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MAEOEgram

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OUR MISSION:

PROMOTING
ENVIRONMENTAL
LITERACY
THROUGH
EDUCATION

Welcome to the all new table of contents!

Our new color code system will help you easily find articles that can help you grow in the field of environmental and outdoor education.

Legend

Conference	STEM	Curriculum	Resources
Formal	Non-formal	Lesson	Stewardship
Early Childhood	Elementary	Middle School	MAEOE

Page	Title	Categories		
2	President's Letter	MAEOE		
3	Conference Details	Conference	MAEOE	
4	Permaculture in Michigan Schools	Non-formal	STEM	
6	Sustainable Transportation	STEM	Resources	
7	Designing for a Sustainable Future	Formal	Middle School	STEM
8	Landfill Tours Inspire Students for the Three R's	Non-formal	Stewardship	
10	Schoolyard Connections: NGSS and Sustainable Env.	Formal	STEM	Curriculum
11	Hibernating Bats Show Value of Conservation Partners	Stewardship	Non-formal	
13	New Childrens' Book About Bats	Resources		
14	Green & Healthy Schools Wisconsin	Formal	Stewardship	Resources
15	Green Ribbon Schools Program	Formal	Stewardship	Resources
16	New Climate Change Curricular Resource	Curriculum		
17	Sustainability Resources and Events	Stewardship	Resources	
18	Michigan Future Problem Solving Program	Non-formal	Formal	Curriculum
19	Flying WILD: Using birds to engaging youth in science	Curriculum		
23	Swimming Ahead with Project WET	Curriculum		
24	MAEOE Mini Grant Report: Kettunen Center	MAEOE		
25	MAEOE Mini Grant Application	MAEOE		
27	MAEOE Mini Grant Report: Oakland County Parks	MAEOE		
29	Conference Pre-program MAEOE & MESTA in Belle Isle	Conference	MAEOE	
41	Conference Registration Details	Conference	MAEOE	
43	Conference Vendor and Exhibitor	Conference	MAEOE	
44	Become a Confernce Sponsor	Conference	MAEOE	
48	Conference Educators' Stipend Application	Conference	MAEOE	
52	Conference College Student Scholarship Application	Conference	MAEOE	
56	College Poster Competition - Apply Now!	Conference	MAEOE	

Don't miss all the great conference information included in this MAEOEgram!!



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Letter from MAEOE President, Natalie Elkins

Hello MAEOE members,

I hope you are enjoying the warm days and cooler evenings of late summer—I know that I have.

First, the board is ramping up the planning for the fall conference being held Oct. 4-6 on beautiful Belle Isle located in the Detroit River. The theme is “Whole Earth: Educating a Global Community...” which dovetails nicely with the theme of this volume of the MAEOEgram, “Contributing to a Sustainable Tomorrow”. Registration will be open via a SurveyMonkey link online at MAEOE.com and that members will be sent via the listserv soon.

This year’s conference is unique:

We are partnering with the Michigan Earth Science Teachers Association (MESTA) to provide double the networking experiences and a fresh crop of presenters woven in with our veterans

We will be on an urban island—close to many and varied habitats—which allows for some creative field trips and workshops. What kind of field trips and workshops you might ask?

A Lake St. Clair Delta Boat Trip and Workshop

Devonian Fossil Collecting

A Tour of the Marathon Petroleum Refinery

A 3 hour workshop for certification in the brand NEW Aquatic WILD Curriculum

A Project WET Workshop

The NEW MEECS Climate Change Certification Workshop to name a few.

The full conference agenda will be posted online for you to pore over shortly, which will have a draft schedule and presentation listing.

While at the conference members will be voting on several new board members. We are losing a past president and current Director-at-Large Joan Chadde. She has worked diligently to bring the university perspective to the board, and has succeeded in partnering with Detroit teachers, Michigan Technological University and MAEOE to offer forestry based teacher workshops. We will be losing Past-President Mike Reed from the Belle Isle Nature Zoo, who has worked to integrate environmental education into the lives and curricula of teachers throughout SE Michigan. Katie Woodhams, Program Manager from Fenner Nature Center will finish her 1-year substitution year as Director-at-Large, in which she stepped immediately up to the table to chair the Hospitality Committee for the conference, and has worked to grow environmental and outdoor education in the greater Lansing region, and with teachers statewide at the Academy of Natural Resources. We will also be electing a new Secretary and a new President!

If you have always wanted to run for a statewide board, or know someone who does, especially a cooperative board that is continuously growing and improving, with a mission to build an environmentally literate population here in Michigan, now is the time!

The first step is to fill out and return the Board of Directors Nomination Form that will be posted shortly on www.MAEOE.com. You can fill it out for yourself, or for another star educator you feel would represent educators well. The strongest board comes from nominating the best pool of professional, informal, formal, university, business, stakeholder and regional representation possible. Once nominations are reviewed, the board will notify the nominees to get their official approval to list them in the Board Profile Packet and on the ballot.

What an exciting time to belong to MAEOE!

I hope to see you in October!

Natalie J. Elkins

Preschool - 12 Education Specialist

Michigan Project WILD State Coordinator

Salmon in the Classroom Administrator

Conference Details—See page 29!



WHOLE EARTH
EDUCATING A GLOBAL COMMUNITY

OCTOBER 4-6, 2013

BELLE ISLE, DETROIT

A MESTA/MAEOE COLLABORATIVE CONFERENCE

WHOLE EARTH
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Permaculture in Michigan Schools: Educating a new generation of nature based problem solving

By: Nathan Ayers, Director, Chiwara Permaculture Research & Education L3C

What is Permaculture?

Although new to most American educators, Permaculture as a pedagogy and ecological design science has been practiced for over 30 years. Developed by Australians Bill Mollison and David Holmgren, Permaculture is now a worldwide educational approach at the forefront of sustainability. With foundations in bio-mimicry, ecological engineering, systems thinking and appropriate technology, the essence of permaculture is the transition of human landscapes, buildings and infrastructure towards regenerative, closed loop and zero waste communities that are integrated with nature.

Chiwara Permaculture Research and Education

As an educator passionate about sustainability and renewable energy, I was introduced to Permaculture in 2008. It didn't take long to realize that the principles and ethics of Permaculture could be used as a powerful vehicle for problem based, contextualized STEM education in K-12 schools. In 2009, I went to California and undertook my permaculture design course (PDC), and upon return resigned from my public school position to pursue this new field. In 2010, I founded Chiwara Permaculture Research and Education L3C, with the goal of introducing permaculture into the educational lexicon, while developing programs and curriculum that would integrate permaculture into existing schools.

Our Programs in Schools

In the beginning, I gave talks, lectures and seminars anywhere that would have me. I showed permaculture systems in practice around the world, and how the communities that practiced these principles saw ecological restoration and economic development working hand in hand. Most importantly however, we practiced what we preached. We began turning our Ann Arbor home into a permaculture R&D lab. We started a permaculture food forest (the quintessential permaculture design), built a cob earth oven, and started growing food year round in a hoop house. I realized that transitioning our house into a home that produced more than it consumed without fossil fuels could be a starting place for hands on permaculture education.

In 2011, I was hired to teach permaculture courses through Washtenaw Community College, and the school commissioned Chiwara to design an educational permaculture installation. That same year we began our first pilot projects with elementary schools. We are extremely fortunate for the partnership of Summer's Knoll in Ann Arbor, as they allowed us to design and test our K-12 permaculture educational "Pods" with their bright and engaged students.



Biomimicry garden beds at Chiwara House

Permaculture in Michigan Schools: Educating a new generation of nature based problem solving, *Continued*

By: Nathan Ayers, Director, Chiwara Permaculture Research & Education L3C

Our curriculum starts with nature awareness. We take students out of the school building and begin to cultivate a lens that sees nature as the ultimate classroom, and the student's community as a life long learning lab. From the beginning, we demonstrate how there is no such thing as garbage in nature; it is a perfectly designed system with no waste or pollution. Students see how nature is a masterful designer; from the soil food web to perennial forests, creating beneficial relationships, stacking functions and maximizing efficiency. After our time in the woods, we bring students to Chiwara House, the R&D lab where we are applying these same lessons in how we approach everything; from growing food and natural building techniques, to conserving water and more efficient methods of transportation.



In 2012, I received the first ever A2 Awesome Award for my design of the "PERMAcycle" - a closed loop, food and bio-energy production machine. We immediately began implementing this unique energy bike into our educational pods, working with the Ann Arbor Public Schools to demonstrate the role that appropriate technology and permaculture innovation can have in designing sustainable solutions to our food and energy problems.



2012 also saw the first permaculture programming at the University of Michigan. We are thrilled to be facilitators, advisors and sponsors for the launch and integration of permaculture research at the University of Michigan, where we work with the Graham Sustainability Institute, and I serve as advisor to the newly created UM Permaculture Design Team.

