

8th Annual ~ TEACHING WITH THE OUTDOORS



Environmental & Field Science Workshop for K-12 Educators

10 AM, Friday, May 3 through 4 PM, Saturday, May 4, 2002
MTU Ford Forestry Center – Alberta, Michigan

Workshop Highlights

FRIDAY, May 3rd Sessions

- Field Geology for Secondary Teachers
- Leave No Trace in the Outdoors
- Field Geology for Elementary Teachers
- Tracking Events in Nature
- Waste & Recycling
- Butterflies of the North Woods

SATURDAY, May 4th Sessions

- Michigan Protocols for Stream Monitoring
- Wilderness Navigation
- Schoolyard Ecology

Workshop Sponsors

- Western Upper Peninsula Center for Science, Mathematics & Environmental Education
- Seaborg Center at Northern Michigan University
- National Park Service at Pictured Rocks National Lakeshore
- U.S. Fish & Wildlife Service at Seney National Wildlife Refuge
- Northwoods Math & Science Center at Delta-Schoolcraft Intermediate School District
- Michigan Technological University



WORKSHOP PROGRAM

FRIDAY, MAY 3 (Eastern Standard Time)

10:00 AM – 11:00 AM Registration & room assignments

10:00 AM – 5:00 PM (Choose TWO half-day sessions OR ONE full-day session)

(1) Field Geology for Secondary Teachers (Gr. 6-12)

George Robinson, Ph.D. Geology & Mineralogy, Seaman Mineral Museum, Michigan Technological University.

Visit interesting geologic sites, such as a copper fissure vein, conglomerate lode, glacial grooves, and the historic Quincy Mine as you travel through the Keweenaw Peninsula.

10:00 AM – 1:00 PM

(2A) Leave No Trace in the Outdoors (Gr. K-12)

Mark Gleason, director, Isle Royale Institute

This session will present a variety of minimum-impact recreation techniques that participants will try out for themselves—campsite selection, fire-building, latrines, cooking, etc. Can you leave no trace!

(2B) Field Geology for Elementary Teachers (Gr. K-5)

Barbara McTaggart, Ph.D. Geohydrology, Western UP Center for Science, Mathematics & Environmental Education

Hike to Canyon Falls where we will practice being field geologists—look for examples of glaciation, deposition, erosion and learn tips on how to conduct a safe geology field trip.

1:00 PM Lunch

2:00 – 5:00 PM

(3A) Tracking Events in Nature (Gr. K-12)

Larry Weber, high school biology teacher & author of Backyard Almanac and Butterflies of the North Woods

Find out how you can use phenology, or the study of periodic natural occurrences such as migrations, frog calls, and blossoming, as the basis for a year-long science course.

(3B) Waste & Recycling (Gr. K-5)

Barbara McTaggart, education specialist, Western UP Center for Science, Mathematics & Environmental Education

Where does your waste go when you throw it away? Explore waste disposal options and waste reduction, conservation, recycling and other environmentally-sound solid waste management practices using activities from the Michigan DNR WISE Curriculum Guide. Free activity guide.

6:00 PM Dinner

7:30-9:00 PM Butterflies of the North Woods

Larry Weber, high school biology teacher & author of Backyard Almanac and Butterflies of the North Woods

Slide show of the 61 species of north woods butterflies. Participants will learn about their habitat, occurrences, behavior, favorite foods and identifying characteristics.

SATURDAY, MAY 4 (Eastern Standard Time)

7:30-8:00 AM Breakfast

8:30 AM - 3:30 PM (Choose ONE full-day session)

(1) Michigan Protocols for Stream Monitoring (Gr. 5-12)

Nicole Vidales, Michigan Dept of Environmental Quality

Participants will learn how to use Michigan's stream monitoring protocols to collect and report data on the health of local streams.

(2) Wilderness Navigation (Gr. 4-12)

Mark Sanderson, environmental education coordinator, Seaborg Center, Northern Michigan University

Participants will learn how to read and interpret USGS topographic maps, practice orienteering skills with map and compass, and learn how to use a GPS (the Global Positioning System) receiver. Participants will use their skills to navigate a challenging orienteering course and learn to set up their own orienteering course.

(3) Schoolyard Ecology—Meeting the Benchmarks (K-5)

Part I. Teaching Math & Science With Children's Literature ~ *Michelle Seppanen, teacher, CJ Sullivan Elementary School*

Part II. Tracking the Seasons in Nature ~ *Larry Weber, author of Backyard Almanac*

Part III. Migratory Birds ~ *Marianne Kronk, Seney National Wildlife Refuge and David Kronk, Pictured Rocks National Lakeshore*

Wild migratory birds need habitat in two worlds – their breeding range and winter range. Fly home with some migratory bird educational activities that you can use immediately, and other bird education resources.

