



2017-2018

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ENVIRONMENTAL EDUCATION  
OPPORTUNITIES



**Au Sable Institute**  
of Environmental Studies  
[www.ausable.org](http://www.ausable.org)



# 2017-2018 Environmental Education Programs

Welcome to Au Sable Institute where the natural world awaits your discovery. We offer a variety of programs that will teach and inspire your students both at Au Sable's campus and at your school. Field trips to Au Sable offer 120 acres of forest, pond, prairie, lake, and bog to use as your outdoor classroom. We provide a highly trained staff to facilitate your learning experience. We also offer overnight programs for two or three days of in-depth study on our campus. Or, allow us to bring the natural world to your students with programs designed for the classroom. We look forward to exploring the world of science and nature with you!

## DAY PROGRAMS

### AN EMPHASIS ON THE SENSES

Kindergarten

Michigan Science Standards: LSI-1, ESS3-3

Senses guide our exploration of the world. Join us for a day of activities that focus on utilizing nature to explore the five senses. Activities include a sensory hike that encourages students to explore, discover, and describe their natural world. Canada geese, tadpoles, worms, and wild flowers are waiting to be discovered!

Spring only

### MAMMALS

1st-2nd Grade

Michigan Science Standards: 1ST - LSI-1, LSI-2, LSI-3; 2nd - LS2-2, LS4-1

Mammals are a fun group of animals to study not only for their charismatic qualities, but also because students learn that they belong to this unique group as well! Students spend the day investigating what makes a mammal a mammal, and later hike Au Sable's trails in search of these furry critters and the clues they leave behind.

### BIRDS

1st-2nd Grade

Michigan Science Standards: 1ST - LSI-1, LSI-2, LSI-3; 2nd - LS2-2, LS4-1

Discover what makes birds one of the most fascinating creature groups on earth. Students learn the importance of special adaptations like beaks, feathers, and hollow bones, and how to differentiate common birds by shape, color, and call. Games, puzzles, and hikes guide this exploration.

Spring only

### INSECTS

1st-2nd Grade

Michigan Science Standards: 1ST - LSI-1, LSI-2, LSI-3; 2nd - LS2-2, LS4-1

Students discover the world of insects by exploring the Au Sable pond, meadow, and forest to find insects and draw connections between each type of habitat and the unique community of insects found there. As the students examine insects, they will learn what unique characteristics make insects a special group in the animal world.

Fall only

### PLANTS

2nd-3rd Grade

Michigan Science Standards: 2nd - LS2-2, LS4-1; 3rd - LSI-1, LS3-2, LS4-2

Discover the wonder found in the plant world. Students engage in activities such as role-playing games about photosynthesis, pollinating flowers, and creating leaf rubbings of northern Michigan's dominant tree species. This study offers plenty of opportunities to be amazed by the micro- and macroscopic workings of plants.

### PROGRAM DATES

Fall Dates - Sept. 18 - Oct. 20, 2017

Winter Dates - Jan. 29 - Feb. 16, 2018

Spring Dates - April 30 - June 1, 2018



Au Sable Institute  
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### MICHIGAN HISTORY

3rd-4th Grade

Michigan Social Studies Standards: 3rd - H3.0.1, H3.0.3, H3.0.4, H3.0.5, H3.0.6, H3.0.8, H3.0.10, G5.0.1, G5.0.2, E1.0.3; 4th - H3.0.1, H3.0.5, H3.0.7, G4.0.1, G4.0.3, G5.0.1

A favorite study of many teachers and students, Michigan History demonstrates our dependency on our environment by taking students back in time when it was easily understood where our food, water, clothing, and energy came from. Students experience life at an 1800's fur trading post as they interact with voyageurs and traders to learn candle making, trading signs, and how to create fire using primitive methods. Later in the day, students travel to a 1900's logging camp where they are introduced to the life of a camp cook, river hog, and foreman. During their stay, students will help bake cookies in a wood stove, use a crosscut saw, and test their burling skills on dry land. Costumed instructors guide this interactive study that brings the past to life.

### POND ECOLOGY

3rd Grade

Michigan Science Standards: LSI-1, LS3-1, LS4-3

This study introduces students to beginning ecology lessons by examining how energy flows through an ecosystem to create food chains, food webs, food pyramids, and carrying capacities. Students collect plants and animals from our near-by pond and later get a chance to examine their findings more closely using hand lenses and microscopes. Through observation, games, and simulations, students learn how pond ecosystems work, and why wetland and habitat preservation is critical.

### WETLAND STUDY

2nd & 4th Grade

Michigan Science Standards: 2nd - LS4-1, ESS2-1, ESS2-2, ESS2-3; 4th - ESS2-1, ESS3-2

Students undertake an exploration of the processes involved in the water cycle using games, songs, simulations, and models. Students will learn that we all live in a watershed and human actions can have wide ranging positive and negative effects. During the afternoon students collect organisms from Louie's pond to sample the diversity of life hidden within its waters.

### WILDLIFE STUDY

3rd-4th Grade

Michigan Science Standards: 3rd - LSI-1, LS3-2, LS4-2; 4th - LSI-1, LSI-2

Wildlife Study introduces students to beginning ecology lessons by leading them through a variety of habitats to conduct a wildlife census. The data the students gather are used to highlight how energy flows through an ecosystem and create food chains, food webs, food pyramids, and carrying capacities. Students learn through the census, games, and simulations that all wildlife need unpolluted food, clean water, clean air, shelter, and space.