The Future

From our perspective, it seems the current generation of youth are inherently drawn to and immediately engaged with permaculture. There is a subtle yet profound truth in taking lessons from nature and applying them to our lives. Chiwara now has R&D sites and community partners in Highland Park (300 yards from the original Model T factory) as well as Lake Michigan's Beaver Island, where we received grant funding to install the state's first STEM permaculture garden.

We believe that every community needs a permaculture R&D lab, where students of all ages can discover nature based systems thinking, as this lens will be required for solving the world's most pressing ecological, economic and educational issues. We are honored to be at the forefront of permaculture education in Michigan schools.

Sustainable Transportation

By: Dr. William J. (Bill) Sproule, Department of Civil and Environmental Engineering,
Michigan Tech University

Transportation is one of the basic human activities linked to almost all daily routines, from employment and obtaining essential services to shopping and recreation. It is linked to land use planning and urban design and provides many benefits to individuals, but aspects of transportation pose serious problems for the environment and society. Almost all of our motorized modes in which individuals, goods, and materials move consume considerable amounts of energy and resources, most of which are not renewable.

Sustainable transportation aims at promoting better and healthier communities needs while reducing the social and environmental impacts of current transportation practices. It is about adapting technologies most appropriate to the type of service needed and making important everyday destinations, such as shopping, employment, basic services and recreation, closer and more accessible. It is about healthier ways of getting around communities including bicycling, walking, and transit usage – ways that improve the individual’s health through more activity. It attempts to find ways of improving the health of communities through lowering traffic and its accompanying pollution and safety hazards. Livable communities have become a focus of numerous articles and planning initiatives throughout the country.

Technical and technological factors, such as improved fuel efficiency, reduced vehicle emissions, or systems that control traffic flow on major highways, are important, but sustainable transportation goes beyond to take into consideration the many dimensions of transportation and land use planning. It aims at lowering the financial costs to society and to the individual through lessening dependence upon automobiles as the main mode of mobility. We are in the early stages of a significant change or “paradigm shift” for future transportation and community. We are making changes to college courses that will introduce sustainable transportation to future transportation engineers and urban/land use planners.

Here are two books that provide an excellent overview to this emerging area:

An Introduction to Sustainable Transportation – Policy, Planning, and Implementation, Preston L. Schiller, Eric C. Bruun, and Jeffrey R. Kenworthy, (Earthscan: Washington, DC), 2010.

Sustainable Transportation Planning – Tools for Creating Vibrant, Healthy, and Resilient Communities, Jeffrey Tumlin, (John Wiley and Sons: Hoboken, NJ), 2012.

In addition, there are several excellent resources available for teachers and students at all grade-levels that introduce engineering, community planning, livable communities, and sustainable transportation. Lesson plans, projects, and assignments are available that will capture student interest to development an understanding of the role of sustainable transportation and community development, and career paths and opportunities.

National Engineering Week Foundation – *Discover Engineering*: www.discoverengineering.org

American Society of Civil Engineers: www.asce.org/Audience/Kids-Parents-Teachers

American Planning Association: www.planning.org/education/youth

Earth Day Network: <http://edu.earthday.org/transportation> - *Transportation Sustainability: An Educator’s Guidebook*.

Designing for a Sustainable Future

By: Lauri Davis, Houghton Middle/High School Science Teacher, ldavis@houghton.k12.mi.us

Sustainability is an easy concept to describe: the quality of not being harmful to the environment or depleting natural resources, and thereby supporting long-term ecological balance (dictionary.com). We can talk all we want about what sustainable practices are, what do they look like and how do we put the sustainable practices into usage in the real world? How do we really get students to buy into the concept? This was my conundrum when I first approached teaching about Human Impacts to the Earth in my 8th grade Earth Science class. At this point in class, we had already discussed Global Warming, Greenhouse Gas emissions, Climate Change, and Energy Sources. Now, I was faced with how to bring home to the students how we, as a society, could attain sustainability at the personal level. The solution I came up with was to have my students design, from the ground up, a house that was self-sufficient and relatively carbon neutral.

We called it the 'Green Home Project' and its purpose was simply stated: To gain understanding of what a design team has to do to make a building environmentally "green".

Students were allowed to work in groups of up to 3 people, and were given the freedom of choosing their own partners. The group then had to research alternative building designs, building materials, energy sources, and anything else they wanted to add to have their Green Home as "green" as possible. They had to create their home either by completing a detailed drawing, a computer image, or they could build a 3D model of their home. The groups then presented their design to the class in a 10-minute presentation and submitted a detailed report explaining their "green" design elements.

I purposely left the procedural part very minimal with little direct instruction. I wanted the students to develop their own ideas, use their creativity and resources. Since this was 8th grade, much of the work was done during class time. I gave the students 5 class periods (52 minutes each) to research and plan their home, and 3 additional days to create the home, type up the report, and organize the presentations. I ended up with about 7-10 presentations per class, which took ~2 ½ class periods to complete. In total, to do this project correctly, you need at least 2 full weeks of class time; a big commitment for most teachers. Yet, I believe the outcomes of this project were worth the time commitment. I used this project to tie together concepts from the previous units. This project also covered most of the Human Impacts unit standards in the new Next Generation Science Standards, specifically those pertaining to the engineering practices part of the standards.



Student example of Green Home floor plan.



Detail of heating choice from a student's Green Home design.

The real pay-off came when the students submitted their reports and presented their designs. I was astounded at the degree of detail that went into the student designs. Not only did they focus on the big items (energy sources for the house), but went so far as to talk about raising animals/plants for food, clothing, lawn mowing, etc... The pictures within in this article are just a few images from the student projects. This assignment turned out to be far more effective and impactful than I ever expected!

Landfill Tours Inspire Students to Reduce, Reuse and Recycle

By: Kathleen Klein, Community Relations Representative, Waste Management

As Community Relations Representative for Waste Management, I frequently receive calls from teachers wanting to take their students to visit a recycling facility. In 2008, when I started fielding these calls, Waste Management didn't initially own or operate its own recycling facility in the southeast Michigan tri-county area of Wayne, Oakland and Macomb counties. Rather than turn callers away, I convinced teachers, quite successfully, that the best way to teach young people about the importance of recycling was to take them to a landfill. If you take a group of students to a recycling facility, all they see are recyclables. They will then get the impression that everything is being recycled. Waste Management convinced teachers that if you really want to get students to understand the importance of recycling, take them to a landfill where they will see the volume of waste generated by society that is still disposed of rather than recycled.

Since 2008 Waste Management has provided educational experiences about sustainability for over 3,000 students annually in southeast Michigan, either through on-site field trips or through public education presentations at area water festivals and in the classroom. A visit to a local landfill will open up a student's mind about the importance of reducing, reusing and recycling like no other educational experience can...seeing is believing! A tour of the landfill helps educate students about how landfills serve as important containment units for managing the waste that society generates. Ultimately, students learn that the best answer is to reduce consumption and reuse whenever possible, and always recycle anything that can be recycled.

In conversation with students I learned that most think plastic is made from... well...plastic! Students didn't necessarily understand that plastic is made from petroleum oil, a non-renewable resource. Touring a landfill teaches them that every time they throw away a plastic bottle, they've just wasted a natural resource - oil, and we all know how expensive the price of gas is. Plastic in the landfill doesn't decompose or create renewable energy through landfill gas either; it simply takes up space, wasting another valuable resource. A tour of a landfill will also teach students about how important it is to eliminate the use of plastic grocery bags whenever possible. Plastic bags are one of the most difficult items to manage at a landfill.



On a windy day, the wind will capture and carry a plastic bag away and into nearby trees. Waste Management's has an obligation to keep the local environment neat and clean around our landfills and we do. However, when we scale the trees nearby sometimes it is impossible to retrieve plastic bags that have gotten beyond our reach. That's when they become a problem for the environment.

Continued on next page

Waste Management is proud that over 110 of our landfill operations across the country have wildlife habitat programs certified by the Wildlife Habitat Council. We teach our visitors that each of them are Michigan's greatest resource, without their participation in conservation efforts, other important natural resources won't matter. It is always thrilling to receive letters from students or their teachers about the impact that the tour had on

Landfill Tours Inspire Students to Reduce, Reuse and Recycle, *Continued*

By: Kathleen Klein, Community Relations Representative, Waste Management

Waste Management is proud that over 110 of our landfill operations across the country have wildlife habitat programs certified by the Wildlife Habitat Council. We teach our visitors that each of them are Michigan's greatest resource, without their participation in conservation efforts, other important natural resources won't matter. It is always thrilling to receive letters from students or their teachers about the impact that the tour had on them. I sleep well at night knowing Waste Management, through its public education program, is "Contributing to a Sustainable Tomorrow." Waste Management thanks environmental educators everywhere for reconnecting our youth to their natural environment. After all, we all know young people are much more likely to take better care of their environment when they actually feel "connected" to it.

