

HANDS-ON LEARNING



Holtgren said the students love to touch the fish.

National Science Foundation grant links MHS science students with LRBOI sturgeon program



This tiny radio tag (ABOVE) is inserted just under the young sturgeons' skin. It emits a signal that can be picked up from quite a distance. This piece of equipment (BELOW) picks up the transmission from the tiny radio transmitters.



BROWN TOWNSHIP — The Little River Band of Ottawa Indians' sturgeon rearing and release program, which has been a model for inter-agency cooperation since it began eight years ago, has added a new level of education and cooperation.

From the start, the program has required a cooperative effort from the U.S. Forest Service, Michigan Department of Natural Resources and Environment, and the Little River Band of Ottawa Indians.

The newest level of cooperation involves the Manistee High School science program as part of a global watershed program that is funded by the National Science Foundation (NSF).

Marty Holtgren, senior inland fisheries biologist for the natural resources department of the Little River Band of Ottawa Indians, started working on his doctorate at Michigan Technological University two years ago, and there he learned about the NSF-funded program that is a joint effort between Michigan Tech and several school districts. He worked with Manistee High School science teachers Kate Thomson and

Kevin Postma to become a part of the program along with several schools in the western Upper Peninsula and Sonora, Mexico.

A primary goal of the NSF program is to help research scientists better communicate with non-scientists. Ph.D. students like Holtgren conduct research on local, regional and global watershed science projects and work with local teachers to develop lesson plans to teach middle and high school students the research process and content knowledge. The emphasis is on hands-on, inquiry-based research approaches.

Last week approximately 135 Manistee High School biology students visited the sturgeon rearing facility at the Rainbow Bend access site on the Big Manistee River in three shifts of 30-50 students each. They were in a hurry to visit the facility because the current "class" of about 80 juvenile sturgeon will be released during a special ceremony Saturday that will include tours and other festivities at the Rainbow Bend Access Area from 2:30 until 3:30 p.m., a discus-

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Holtgren said that virtually all of the students enjoyed seeing the small sturgeon in the rearing tanks. Water is piped to the tanks from the Manistee River to be sure that whatever it is in the water that imprints the fish to the particular location leads them back.

STORY AND PHOTOS BY DAVE YARNELL • STAFF WRITER

WEATHER FORECAST

Your Local Weather				
Wed 9/22	Thu 9/23	Fri 9/24	Sat 9/25	Sun 9/26
68/53	72/64	65/47	60/45	62/48
Morning clouds followed by afternoon sun.	Showers possible. Highs in the low 70s and lows in the mid 60s.	Few showers. Highs in the mid 60s and lows in the upper 40s.	Times of sun and clouds. Highs in the low 60s and lows in the mid 40s.	A few clouds. Highs in the low 60s and lows in the upper 40s.

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Photos by Dave Yarnell/News Advocate

Brennan O'Keefe (left) snaps a photo of a sturgeon while Justin Peck looks on. Marty Holtgren, who is holding the fish, said he hates when people call them ugly. He prefers to think of them as unique, and says it is a "genetically unique for a species that has lived here for 10,000 years."

STURGEON: FROM PAGE 2A

sion of the tribe's sturgeon rehabilitation project at 3:30 p.m., and the release ceremony at 4 p.m.

Holtgren told the students who were visiting that he has been pleased be a part of this project that makes is making a difference in the Manistee River. He talked about the uniqueness and quality of the Manistee River.

"There are about 10,000 salmon in the river right now," he told the students. "Very few rivers in the world that are like that. Among all of those salmon are about 70 to 100 female sturgeon. The sturgeon are something special that hardly any other community has. People have asked me, 'why would you waste your time (on the sturgeon)?' The reason is that we are trying to keep something that's here, to keep the ecosystem balanced. If the sturgeon were gone, a link that would be missing."

Holtgren met with the students in the classroom earlier to talk about his work, and he was pleased to be able to host them at the rearing facility.

"Once they walk into the trailer, everything changes," he said. "They understand what we are doing. And when they actually touch one of these

ancient fish, that leaves an impression that will last forever.

"One reason that this opportunity to work with the students is exciting to me is that it allows me to improve the way I communicate scientific information to students to make it understandable, enjoyable and relevant," he said.

MHS science teachers Thomson and Postma are pleased to be involved in the National Science Foundation project.

"We are excited to have this special opportunity to collaborate with Marty," Thomson said. "His sturgeon and biological research and the LRBOI Natural Resource projects are exciting and important contributions to our community and our local ecosystem. The most fantastic part of this grant opportunity, however, is the opportunity for our students to learn about and understand real science, and know real scientists, right here in Manistee. It is also an awesome way to improve and enhance our high school's science curriculum. We feel very lucky and honored to participate in the NSF 12 grant."

"This is the teaching opportunity of a lifetime," Postma said. "Many scientists don't get the opportunity to participate



Holtgren told the students that the sturgeon larva are most active about the same hours the students are — from 10 p.m. until 2 a.m. He and others on the staff waded in the river at that time using this net to catch larvae so they can spend several months at the rearing facility, which will greatly increase their chance for survival.

in a National Science Foundation grant, let alone science teachers. While it is personally exciting, the real value is in how our work will make biology lessons more interesting and more engaging for students. We are fortunate to live in Manistee County where the opportunities to study biology in our backyards is endless."

Alex Mayer, director of the Michigan

Tech Center for Water and Society, said that one of the goals of the program is to demonstrate to K-12 teachers and students how scientists do research.

"We also hope that this will lead to more students choosing to go into science, technology, engineering and mathematics and that it will enhance the teaching of science at our partner schools," he said.

LOOKING BACK



Courtesy Photo/Manistee County Historical Society

Consolidated school in Copemish.

40 years ago

Public fails to attend hearing

Manistee Area Board of Education had a public hearing on its \$1,765,268 budget for 1970-71 last night, but the public failed to attend. The budget anticipates an operating deficit of \$8,966 which, however, will not put the district in the red because of a balance of \$37,000 was shown on the recent audit.

60 years ago

Kaleva paving

The village of Kaleva is justly proud of its newly paved streets which improve the appearance of the entire community.

80 years ago

'Embalming fluid, not liquor'

Three arrests by state police, in all of which liquor was the cause of the violations, were haled into Justice August Greve's court this morning. James Chandler, 51, itinerant cook, bound for the Manistee county fair, appeared in court to answer to a charge of being intoxicated on highway U.S.-31 Sunday. A similar charge was preferred against his companion, Nelford Diepenhort. Chandler remorsefully pleaded guilty, opining that the drinks he had been given were "embalming fluid, not liquor."

Compiled at the Manistee County Library by Meredith Grahl



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