakes Fishery Trust (GLFT), this collaboration now comprises the Northeast Michigan Great Lakes Stewardship Initiative, one of nine regional hubs through which GLFT furthers the principals and practices of place and community-based education as the Great Lakes Stewardship Initiative.

You are invited:

If you care about Northeast Michigan and want to make a difference for the future of our region, please contact NEMI GLSI to find out how you can get involved.

Phone: 989.356.8805 x41 or daniel.moffatt@noaa.gov

Northeast Michigan GLSI network programs and materials are open to all without regard to race, color, national or ethnic origin, gender, gender identity, religion, age, height, weight, disability, political beliefs, sexual orientation, marital status, family status, or veteran status.

How can I participate in the NE Michigan GLSI Network?



Many partners are currently exploring community- or place-based education development opportunities within the NE Michigan region. For more information, visit us on the web: www.nemiglsi.org

Who Can I Contact?

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