Learn more about Waste Management at:

www.wm.com

www.thinkgreen.com

<http://eaglevalleylandfill.wm.com>

<http://pinetreecreslandfill.wm.com>



"Eagle Valley taught me that the reason landfills are so big is because of the amount of garbage each person makes. To help the landfills and our planet, I plan to be more careful about what I throw away. I will make sure that if something can get recycled, it does, instead of going to a landfill."



MAEOE 2011 & 2012 Conferences. Students covered by scholarships provided by Waste Management and Michigan Association of Environmental Professionals (MAEP).



Schoolyard Connections: Next Generation Science Standards and Creating Sustainable Environments

By: Jody Harrington, E.L. Johnson Nature Center

Use an outdoor garden to teach sustainable growth. A Rain Garden or Wildflower Garden planted on school grounds is the perfect place to accomplish science goals, science investigations, and use math skills. Learning that takes place doing hands-on activities outside is relevant and remembered and can teach about sustainability. Below find some excellent activities, listed by grade level, that connect with the Next Generation Science Standards (NGSS) and can be completed outdoors and continued inside the classroom. These same Standards can be used at other grade levels. Contact Jody at taffystar@aol.com for additional Schoolyard Connections with NGSS.



3-LS1-1 Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

“Plant Parts”, *AIMS Primarily Plants*, p. 173. Student introductory reading about plant parts.

“A Plant Begins”, *AIMS Primarily Plants*, p. 25. Plant a variety of seeds, two of each type. Observe the growth and life cycle of the plants and the similar features and patterns as they grow.

“Seeds Travel”, *AIMS Primarily Plants*, p. 79. All plants produce seeds, but in very different forms and shapes. Some produce fruits and some develop into flowers with seeds. This life cycle is visible in the fall. In this activity observe and compare milkweed seeds and wildflower seeds. Take apart flower heads and use a hand lens to look carefully at the seeds. Discuss the variety of dispersal and bird’s need for seeds.

“Have Seeds Will Travel”, *Project Learning Tree*, American Forest Foundation. p. 185. Students analyze different types of seed dispersal and the advantages for survival of each type. Milkweed seeds and other wildflower seeds can be collected from the garden. Many wildflowers have tiny seeds on their heads that can be seen with a magnifying glass. Other flowers have larger seeds that can be investigated. Save and plant in the spring.

“Pollination Partners”, National Wildlife Federation, *Butterfly Activity Guide*, p. 8. Students discover the similar and different features and patterns of pollination and seed formation. This activity explains animal and insect adaptations and their role in the pollination of plants. Excellent diagram of flower’s pollination parts and a worksheet for students to use in their flower part identification.

“Reaching Up Toward the Sun”, *AIMS Primarily Plants*, p. 159. Observe and record the life cycle of a sunflower.

“Just a Little Sprout”, *AIMS Cycles of Knowing and Growing*, p. 40. The life cycle of a pumpkin plant from seed to fruit. It includes a measuring strip for growth and book to assemble.

5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth’s resources and environment.

“Invasive Species”, *PLT*, p. 59. This is teacher background for invasive species. Common invasive species that might be found near a school are buckthorn trees and phragmites. Students can explore methods to eradicate these invasives and replace them with native trees and cattails. Cattails are food and habitat for native animals (muskrats and red-winged blackbirds). Invasive buckthorn trees have low, dense branches that obscure sunlight from the taller native trees. Rain gardens can be designed to mitigate the excess flow of polluted water from drains or parking lots to streams. Wetlands can be constructed to hold floodwater.

“Ethi-Thinking”, *Project Wild*, p. 303. Students make a list of activities that are harmful to wildlife and the environment, discuss the reasons, and recommend alternative activities that are not harmful.

Hibernating Bats at Rockport Illustrate Values in Community-based Conservation Partnerships

By: Brandon Schroeder, Michigan State University Extension and Helen-Ann Prince, Huron Pines Americorps

Bats hibernating at Rockport State Recreation Area bring together school, community and conservation partners to protect critical habitat and biodiversity, promote youth development and sustainable coastal tourism.

In early June, students from [Alpena High School's 4-H welding club](#) traveled to [Rockport State Recreation Area](#) to install steel 'bat gates' — gates they constructed — over openings of two tunnels in an effort to protect critical bat habitat. While recreational opportunities at Rockport abound—from Lake Huron fishing access to fossil hunting to walking wooded trails in search of sinkholes— this bat conservation project brings awareness of Rockport through the perspective of Michigan bat species found hibernating here.

The Michigan Department of Natural Resources (DNR) [Wildlife Division](#), working with researcher [Dr. Allen Kurta of Eastern Michigan University \(EMU\)](#), discovered several bat species hibernating in abandoned, manmade tunnels from Rockport's historic mining days. Surveys of the tunnels have revealed three species of bats using these hibernacula. This includes the Big Brown, Little Brown and Tri-Colored (formerly known as the Eastern Pipistrelle) bat. Michigan DNR Wildlife Biologist, Bill Scullon, notes that these bat hibernacula are unique because Michigan's Lower Peninsula lacks underground mines and caves that are essential for large populations of bats. Hibernating bats in these Rockport tunnels are an important northern Lake Huron discovery because it is one of only two known hibernaculum sites for bats in Michigan's Lower Peninsula. The other is the Tippy Dam in Manistee.



A recent bi-national [Lake Huron Biodiversity Conservation Report](#), co-authored by [Michigan Sea Grant](#), identifies this region as an important area for protecting coastal habitats for a native and diverse species. This report focuses on airborne migrants, like bats, and illustrates their ecological contributions as part of healthy, functioning ecosystems. Preserving this habitat, benefits the native Tri-Colored bat, a less common species found at Rockport but of special concern in Michigan. A greater bat conservation concern is [white nose syndrome](#) — a fungus that kills bats. White nose syndrome is spreading across the country, but is not found, currently, in Michigan. Since this is the only hibernacula along the Lake Huron migratory corridor, it may play a vital role in monitoring for white nose syndrome in Michigan. Several community and conservation partners came together to set in motion a plan to preserve this bat habitat and enhance Lake Huron's biodiversity.

Continued on next page

Hibernating Bats at Rockport Illustrate Values in Community-based Conservation Partnerships, *Continued*

By: Brandon Schroeder, Michigan State University Extension and Helen-Ann Prince, Huron Pines Americorps

Including students as conservation partners, the Alpena High School's 4-H welding club joined the project through the Northeast Michigan Great Lakes Stewardship Initiative. Welding students worked from DNR designs to fabricate two custom steel gates for both of the hibernaculum. Woodshop students also constructed summer bat houses to be placed onsite. The welded gates will now protect this hibernation habitat allowing bats access to the site while safely excluding the public from accessing the dangerous tunnel. This structure will help protect the bats' habitat, eliminate disturbance to the site during their hibernation period and reduce the likelihood of contaminating the site, such as with white nose syndrome.

Teachers, Scott MacKenzie and Zach Grulke, promoted the educational value of real life experiences for the industrial arts students working on this project. It allowed students to get firsthand knowledge of the manufacturing process while contributing to their community and local habitat conservation. The students' work is part of a community conservation effort, coordinated with the many various conservation and community partners involved, including Michigan DNR, EMU, U.S. Fish and Wildlife Service (USFS), Michigan State University Extension Michigan Sea Grant and 4-H Youth programs, Huron Pines AmeriCorps, Friends of Rockport, and the Organization for Bat Conservation.



Plans for the site include insulating the tunnels with gravel to stabilize the temperature within the hibernacula. Also planned is the placing of interpretive signs on the outside to share information with the public about bat biology and their ecological importance, goals of this habitat conservation project, and history of Rockport. Since Rockport is open to the public, this project presents an opportunity for visitors to gain awareness about Michigan bats in the context of coastal Lake Huron habitats – enhancing the visitor experience for both community members and tourists, alike. Learning about local natural resources in this local community setting offers opportunities toward growing sustainable coastal tourism development opportunities in Northeast Michigan.

This article was published by Michigan State University Extension. For more information, visit <http://www.msue.msu.edu>. To contact an expert in your area, visit <http://expert.msue.msu.edu>, or call 888-MSUE4MI (888-678-3464).