### MICHIGAN WETLANDS

NEW

5th-6th Grade

Michigan Science Standards: 5th - ESS2 - IMI, ESS2-2MI, ESS3-1; Middle School - LS4-4, ESS2-4.

Demonstrations, models, and games help students understand how watersheds function and how human actions can impact water quality. Later, students compare and contrast several wetland types on Au Sable's property using a simple habitat assessment that includes chemical testing, biotic sampling, and a look at vegetative communities. Through this comparative study, students will use evidence gathered to classify wetland types.

### OUTDOOR EXPLORATION

5th-6th Grade

Michigan Science Standards: Middle School - ESS2-5MI

Develop the skills necessary to safely explore our northern environment with this outdoor adventure that combines science and survival skills. Students learn the basics of orienteering and compass work, explore the science behind weather to make simple forecasts, and discover the physics behind good fire building as they work to create small survival fires. Try this unit during the winter months for added excitement with snowshoes and snow!

### WINTER WATER QUALITY

6th-8th Grade

Michigan Science Standards: Middle School - ESS2-4

Students learn about water quality by comparing local Big Twin Lake with Au Sable's Louie's Pond. Students take water samples and temperature, pH, and dissolved oxygen readings from both water bodies. Using microscopes, we compare the organisms found in the lake and pond. Through these tests, students determine the trophic level of both bodies of water and learn about factors affecting water quality in northern Michigan.

Winter only

### ADVANCED ANIMAL TRACKING by SKI

NEW

5th-8th Grade

Michigan Science Standards: Middle School - LS4-4, LS4-6

Experience a northern Michigan tradition with your students as they traverse Au Sable's trails by ski in search of winter wildlife. Part recreation, part science, students will combine skills to conduct a wildlife census and determine animal abundance in various habitat types. Students will answer the questions, which habitats have the greatest amount of activity, which the least, and why?

Winter only

### GROUNDWATER

6th-8th Grade

Michigan Science Standards: Middle School - ESS2-4, ESS3-1

Students learn how groundwater - our invisible, subsurface resource - moves and behaves underground. Students measure the water table and its fluctuations through a series of unique test wells on the Au Sable campus. They also test water samples for pH, hardness, and chlorides. Groundwater models aid students in understanding how groundwater can become contaminated, how contamination moves, and how it can be cleaned up. An emphasis is placed on actions each of us can take to protect groundwater.

## OVERNIGHT PROGRAMS

### GREAT NORTHWOODS ADVENTURE

5th-6th Grade

Experience a truly memorable adventure as you learn wilderness skills one day and natural history skills the next! By combining our Outdoor Exploration Study and Wildlife Study students leave with the ability to more fully appreciate Michigan's unique landscape.

Fall, Winter, Spring

### MANISTEE RIVER WATERSHED STUDY

6th-8th Grade

Au Sable's Learning Center is located several miles from the headwaters of the Manistee River. This two-day study examines the health of the river and its relation to the larger watershed. Students explore the cultural history of the land, after which they wade and canoe the Manistee River, measuring its physical, chemical, and biological aspects to reveal a snapshot of the watershed's health.

Fall, Spring

### WINTER WATER QUALITY

6th-8th Grade

Winter Water Quality offers a unique experience to travel out onto frozen Big Twin Lake to study Michigan's most precious resource: water! Through holes drilled in the ice, students measure turbidity, dissolved oxygen, temperature, and pH. The following day, students partake in the Groundwater Study and discover how water (and contaminants in our water) move below our feet.

Winter

### CREATE YOUR OWN PROGRAM

5th-8th Grade

We can work with your group to create a specialized overnight program by combining elements of our Day Programs. Please contact our offices for details.

Fall, Winter, Spring

## IN-CLASS PROGRAMS

Bring us to your classroom any time of the year! Do you have a specific science unit you would like us to help you address? Au Sable offers fun, engaging in-class programs to help relay scientific concepts to your students. Contact us to work with you on the environmental science unit of your choice. Choose from one of the program topics below, or call us to create a special lesson for your class:

Three Hoots for Owls (one hour)

Play Dough Rocks! (one hour)

Awesome Aquatic Insects (two hours)

Investigating Erosion (two hours)



# WHAT YOU NEED TO KNOW:

- Day Program Cost: \$10 per student for 4.5 hours of instruction. Groups with fewer than 25 students will be charged a minimum daily program fee of \$250
- Overnight Program Cost: Costs vary depending on length of study (programs typically cost \$45 per student for each day of instruction). Please inquire
- In the Classroom Cost: Prices vary depending on the distance Au Sable staff must travel; standard rates are \$80/class
- Chaperones: Au Sable will inform you of the number of chaperones required for your visit
- State correlations: All Au Sable programs have been designed to complement and enrich the new Michigan science standards; We have listed the standards that each program addresses next to our program descriptions
- Cancellation Policy: If your group must cancel, please inform us four weeks ahead of your planned visit. Au Sable reserves the right to cancel programs due to inclement weather.

# TO SCHEDULE A PROGRAM:

Contact Environmental Education Coordinator, Paul Wiemerslage, by phone (800) 315-2836 or e-mail paul.w@ausable.org. Please include the following information:

- Contact name
- Contact Information (address, e-mail, and phone number)
- School name and grade
- Classes/group size
- Program choice
- Ideal Dates



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Would you like to create your own program?  
Let's talk. Call our offices and we'll work with you to sync  
our programs with your needs.