11:30 AM - 12:30 PM Lunch

3:30-4:00 PM Evaluations & Sharing



REGISTRATION FORM ~ Teaching With the Outdoors Workshop ~ May 3-4, 2002 (DUE Monday, April 15, 2002)

Name _____ Phone _____

Address _____

School/Other Affiliation _____ Email _____

Grade(s) Taught _____ Subject(s) Taught _____

Workshop Session Selections & Fees:

FRIDAY (choose TWO half-day sessions OR ONE full-day session)

Full Day: 10:00 AM – 5:00 PM

___ Field Geology for Secondary Teachers (Gr. 6-12)

Morning: 10:00 AM – 1:00 PM

___ Leave No Trace in the Outdoors (Gr. K-12)

___ Field Geology for Elementary Teachers (Gr. K-5)

Afternoon: 2:00 – 5:00 PM

___ Tracking Events in Nature (Gr. K-12)

___ Waste & Recycling (Gr. K-5)

SATURDAY (choose ONE full-day session)

___ Michigan Protocols for Stream Monitoring (Gr. 5-12)

___ Wilderness Navigation (Gr. 4-12)

___ Schoolyard Ecology – Meeting the Benchmarks (Gr. K-5)

_____ \$65 registration

_____ \$35 registration for university students

TOTAL Workshop Fees (enclosed)

Send registration form and payment (make checks payable to CCISD) to:

Loret Roberts, Western UP Center, P.O. Box 270, Hancock, MI 49930

Location

This two-day workshop will be take place in the beautiful forested setting of Michigan Tech University's Ford Forestry Center *located along US 41, 8 miles south of L'Anse*. The Ford Forestry Center is the historic site of the restored Ford lumber mill; and offers lake, wetland and forest ecosystems for field activities, along with many hiking trails.

Accommodations

Participants stay in dorm-like rooms (doubles) and historic houses (sleep 6-10 persons). Sheets, blankets and pillows are provided. Participants will enjoy delicious meals and snacks from Friday lunch through Saturday lunch.

What to Bring

sturdy walking shoes pillow towel warm clothing binoculars (optional)
raingear warm jacket flashlight hat & mittens sleeping bag (optional)

Most of the workshop will take place outdoors. Participants should have sturdy footwear, dress for current weather conditions, and bring a backpack, rain gear, water and insect repellent for field trips.

NMU & MTU Credit Available

Teachers will have the option to take the workshop for credit through Northern Michigan University (1.0 ED 989 credit) or through Michigan Technological University (1.0 ED 5540 credit).

Registration

Workshop registration is \$65 per person (\$35 for university students). Registration includes all meals from Friday lunch through Saturday afternoon snack. **Registration deadline for the workshop is Monday, April 15, 2002.**

Teachers should ask their school or intermediate school district (ISD) about the availability of Eisenhower funds to cover registration and substitute fees:

Gogebic-Ontonagon ISD	Joy Maki (jmaki@goisd.k12.mi.us)	(906) 575-3438
Copper Country ISD	Shawn Oppliger (sopplige@ccisd.k12.mi.us)	(906) 482-4250
Delta-Schoolcraft ISD	Debra Homeier (dhomeier@dsisd.k12.mi.us)	(906) 786-9300
Dickinson-Iron ISD	Dee Benjamin (dobenjamin@diisd.k12.mi.us)	(906) 779-2653
Eastern U.P. ISD	Michelle Ribant (mrribant@eup.k12.mi.us)	(906) 635-2126
Marquette-Alger ISD	Bob Koehs (bkoehs@maisd.k12.mi.us)	(906) 226-5116

For More Information

To find out more about the workshop, contact Joan Chadde at jchadde@mtu.edu or call (906)487-3341; or visit the Western UP Center's website: <http://emmap.mtu.edu/gem/wupcsmee.html>.

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Western U.P. Center for Science, Mathematics & Environmental Education
105 Dillman Hall
Michigan Technological University
1400 Townsend Dr.
Houghton, MI 49931-1295

Non-Profit Organization
U.S. POSTAGE PAID
Permit No. 11
Houghton, Michigan 49931

Stream Monitoring — Meeting the Hydrosphere Benchmarks June 11-14, 2002

Visit streams, wetlands and take a watershed tour to learn how you can integrate history, literature, writing, social studies, science and math into a grade 5-12 curriculum unit your students will remember! Teachers will receive water quality monitoring equipment, activity guides, and learn the skills necessary to perform physical, chemical, and biological monitoring of local streams with their students using Michigan protocols. The workshop will address the interaction of human activities and the environment, and topics covered in life/earth science and social studies content strands. The workshop will take place at MTU's Ford Forestry Center. Presenters include Michigan Tech faculty and Michigan Dept. of Environmental Quality biologists. MTU and NMU credit available (extra cost). Workshop registration is \$175 and includes meals, lodging, instructional materials and monitoring equipment. Limited to 24 participants. Postmark applications by May 1st.

Ecology of the Great Lakes Aboard Research Vessel Lake Guardian July 7-13, 2002

This institute is designed to teach educators about the physical, chemical, and biological components of the Great Lakes ecosystem. Lake Superior, Isle Royale National Park, and EPA's 180' Research Vessel (R/V) Lake Guardian will provide the ideal scientific and natural setting for this exciting learning opportunity. Participants will share triple cabins and have all meals aboard the Lake Guardian for the entire week as it travels along the Keweenaw Peninsula, crosses Lake Superior to Isle Royale, circles the island, and returns to Houghton. Through hands-on data collection and analysis, lab experiences, interactions with research scientists, and sharing with fellow educators, teachers will obtain new knowledge, skills and activities to teach about Great Lakes ecology. Workshop registration is approximately \$430 and includes meals, lodging, and instructional materials. MTU credit available (extra cost). Limited to 20 participants. Postmark applications by Tues., April 2, 2002.



To request an application for these workshops: Contact Loret Roberts at the Western Upper Peninsula Center for Science, Mathematics and Environmental Education. Email: loret@remc1.k12.mi.us or Tel: 906-482-4520