Bring “Global Issues” Into Your School Year

By: Mike Mansour, PLT Facilitator, Retired 8th grade science/geography Lamphere Schools

Geography has always been one of my own special interests as learning about the world, its people and places, fascinates me. Recently while attending the MST A Conference at Eastern Michigan University, the National Geographic Society had a display of their newest curriculum supplement, “Global Issues”. The program materials include twelve monographs written on the three reading levels, Grade 5, 6-7, and 8th. The texts are both in magazine format and eBooks. The twelve issues: Water Resources, Climate Change, Energy Resources, Food Supply, Globalization, Habitat Preservation, Health, Human Rights, Migration, Pollution, Population Growth, and Standard of Living all have dramatic photography and engaging writing. Each magazine is approximately 50 pages long. World “Hot Spots” are featured using an interactive map with NGS quality videos. Case studies are featured within each of the twelve magazines. Cleaning up Lake Titicaca, Dolphins in Danger on the Mekong as examples in the Water Resource materials followed up with research on Lake Erie. Bringing science and social studies together from a world perspective is long overdue. Place Based education with comparisons of our region and world considerations will help all students become more aware of our global interdependency.

New Childrens' Book about Bats by NY Times Best Seller

Book Trailer: <http://www.youtube.com/watch?v=amYkLJJZ3Ls>

A Bat Cave: An Abecedarian Bedtime Chronicle lets young readers hang with bats as it follows the flying mammals from their lairs into the night air. Sparse, poetic text by *New York Times* best-selling children's book author [Carole Boston Weatherford](#) unfolds in alphabetical order to cover such "bat-tributes" as fangs, echolocation, nocturnal feeding, and sleeping upside down. Striking digital art by newcomer Jeffery Weatherford depicts various bats and habitats. Fact-filled back matter offers more information about these amazing animals. For ages 2-7.

Format: 32 pages, paperback

ISBN: 978-0989160209

Publisher: Great Brain Entertainment

Date of Publication: May 2013

Available online from [Amazon](#) and [Barnes and Noble](#),

CONTACT: Carole Weatherford (for review copy, interviews, appearances)
cbwpoet@gmail.com

Reviews

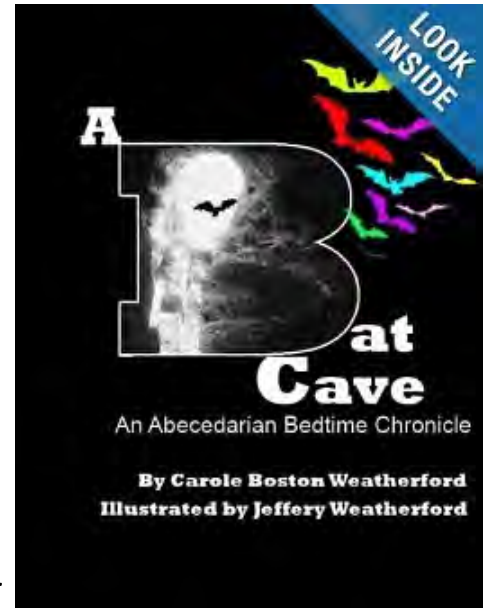
Carole Boston Weatherford sure has a way with words and, for that matter, with every letter of the alphabet. I love the turns of phrase that make me forget that I'm reading a "form" of any sort. I'm just hanging with bats and loving it. —Greg Pincus,
www.gottabook.blogspot.com

This poem has some serious flow to it, which is amazing considering the form used. —Charles Waters, actor and poet

This is gorgeous. I love how Weatherford too abecedarian form as her framework, but then built a poet (a story, a world!) that is so much more than a set of lines starting with certain letters. Masterful and evocative!—Laura Purdie Salas, Author, *A Leaf Can be...* and *Bookspeak! Poems About Books*



Carole Boston Weatherford is an American author and critic, now living in North Carolina, United States. She writes children's literature and some historical books, as well as poetry and commentaries.



Green & Healthy Schools Wisconsin

By: Adapted from a “Chalk Talk” on einwisconsin.org by Victoria Rydberg, Environmental Education Consultant, Wisconsin Department of Public Instruction

I am of the mind that most successful programs aren't simply designed that way; they evolve. If we are to be successful, we must learn from the bumps and bruises along the way and figure out how to improve. Evolving a program doesn't mean that what we did at first was necessarily wrong; it just means we are striving higher.

It was with this mindset that the evolution of Green & Healthy Schools began over a year ago. Our goals were simple:

- Engage more schools in greener and healthier behaviors through facilities, operations, and the classroom;
- Create a statewide network to support the ongoing efforts of these schools;
- Streamline application processes for multiple programs to reduce duplication and confusion.

Green & Healthy Schools Wisconsin (GHS Wisconsin) is designed to provide schools with recognition for their achievements through certification.

Mission: We know that providing a green and healthy facility is important, but we need to engage student learning as well. The new mission reflects this change: Green & Healthy Schools Wisconsin supports and encourages schools to create safe learning environments and prepare students to understand, analyze, and address the major environmental and sustainability challenges now and in the future through providing resources, recognition, and certification.

Administration: Previously, GHS Wisconsin was administered by Wisconsin [Departments of Natural Resources \(DNR\)](#) and [Public Instruction \(DPI\)](#), and the program was housed on the DNR web site. Now the [Wisconsin Center for Environmental Education \(WCEE\)](#) is a part of the administration team and the GHS Wisconsin website is housed at GHSWisconsin.org (which is within the EEinWisconsin.org site). Broadening the scope of administration to include WCEE has strengthened the connections to environmental and sustainability education and has more than doubled the number of people supporting the program.

Statewide Network: One of the barriers for a really successful Green & Healthy Schools movement in Wisconsin was limited staff time. Operating with only a half-time coordinator, schools were unable to receive a lot of direct support for their efforts. In the new design, there are 3 networks supporting the administration team: advisory, provider, and mentor. Members of these networks are there to help support schools as they implement green and healthy projects and provide feedback to the administration team to continue improving the program and process. [Read more about these networks.](#)

Streamlined Programs: Fortunately for our students, there are many programs at the state and national level to support greener and healthier schools. Unfortunately for schools, there are many programs to sift through and figure out. In the new GHS Wisconsin structure, we have attempted to streamline and simplify processes for schools by creating agreements with other programs. This will result in schools having reduced paperwork burden! When a school registers as a Green & Healthy School in Wisconsin, they will automatically become registered as a PLT GreenSchool!, which will allow them to access benefits associated with PLT (such as a grants). When a school achieves Sugar Maple certification, the highest achieving schools will be eligible for Green Ribbon Schools nomination. We are continually working to “connect the dots” between these similar programs and streamline the process for schools so they can continue to focus more of their energy on action and achievement.

Process to become a Green & Healthy School: In the old program, schools had to follow a prescribed 3-step process and use GHS assessments. That process didn't work for many schools. In the new program, schools are recognized and certified based on what they have achieved—regardless of the process. In addition, schools can use a number of different tools to help them through the process of becoming greener and healthier. Rather than a once-and-done approach, the new design supports four levels of certification and requires continuous improvement to maintain the certification. To become recognized as a Green & Healthy School, applicants simply begin completing an online application. The application tool is designed for schools to work through it at their own pace. Information entered will be saved from year to year so schools can track their progress and continually improve. [Read more about certification.](#)

We still have a lot to do to get GHS Wisconsin fully implemented. In the coming year, we will continue improving the program by adding resources, providing regional school trainings, and training providers and mentors across the state. To learn more about the program, visit GHSWisconsin.org.

Green Ribbon Schools Program Recognizes Environmental Leaders in K-12 Education



The Green Ribbon Schools (GRS) program is a national initiative that recognizes outstanding environmental achievement by K-12 schools and school districts. Created by the U.S. Department of Education in 2011, the annual award program celebrates schools that have made outstanding progress toward three primary objectives: 1) Reducing environmental impact through improved energy efficiency; 2) Promoting a healthy school environment for students and staff; 3) Providing effective environmental and sustainability education to students. Aspiring schools and districts are encouraged to submit applications to the Michigan Department of Education (MDE), which may select up to four schools and one district annually to receive state-level recognition. The schools and district(s) selected at the state level are then entered into the national GRS competition. Two Michigan schools were awarded federal recognition in the program's inaugural award year of 2012.

Although the award is quite competitive, the Green Ribbon Schools initiative can provide motivation and resources for Michigan schools to begin and progress along the journey towards sustainability. Participating schools are encouraged to form a sustainability assessment team to complete the GRS application. This team may include teachers, students, administrators, facilities managers, and interested community members. Thus, the GRS application process provides a forum for new conversations within a school community about sustainability goals, and provides the metrics and tools needed to evaluate progress toward those goals over time. While schools should not expect to receive the award in their first application attempt, participation in the program charts a course for real achievements in sustainability by uniting a school community around a set of goals toward which everyone can collectively strive.

