



*Western Upper Peninsula Center
for Science, Mathematics and Environmental Education*

A partnership of

Copper Country & Gogebic-Ontonagon Intermediate School Districts and Michigan Technological University
Serving schools and communities in Houghton, Baraga, Gogebic, Ontonagon and Keweenaw Counties

For Immediate Release
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**Excursions on Torch Lake & Portage Lake aboard MTU's Research Vessel Agassiz
~ FREE for the public this summer at 3 community events**

The Western U.P. Center for Science, Mathematics and Environmental Education is partnering with Michigan Tech University to provide FREE 40-minute excursions aboard MTU's research vessel Agassiz at three community events this summer. Members of the public will be able to take an excursion on Torch Lake or Portage Lake with an MTU scientist to learn how the Great Lakes are studied and which characteristics contribute to healthy lake. Displays, educational materials, and samples of organisms living in the lake, as well as sediment from the lake bottom, will be available for public viewing onshore. Seventeen persons may participate on each excursion (must be 7 years of age or older). These events are funded by the Michigan Space Grant Consortium, and Michigan Technological University's College of Engineering and Department of Civil and Environmental Engineering.

The three community events are:

(1) Houghton Co. Historical Society's Trains, Tractors, and More History Extravaganza ~ Noon - 4 pm, Sunday, May 21 at Lake Linden Marina. Sign up for hourly departures at 1 pm, 2 pm, and 3 pm at the Lake Linden Marina dock.

(2) Houghton Bridgifest ~ 11 am - 3 pm Saturday, June 17 on the Houghton waterfront across from Gazette offices on south/east side of Houghton-Hancock bridge. Sign up for hourly departures at 11 am, noon, 1 pm, and 2 pm at the dock.

(3) Chassell Strawberry Festival ~ 1-4 pm, Saturday, July 8 at the Chassell boat launch & marina. Sign up for hourly departures at 1 pm, 2 pm, and 3 pm at the Chassell Marina dock.

The Agassiz is a 36-foot, aluminum-hulled vessel that was custom-built to support Michigan Tech's mission in water quality research and education. The Agassiz has undertaken scientific research on Lake Superior with funding from the Michigan Great Lakes Protection Fund, U.S. Environmental Protection Agency, National Science Foundation, and others. The Agassiz sails from ice-out (mid-April) through October. The Agassiz carries the following scientific equipment: Secchi disk, Temperature probe, Van Dorn water sampler, Portable spectrophotometer, Phytoplankton & zooplankton nets, and a PONAR sediment dredge.

The **Agassiz** is also available for educational cruises for middle/high school students and teachers between May and October of this year. Classes from many area high schools have had the opportunity to expand their classrooms to include the waters of Lake Superior and the Keweenaw Waterway. Students have enthusiastically embraced this unique hands-on learning experience. Michigan Tech scientists and or graduate students will lead the excursions.

Cruises may be half-day or full-day in length and take place on either Portage Lake, Torch Lake, Keweenaw Waterway, and/or Lake Superior. Water quality conditions in these systems vary both seasonally and by location, providing a dynamic learning experience. Teachers have the flexibility to tailor the topical content of each cruise to best fit their curricula, with options to address biological, chemical and physical features, or focus on one particular discipline, e.g. the physics of lakes. Trips aboard the **Agassiz** may also include demonstrations of vessel operation, safety and electronic navigation aboard ship, include a laboratory experience after the excursion, or be combined with visits to related sites of interest, e.g. a wetland or wastewater treatment plant, upon request.

Below are examples of topics that can be addressed in educational cruises, tailored to each age group:

Biological Limnology

A PONAR dredge is used to collect samples of the invertebrate animals which inhabit the bottom sediments. Samples are processed to separate the animals from the sediment and the collection is inspected. Plankton nets sample the phytoplankton and zooplankton that inhabit the open waters. Stops can be made to conduct shoreline seining of the fish community. On board discussion focuses on differences in the diversity of aquatic life in different habitats and the role of invertebrate animals as indicators of ecosystem health.

Physical Limnology

The physical composition of sediment samples collected with the PONAR sediment dredge is evaluated. The sand-silt-clay content of the sediment is compared for sites at various depths. On board discussion focuses on the role of particle size, density, and their interaction with wave energy in determining sediment character and the types of organisms which inhabit various environments.

Chemical Limnology

Depth profiles of dissolved oxygen and water temperature are developed at several sites using a HydroLab. Vertical structure in oxygen and temperature is explored as a basis for understanding the significance of thermal stratification. On board discussion focuses on the interplay of physics (temperature), chemistry (oxygen), and biology (oxygen consumption) in determining the oxygen resources of lakes.

For More Information:

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