

FROM PAGE 11

DTE Energy's Freshwater Institute for Teachers

"Not only have I gained knowledge and understanding of freshwater issues, more importantly, I am inspired and excited to share key field experiences with students that will spark the same excitement and motivation to learn...each of my students will have the opportunity to be a steward of their Great Lakes resources!"

Jody Meyers
5th Grade Math/Science Teacher
Central Grade School
TC Area Public Schools

A mission of Northwestern Michigan College's (NMC) Great Lakes Water Studies Institute (GLWSI) is to inspire lifelong stewardship through education, partnership and convening.

Vital to that mission is the new DTE Energy Freshwater Institute for Teachers. The goal of the Freshwater Institute is to provide a statewide resource for K-12 teachers, students and community partners to develop meaningful science education about fresh water. The GLWSI held two

such institutes this summer at the University of Michigan Biological Station in Pellston and at the GLWSI's facilities at NMC's Great Lakes Campus. The program is supported through funds provided by the DTE Energy Foundation and will be extended to K-12 teachers statewide over the next four years.

The Freshwater Institute, led by Dr. Mary Whitmore, brings teachers, students and community partners together to study, explore and develop ways to understand science through fresh water. The program emphasizes field experiences and hands-on activities to provide a deeper understanding of watersheds and water resources. It also provides teachers with resources and organizations to support classroom learning. Following the Institute, all participants meet four times over the course of the year to share results and experiences of classroom applications.

The Watershed Center and other partners participate in the Freshwater Institutes held in Traverse City to share ways that teachers and students can learn and become involved in protecting and managing our water resources.

MONITORING Update: Torch Lake project

Three Lakes Association was recently awarded another grant from the MDEQ to continue the phosphorous modeling project and extend it to Lake Bellaire and Clam Lake. The goal of the project is to develop a predictive, nutrient-based water quality model that can be used to make cost-effective water quality management decisions. Over the course of two years, the group is sampling phosphorous levels in lakes, rain and groundwater, measuring flows of groundwater, tributaries and dissolved oxygen in the lake's water column. These measurements will be put into an existing computer water quality model that is being customized to reflect our local lake conditions. The association is



Record-Eagle file photo

Above, Researchers from the University of Michigan deploying the data collection buoy on West Grand Traverse Bay.

using local high school students to assist in collecting data and are utilizing the Baykeeper tug for certain tasks. They will also host a workshop on November 11th at Camp Hayo-Went-Ha, a YMCA Camp on the shores of Torch Lake to present their findings and demonstrate the water quality model.

Buoy Deployment

With a big splash, a 1,000 lb. anchor was dropped from a Great Lakes Maritime Academy tugboat on July 15, 2005, launching a collaborative effort to learn more about the dynamics of northern Lake Michigan and provide valuable real-time over-water weather data to a broad group of users.

The University of Michigan's Marine Hydrodynamics Laboratory deployed a data collection buoy in over 150 feet of water in West Grand Traverse Bay, about two miles north of the mouth of the Boardman. The buoy will radio-transmit data every 10 minutes to an antenna and com-

puter server located at the Institute's office.

This high-tech buoy will measure wind speed, wind direction, current speed, current direction, wave height, wave period, air temperature and surface water temperature. After testing and field verification, a publicly available real-time web site will be made available. It is also expected that the data from this buoy will be made available through the National Weather Service's National Data Buoy Center at www.ndbc.noaa.gov.

Key partners in the project include the university, Michigan Sea Grant, the National Oceanic & Atmospheric Administration, the National Weather Service, the Water Studies Institute and a host of local partner groups including the Inland Seas Education Association, The Watershed Center and the Great Lakes Children's Museum. The anchor was custom made and donated to the project by Team Elmer's of Traverse City.



Above, Interns working with the Three lakes Association this summer are measuring groundwater flow into Torch lake as a part of the association's two year water study and modeling project. Left to right: Derek Walton, Samantha Fox, Lauren Elbert and Paul Roush, supervisor.

Did you know?

The Boardman River is considered one of Michigan's top trout streams and supplies 30% of the water to the bay.

The Boardman Angler
389 S. Union
at 5th Street
Traverse City
(231) 933-4330

www.TheBoardmanAngler.com

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