While many Michigan schools are likely making solid progress towards achievement in the three core GRS pillars, many schools are unaware of the program and of the opportunity for their efforts to be recognized. Other schools may be aware of the opportunity, but may be dissuaded from applying because of the complexity of the application process, which requires certain technical information to be gathered on school-wide energy use, emissions, water consumption and waste production. As a MAEOEgram reader, you likely possess some combination of knowledge, skills, energy and motivation that is needed to both inform your local school administration about the GRS program and to assist with the application process. If you are a student, a teacher, or a parent of K-12 students, consider using the GRS program as a starting point for discussion at your local school about the importance of uniting teaching and practice around the goals of a healthy and environmentally sustainable school environment.

Applications will be due in December 2013 or in early January 2014.

For more information on the Green Ribbon Schools program, follow the links below.

National Green Ribbon Schools Webpage:

<http://www2.ed.gov/programs/green-ribbon-schools/index.html>

Michigan Green Ribbon Schools Webpage:

http://www.michigan.gov/mde/0,4615,7-140-6530_2629-271090--,00.html



Announcing a New Climate Change Curricular Resource for Teachers

The Michigan Environmental Education Curriculum Support (MEECS) project is excited to announce the completion of a new set of educational support materials to assist teachers in educating their students about the science and impacts of climate change. MEECS was created to develop environmental education curriculum materials for Michigan schools. The Michigan Department of Environmental Quality (MDEQ) led the initiative, which began in 2003. MEECS provides an opportunity for students in grades 3-9 to learn about Michigan's economy and environment through outstanding, inquiry oriented, data-based lessons in science and social studies. The curriculum units were carefully created by a team of experts with input from scores of scientists, writers, teachers, environmental organizations, and business groups. All unit materials are current and up-to-date with the recent release of the MEECS 2nd edition.

Climate Change: Science and Impacts is the seventh and newest unit in the MEECS portfolio, supplementing existing units which cover topics on land use, water and air quality, energy use, and ecosystems and biodiversity. The unit was designed for students in grades seven through nine, exposing them to essential concepts needed to understand the

science and impacts of climate change, including the carbon cycle and the greenhouse effect, and their impacts on climate and weather. The materials take an interdisciplinary approach to explain climate change concepts, making the unit an appropriate supplement to broader earth science, physical science, life science, and social studies curricula. Specific examples relevant to Michigan and the Great Lakes help to ensure that students connect the science and impacts of climate change to their lives and personal experiences.

In an effort to spread the word about this valuable new educational resource, the MDEQ and other collaborating institutions and individuals have hosted a series of trainings for teachers interested in obtaining the instructional materials and learning about how to use them effectively with their students. The most recent training was held at the DEQ headquarters in Lansing, and included a full day of interactive instruction with the creators of the curriculum. Instructors walked participants through the unit and helped them through a selection of the additional unit activities and posters, with each participant receiving a new curriculum folder, several posters, hands-on activities for students, and a CD-ROM. Unit kits are available online for purchase, and additional trainings will be offered in the coming months. Be sure to spread the word to any educators you know about this great opportunity!

For more information, please contact Mr. Thomas Occhipinti, Environmental Education Coordinator at the MDEQ: occhipintit@michigan.gov; (517) 373-2379.

Links to other MEECS resources:

<http://www.emc.cmich.edu/MEECS/default.htm>

http://www.michigan.gov/deq/0,1607,7-135-3307_3580_29678-148152--,00.html

http://www.michigan.gov/deq/0,4561,7-135-3307_3580_29678-120989--,00.html



Sustainability Resources and Events

Educators' Resource Corner: Sustainability

<http://eeinwisconsin.org/resource/about.aspx?s=104190.0.0.2209>

The Wisconsin Center for Environmental Education Resource Library wants to help educators learn all about sustainability! This selection of resources for teaching about sustainability includes K-12 teaching guides, DVDs/videos, books for youth & adults, and web resources.

Sustainability: Water

<http://www.nbclearn.com/water>

The National Science Foundation (NSF) and the National Broadcasting Company (NBC) have partnered to create a series of videos about water sustainability in various locations in the United States.

Energy Kids

<http://www.eia.gov/kids/index.cfm>

The U.S. Energy Information Administration has some good resources and activities, teacher extensions and links too!

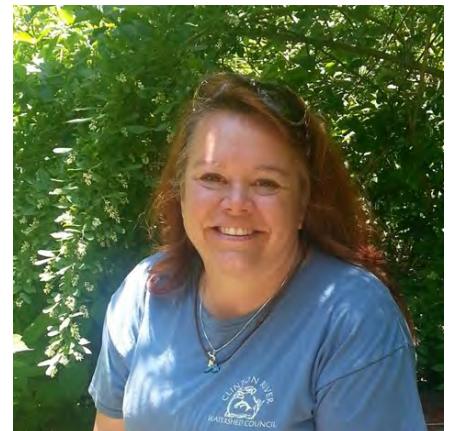
The Energy Fair – Clean Energy and Sustainable Living

<https://www.midwestrenew.org/energyfair>

Learn more about the annual Energy Fair hosted by the Midwest Renewable Energy Association. The 25th Annual Energy Fair is June 20-22, 2014 in Custer, WI.

Michigan Water Environment Association 2013 Educational Professional of the Year

Congratulations to former MAEOE Board President and No Child Left Inside Co-Chair Michele Arquette-Palermo who received the Michigan Water Environment Association 2013 Educational Professional of the Year Award for professionalism and promotion of water resource education. Michigan Water Environment Association (MWEA), established in 1925, is one of Michigan's oldest organizations. MWEA represents more than 2,000 water quality professionals statewide who are dedicated to preserving, restoring and enhancing Michigan's water resources. Michele was recognized by MWEA at their annual conference at Boyne Mountain Resort - Boyne Falls, MI in June.



Michigan Future Problem Solving Program



Michigan Future Problem Solving Program (MFPS) is an affiliate of the FPSPInternational www.fpspi.org and both focus on teaching students a process to know HOW to think and not just what to think. The FPSP Mission is to develop the ability of young people globally to design and promote positive futures using critical, creative thinking.

This is an excellent program for study hall, after school activities or summer programs at zoos, nature centers, etc. "Contributing to A Sustainable Tomorrow" can be planned by a student group or an individual for a local community project and then entered in a competition at State Level and possibly International Level. Past topics with FPSP instructional support have been Water, Habitats, Global Interdependence, Coral Reefs, Ocean Soup (plastics,) Alternative Energy, Environmental Law, and Climate Change.

One component is Global Issues Problem Solving (GIPS) where a team of up to four students can work together analyzing a futuristic scene based on a topic of study (See example below.) They then follow a six-step process to problem solve towards a Plan of Action.

1. Brainstorm possible problems
2. Write a clearly stated Underlying Problem
3. Brainstorm possible solutions to that one underlying problem
4. Decide as a team on five criteria to judge favorite solutions
5. Mathematically rank the solutions based on the agreed criteria
6. The solution with highest total is the teams Best Solution and then they write an Action Plan to implement the idea.

Another component of the FPSP is Community Problem Solving (CmPS) and students put the problem solving process into action. Parents, volunteers, teachers and /or directors can guide students through a process to solve a local problem with state and international support.

All components can even be entered into State Competition where the outstanding groups advance to International Competition. Contact michiganfps@michiganfps.org for more information to your specific needs. We can help you get started with teams!

Sample Future Scene: Water Quality

The Oasis Project was born in 2053 when environmental experts from all seven continents drafted and implemented a plan to preserve the growing numbers of endangered plantlife. Their plan was to collect and relocate the world's surviving plant population in a handful of "safe houses" called Oasises where purified and treated water could increase the survival of plants determined to be nearing extinction.

After years of haphazard disposal of industrial waste - pharmaceuticals and everything from insect repellents to electronic waste seeping into the water supply - it was determined that plants and animals were suffering from the sub-quality water being cycled throughout the world.

The Oasis Project sprang to life and success was almost immediate. With over twenty Oasis locations worldwide (together housing over a million plants) ecologists, botanists, and other researchers gave a collective sigh of relief. The representatives of other life sciences followed suit and soon similar projects began popping up globally including Aquamarina Habitation Facilities and Exotic Creature Preservation Reservations.

The Oasis Project gained popularity among the general population as trendy vacation and tourism sites. Children and adults familiar only with diseased and dying plants in their everyday lives eagerly visited Oasis locations where they could admire and learn about the preserved endangered plants preserved.

Despite the preservation techniques being implemented, it quickly became evident that the global water supply was continuing to deteriorate. Supplies of clean treated water continued to diminish and even the newest and best technology could not prevent harmful contaminants from appearing in drinking water. Though more educational programs on appropriate disposal of pharmaceuticals and tighter restrictions on industrial waste disposal had been implemented, it was still clear that other solutions were needed to sustain life. Water quality continued to suffer.

In 2057 the Global Water Resource Management Commission (GWRMC) voted unanimously to instigate the Water Redemption Coupon (WRC) system to determine how purified water should be distributed. Using a complex calculation system which took into account age, health, and number of people in a household, each residence would be issued the "correct" amount of WRC's which could be redeemed for water from grocery stores or purified water wells located in major towns and cities.

Despite the restrictions on water consumption, it has become evident that the clean water resources needed to maintain The Oasis Project are increasingly unavailable.

The Oasis Project Preservation Committee has decided to enlist the help of the Future Problem Solvers. Their problem solving skills and creativity are greatly needed to develop an innovative Action Plan that will have a measurable impact on the future of water quality while increasing the certainty of the continuing success of The Oasis Project.

Flying WILD: Using birds to engage youth in science

By: Mike Mansour, Michigan Flying WILD Contact

As you begin to make plans for this coming school year, be sure to include a rich variety of nature studies. Seasonal changes are powerful tools that capture all of our attention. Birds continue to amaze most of us with their adaptations: any grade level can be enriched with nature as your focus. Our own state's Kirtland Warbler story is an example of the mysteries of birds.

MAEOE and other professional state and national organizations as well as numerous programs have an extensive resources and professional development opportunities.

[Flying WILD](#) is a newer national curriculum supplement that has been adopted by MAEOE. Our web site calendar will be listing workshops for Flying WILD. You will also find the national web site: www.flyingwild.org filled with resources and further information. Grants are available from various programs to bring these programs to your instruction. Workshops require three hours and the cost is \$25 per participant.



Here is the link to a sample lesson for educators to review from Flying WILD, called, "[The Birding Beat](#)" which focuses on bird observation and identification basics using bird pictures from magazines and other sources.

Continued on next page

Student-Led
ACTIVITY

The Birding Beat

Participants test their skills at identifying birds as they take a stroll along Birding Lane.

Need to Know

Take a hike along Birding Lane and try to identify as many birds as you can! Learning to identify birds is a challenge that promises to delight and reward the novice and expert birder alike. Things that bird watchers check for include the silhouette (size and shape of a bird, habitat (where you see it), plumage (color and color patterns of feathers), sounds, behaviors, and other field marks that stand out. These can be important clues to help you identify what you are observing. Grab a field guide and take a stroll along Birding Lane!

Getting Ready

1. Gather pictures of at least 10 different birds common to your geographic area. Search through magazines and old calendars; contact your local Audubon chapter or state wildlife agency to ask for pictures; and browse the Internet. Cut out the pictures and laminate them, if possible. You might want to consider displaying these birds along your walk: American Robin, Lesser Goldfinch, Northern Cardinal, Mallard, Ring-billed Gull, Song Sparrow, Blue Jay, Great Horned Owl, Yellow Warbler, Carolina Chickadee, Downy Woodpecker, and House Wren. A bird field guide can offer those specific to your area.
2. Decide where to conduct this activity on the day of the festival. Establish an area, path, or wall space as a trail called Birding Lane, where participants can stroll along in their search for birds.
3. Place the bird pictures that you gathered along this trail in areas where the particular species might be found in the outdoors. For example, a robin picture should appear on the ground, where robins are commonly found on the ground foraging for worms and other insects. A bluebird picture can be placed on a fencepost, a Wild Turkey in a field, and a warbler perched in a tree.
4. Make a street sign entitled Birding Lane and plan how and where it will be mounted.
5. On the day of the festival, set up your bird identification area with the Birding Lane sign and the bird pictures. Have several bird field guides, plus paper and pencils. Provide binoculars, if possible.

NEED TO GET

- Pictures of birds, laminated if possible
- List of common names of birds in pictures (for station leader's reference)
- Tape (for attaching bird pictures)
- Construction paper or poster board (for Birding Lane sign)
- Markers for Birding Lane sign
- Field guides
- Pencils
- Paper

Optional:

- Binoculars

TIME

Preparation: 40 minutes
Activity: 50 minutes

Learning to identify birds is a challenge that promises to delight....



ZOOM IN, ZOOM OUT!



If you hold this activity indoors and have selected a hallway to serve as Birding Lane, create props such as trees, a stream, fenceposts, and thickets, to enhance the activity.

You may want to invite bird-watching experts from your local Audubon chapter or birding organization to assist with this activity. These birding experts can help participants identify the birds and answer other questions about bird watching.

Bird watchers check for silhouette, plumage (including color), sounds, behaviors, habitat, and field marks that stand out.

Taking Flight!

Festival participants take a walk along Birding Lane to find and identify birds common to their geographic area.

1. Ask participants to take a walk along Birding Lane. They should take a pencil and paper to keep track of the birds that they spot. Suggest that, when making notes or sketches, they can get clues from this list of questions about bird identification characteristics:

- **silhouette** (size and shape)
 - How big is the bird in relation to a robin? (Be careful because this is hard to judge from a photograph.)
 - What shape is the beak?
 - How big is the beak relative to the rest of the body?
 - How long is the tail compared to the body?
 - How long are the legs compared to the body?
 - Is the end of the tail square, pointed, round, or forked?
- **plumage** (color and pattern of the bird's feathers)
 - What color are the feathers?
 - How would you describe the color pattern?
- **Other field marks** (visible characteristics)
 - Is there an eye ring (tissue or feathers surrounding the eye) and what color is it?
 - What color are the legs?
 - Can you find other markings?
- **habitat**
 - Where do you see the bird (land, shore, water, etc)?

2. When participants return to the station festival booth, they can use field guides to identify the birds they spotted.
3. Participants complete the activity by identifying the birds they found along their walk. Be certain that the station leader has a list of correct names for the birds that were pictured, being as specific as possible when naming local birds.

Questions for Your Guests

1. Once you have identified the birds seen on Birding Lane, consult a field guide to determine which of these birds are year-round residents and which are migratory.
2. If you have identified migratory birds on your list, what time of year are you most likely to see the bird? Why?

IN STEP WITH SCIENCE STANDARDS

STANDARD C: LIFE SCIENCE

- Populations and ecosystems



Following Up

The Birding Beat

What Did You Learn?

1. What types of information did you record to help you identify the birds you spotted?
2. In addition to the clues you recorded, what are some examples of other clues that can help you identify birds?
3. Was this information helpful to you in finding the bird in the field guide?

Wanted: Your Feedback

1. What changes would you make to this activity?
2. Did participants need to consult a field guide to identify the birds they spotted?
3. Was the field guide sufficiently helpful, or did participants require further assistance in identifying the birds?

Question for Reflection

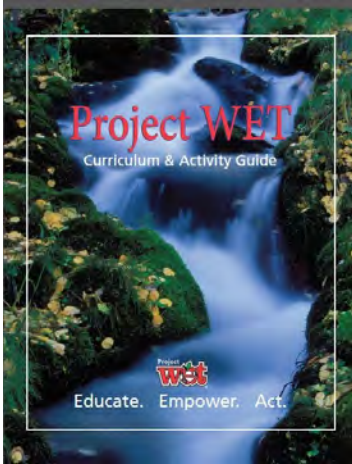
Consider the places in your neighborhood and town where you are most likely to spot birds. What are some of the birds you might find on your own street or around your school?



Swimming Ahead with Project WET

Have you been trained in Project WET? Would you like to know how you could get the new Project WET 2.0 guide? If so, read on.....

There are two ways to get the guide:



1. Attend a Project WET refresher workshop. We are hoping that Project WET facilitators throughout Michigan will help to organize these workshops (about 3 hours) in their areas. You will need proof that you have been trained in Project WET (usually this is a certificate).
2. Go online and take the Online Refresher Course. The training is about \$75, which includes a copy of the guide. See <http://store.projectwet.org/online-refresher-training-course.html> for the details.

For those who have the Project WET 2.0 guide, Project WET has announced that the correlation of the activities in the Guide 2.0 to the Next Generation Science Standards has been completed and loaded onto the Portal. Use your number on your book to get online to the portal (<http://portal.projectwet.org/>). Also, check out the fun website for kids - Discover Water - at <http://www.discoverwater.org/>.

And remember, if you can get a group of educators together for a workshop, we can usually find a facilitator. For more information, contact Janet Vail at vailj@gsvu.edu or 616-331-3048.



Kettunen Center Uses MAEOE Mini Grant to Purchase Brock Magiscopes

Magiscopes

In April 2013, Kettunen Center's Environmental and Outdoor Educational Programs received a \$500 MAEOE Mini-Grant Award to purchase four (4) Brock Magiscopes. These American-made microscopes can be used indoors or out – because they don't need electricity and are kid-friendly having only one adjustment knob. Magiscopes are perfect for allowing close up looks at biotic and abiotic ecosystem components – anything and everything from macro-invertebrates or feathers to rocks or prepared slides!



680 students, participating in spring EOE sessions at Kettunen Center, quickly put these new 'scopes through their paces. Dragonfly nymphs, frog eggs, feathers, worms, centipedes, tadpoles and a host of others, found their way under the 'scopes, as students made up-close and new discoveries. Watching caddis fly larvae poke out of their cases was a favorite.



Laura Jacobson, program educator at Kettunen Center, noticed that with the addition of these 'scopes, students spent a lot more time observing specimens and making their own discoveries, which, she noted, is exactly the objective of these sessions. Observations lead to scientific inquiry, and a lot of "why?" questions.

Initially, the Center purchased three (3) Magiscopes and then ordered a fourth, after discovering that an item that was on back-order had been discontinued. "They proved their versatility and worth," Jacobson noted, "They are tough!" They will certainly be used now and in the future to greatly enhance the existing program offerings as children get the opportunity to literally, get closer to nature!



MAEOE Environmental Education Mini Grant Application



The Michigan Alliance for Environmental and Outdoor Education now offers Environmental Education (EE) Mini Grants. Our hope is to help broaden the horizon of students, teachers and families to bring them closer to the natural world.

Grant Criteria:

- The grant must be used for an EE program for the public that incorporates outdoor activities
- Grants must be submitted 45 days in advance, and approved by the MAEOE Board
- Grants can only be made to MAEOE members
- Grant requests are based on a \$5 per person rate, with a maximum of \$500.
- Grant funds are best used for equipment or educational supplies
- Grant funds cannot be used for staff time
- Grant funds are intended to reimburse the facility for materials purchased for the event
- If approved, grant funds are distributed following the submission of participant numbers
- Grant reporting will include:
 - Submission of press releases acknowledging MAEOE as a supporter. Forwarded to MAEOE.
 - Submission within one week of event: final attendance numbers
 - Submission within one month of event: an article and 4 pictures of event to be published in the next MAEOEgram
 - Submission of either an itemized list, or receipts for materials covered by the grant within 2 months
- Grants are awarded year round and awardees will be notified following the board meeting after their submission.

**The initial application and reporting documents are to be sent to the
MAEOE Education Committee Chair, Tracy Page tpage@devriesnc.org**

Application Details

Name: _____

Facility Name: _____

Street Address: _____ City: _____ Zip: _____

Phone: (____) ____ - ____ Ext. ____ Email: _____ Website: _____

Program Title: _____ Program Date: _____

Estimated number of participants: _____ Grant reimburses at a rate of \$5 per person, up to \$500

Is this a recurring program or a one-time event? _____

Who will be running the event? _____

As the grantee, do you accept the terms of the grant and agree to report during the specified timeline? Yes No

Please see next page

MAEOE Environmental Education Mini Grant Application



Please describe the program and what environmental education & outdoor activities are involved:

Please describe the type of materials the grant will cover:

Submit this grant application and any additional documents to tpage@devriesnc.org

MAEOE Mini Grant: Using butterflies to mix science & the outdoors

By: Kathleen Dougherty, Education Resource Specialist, Oakland County Parks



Counting Butterflies may seem like an idle way to spend your time; however, this is far from the truth. Butterfly counts are held throughout the country to support butterfly conservation. Butterflies are considered umbrella species--by protecting them, other species benefit. Countless species including plants, birds, bats and other insects are helped by monitoring butterfly populations.

The North American Butterfly Association also known as NABA offers many opportunities for people to connect with butterflies. NABA hosts butterfly counts across the continent each summer. The purpose of the count is to gather information about butterfly populations and to increase public awareness of these beautiful and diverse insects. The NABA Counts are modeled after Audubon Christmas Counts. Butterflies are observed at sites within a 15-mile diameter circle during in a one-day period. Count leaders send their information to NABA and

NABA publishes a report. The annual reports provide a tremendous amount of information about the geographical distribution and populations of the species counted including comparisons of the results over time, monitoring changes in butterfly populations, and the effects of weather and habitat change on North American butterflies.

In 2012, 438 counts were held in 45 states and the District of Columbia, two Canadian Provinces and in Mexico. Oakland County Parks and Recreation (OCPR) has participated in the NABA summer count since 2007. Independence Oaks County Park in Independence Township is one of the sites in the count circle. The Six Rivers Regional Land Conservancy (SRRLC) holds a sister count at Golden Preserve in nearby Springfield Township the same day. Public participation is welcomed. There are no prerequisites other than being able to catch butterflies. Children and experienced butterflyers work together to chase down, capture, identify and then release these flitting gems. Everyone soon realizes that netting a butterfly is not as easy as it looks. Some level of skill is needed to catch these gentle creatures.

This year, an Identification Workshop was held before the count. Expert, Dwayne Badgero, presented a two-hour workshop on the fine points of identifying skippers and larger species. Dwayne collected all of the species observed in the previous counts to show identification using actual specimens.



Continued on next page

MAEOE Mini Grant: Using butterflies to mix science & the outdoors

By: Kathleen Dougherty, Education Resource Specialist, Oakland County Parks



The official count was held on Saturday, June 29. The Michigan Alliance for Environmental and Outdoor Education (MAEOE) helped support the count and the Identification Workshop at Oakland County Parks through a mini grant. The MAEOE is dedicated to using the outdoors for authentic learning experiences.

Butterflies offer an amazing window into the outdoors and nature. Every year the results vary. In 2013, 31 species were observed at the Independence Oaks count. A total of 189 butterflies were seen, along with 200 butterfly larvae. The butterfly count is one way to get everyone outdoors to enjoy the day and learn about the diversity of butterflies nearby. Michigan has 159 species of butterflies.

Check out this list of organizations and on line resources to use to incorporate butterflies into your learning:

The North American Butterfly Association - <http://naba.org/>

Monarch Watch - <http://www.monarchwatch.org/>

Butterflies of American - <http://www.butterfliesofamerica.com/>

The Xerces Society - <http://www.xerces.org/>

Journey North – <http://www.learner.org/jnorth/monarch/index.html>

Michigan State University Pollinators -<http://nativeplants.msu.edu/about/pollination>

Michigan Native Plant Producers Association- <http://www.mnppa.org/>

Southeast Michigan Butterfly Association - <http://www.mnppa.org/>

Pollinator Partnership - <http://www.pollinator.org/IABIN.htm>



Whole Earth: Educating a global community



**Michigan Earth Science Teachers Association
&
Michigan Alliance for Environmental and Outdoor Education**

**Collaborative Conference
October 4-6, 2013
Belle Isle**



Michigan Alliance for Environmental & Outdoor Education and the Michigan Earth Science Teachers Association

Fall Collaborative Conference ~ October 4-6, 2013 Theme: *Whole Earth: Educating a global community*

Program

A wide variety of half- and full-day educator workshops will be held Friday, October 4. Choose from over 50 concurrent sessions (indoors and outdoors) and field trips on Saturday and Sunday, October 5-6. Delve into a variety of monitoring programs that your students can participate in, from history and geology to global change, birds, lakes, stream monitoring, and much more. Saturday will also feature the 6th annual Share-A-Thon with ready-to-go outdoor and classroom activities. Round out the conference with the Family Fun Day on Belle Isle!

Location

Belle Isle is the jewel of Detroit. Located in the Detroit River overlooking Windsor, Ontario. This unique location will be sure to impress our members. See inside historic Belle Isle landmarks and take advantage of all the island has to offer.



Driving directions:

Follow I-96 E towards Detroit. Take the exit for I-75 N/Flint/Michigan 10. Follow signs for Michigan 10 S. Continue onto I 375/E. Jefferson Ave and follow Jefferson Ave. Follow E. Grand Blvd. onto Belle Isle.

Registration materials are available on the MAEOE website: www.maeoe.com

Presenters please register by September 15th. General registration ends October 1.

For More Information:

Mike Reed, Conference Chair, mreed@dzs.org

Mandy Stewart, Conference Program Chair, stewart@tamarackcamps.org

MAEOE Admin and Registrar, Kelley Sunman, info@maeoe.com

Belle Isle



2013 MAEOE/MESTA Conference Planning Committee

Mike Reed, Belle Isle Nature Zoo

Mandy Stewart, Tamarack Camps

Dave Chapman, Okemos Schools

Katie Woodhams, Fenner Nature Center

Kevin Chandler, Wayne State University

Natalie Elkins, Michigan Dept. of Natural Resources

Jody Harrington, E.L. Johnson Nature Center

Anne Jeanette LaSovage, Silent Auction

Joan Chadde—Share-a-thon

Mike Mansour—Sponsors, Vendors, Exhibitors

Tracy Ortiz—Stipends & Scholarships

Tracy Page, Program Design

ABOUT MAEOE

The Michigan Alliance for Environmental and Outdoor Education (MAEOE) serves as the statewide network for professionals in preK-12 schools, nature centers, museums, government agencies and through other venues, who are educating Michigan students and citizens towards environmental literacy, stewardship, and outdoor education.

The Michigan Alliance for Environmental and Outdoor Education was established in 1988 through the merger of two existing professional organizations: Michigan Environmental Education Association begun in 1968, and Michigan Outdoor Education Association which began about 1955. MAEOE work is guided by a Board of Directors comprised of ten formal and non-formal educators.

Each year, MAEOE conducts an annual statewide conference for 200+ educators. The conference serves as an exciting opportunity to become informed of what is current in environmental and outdoor education in Michigan and beyond. The three-day event is also an excellent opportunity to network with other professionals in the field of environmental and outdoor education.



About MESTA

MESTA encourages the advancement, stimulation, extension, improvement, and coordination of Earth Science education at all educational levels through the voluntary and donated efforts of MESTA members.

MESTA leadership is comprised of an Executive Committee, plus Board members appointed by virtue of their volunteer role within MESTA, as well as appointed Board-Members-At-Large.



Belle Isle

Of all the people who have ever lived on earth, it is safe to say that less than 0.00001% have ever spent the night on Belle Isle. The weekend of October 4-6, 2013, join the Michigan Alliance for Environmental and Outdoor Education and the Michigan Earth Science Teachers Association for the MAEOE/MESTA conference - **“Whole Earth: Educating a Global Community.”** Spend time learning, sharing, and having fun and conversation with like-minded educators on America’s largest urban island park.

Belle Isle Park, the jewel of Detroit, comes to mind when people talk about Urban Environmental Education. You will have the opportunity to explore the park and have the chance to:



Beautiful views



The historic Boat Club

- See the interior of unique hand carved architecture elements in the historic boathouse.

- Marvel at the old world charm of the Belle Isle Casino the main venue of the conference.

- Experience how young people are making continuous improvements to the island, allowing closer views and sounds of our feathered, furry, and amphibian friends without intruding upon their animal activities. In fact, Belle Isle is located on one of the nation’s most heralded “bird migratory pathways”. Each week brings a new neighbor whose flight pattern includes a stop at the island.

- Join us Sunday, October 6th at noon for a community bike/car tour of the entire island - all 983 acres. So bring a lunch, as we will tell you why there is no other lighthouse like ours in the entire world. Then join us as we pass several habitat restoration projects that are the models for other in the country and did I mention stop at historic facilities that talk about the flora and fauna of our great state.



The beautiful Belle Isle Casino



The Flynn Pavilion

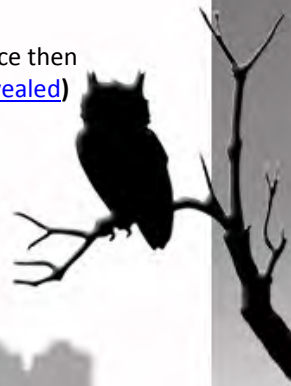
Belle Isle Park is one of America’s most beautiful parks, located right off a thriving urban downtown area and across the river from a foreign country.

If you need any more reason to not miss this conference then visit the link (bkjournalism.com/2011/04/belle-isle-revealed) to see the beautiful video “[Belle Isle Revealed.](#)”



Outdoor Classroom Space

As conference space is limited, be sure to [register right away.](#)



MAEOE and MESTA Collaborative Conference Whole Earth: Educating a global community

CONFERENCE SCHEDULE ~ Friday-Sunday, October 4-6, 2013

Thursday, October 3rd

6:00p – 8:00p	Early registration
7:00p – 9:30p	Light refreshments & mixer at Michigan State University, Detroit Campus

Friday, October 4th

7:30a – 8:30a	Breakfast at Belle Isle Casino (<i>pre-registered attendees ONLY</i>)
8:00a	Registration opens
9:00a – 12:00p	3 hour educator workshops / AM portion of full day workshop
9:00a – 4:00p	Friday Field Trips window (<i>varied times</i>)
12:00p – 12:45p	Lunch at Belle Isle Casino
1:00p – 4:00p	3 hour educator workshops / PM portion of full day workshop
4:30p – 6:00p	Mixer and social on Belle Isle
6:30p	Dinner begins at Belle Isle Casino
7:00p	MESTA annual awards
7:30p – 8:00p	MESTA-arranged speaker on Great Lakes Climate Change
8:00p – 9:00p	Unopposed exhibit hall hours (<i>Rock Shop, Free & Inexpensive, Silent Auction, Exhibitors</i>)
9:15p – 11:00p	Evening activities; brewing demonstration; fire, drinks & snacks at Flynn Pavilion – BYOB!

Saturday, October 5th

7:30a – 10:30a	Registration open
7:30a – 8:30a	Breakfast at Belle Isle Casino
8:45a – 9:40a	55 minute session window (<i>MESTA Rock Shop open!</i>)
9:55a – 10:50p	55 minute session window (<i>MESTA Rock Shop open!</i>)
11:05a – 12:00p	55 minute session window (<i>Special Session: EE/OE career building panel!</i>)
12:15p – 1:15p	Lunch at Belle Isle Casino, MESTA business meeting
12:45p – 1:15p	Digital Share-a-thon: future opportunities, grants, and featured partners!
1:15p – 2:00p	Share-a-thon!
2:15p – 3:10p	55 minute session window / first half of 120 minute sessions
3:25p – 4:20p	55 minute session window / second half of 120 minute sessions
4:30p – 5:15p	MESTA Rock Raffle
4:30p – 6:00p	Silent Auction, Networking & MAEOE board member elections (<i>voting ends at 5:30p</i>)
6:30p	Dinner begins at Belle Isle Casino
7:00p – 8:30p	MAEOE annual awards & keynote speaker: Margaret Holtschlag
9:00p – 11:00p	Fire, music, social time – BYOB!

Sunday, October 6th

7:30p – 8:30p	Breakfast at Belle Isle Casino
7:00am - 12:00pm	Sunday Field Trips window (<i>varied start times</i>)
12:00pm - ?	Belle Isle Sunday Family Funday (<i>participation open to families of attendees- FREE!</i>)
	SEE YOU NEXT YEAR!

Keynote Conference Speaker

Margaret Holtschlag, Director of the BIG Lesson Programs



Margaret Holtschlag has been an educator for over 30 years, dedicating her career to making a positive impact on students, teachers, and the community. Her creative teaching style in elementary grades led her to create the BIG Lesson programs, week-long “study trips” including professional development model for immersion learning; study trips for students, parents, and teachers; and partnerships between schools and community resources. BIG Lesson programs are: BIG History Lesson (Lansing), BIG Zoo Lesson (Lansing and Battle Creek), Annie’s BIG Nature Lesson (Lansing, Ann Arbor, Marshall, Kalamazoo), and BIG Science Lesson (Lansing). Margaret’s out-of-the-box thinking earned her the title of Michigan Teacher of the Year 2000 and finalist for National Teacher of the Year 2000. She continues to be an inspiration to both formal and non-formal educators with her unbridled enthusiasm and dedication to initiatives such as the GRAND Learning Network, The No Child Left Inside Coalition and her work with LATTICE (Linking All Types of Teachers to International Cross-cultural Education.)

Friday and Saturday Night Banquets



The Golightly Culinary Service is considered one of the high school level jewels of the City of Detroit. It is only fitting that a jewel of the city provides the food on one of the “jewels” of the City - Belle Isle. For thirty years the students of the Golightly Vocational School have served the fine people of Michigan from the Glass House Restaurant to the tables of Belle Isle. You are in for a real treat. Join us at the banquets of MESTA on Friday night and MAEOE on Saturday night in the beautiful Belle Isle Casino, as for the first time our meals will be prepared by the future; young people, who for the most part are not even old enough to drive. On the website it states students in tall white chef hats are hard at work in the Glass House Restaurant that performs catering and offers mouth-watering buffets.

Join us Friday or Saturday or both days for the next “mouth watering” event. Just check buffet on your registration form. Be sure to also let us know your dietary needs such as vegetarian, vegan, gluten free, and nut allergies.

Golightly Career & Technical Center

Share-a-thon

On Saturday, October 5, “make & take” activities, mini-lessons, and demonstrations” will be shared at the 6th annual Share-a-thon scheduled from 1:15 to 2 pm. The Share-a-thon will feature guided activity stations that will demonstrate innovative ideas and teaching practices in environmental and outdoor education. Presenters will provide handouts for participants.



Silent Auction

A silent auction will take place all day Friday and Saturday with final bids accepted by 6:30 pm Saturday. Winners of the Silent Auction will be posted and items need to be picked up by the close of the conference. Donations of environmental education and green-living items are encouraged when you arrive. Please bring any items you wish to donate, along with your checkbook or cash to bid on the wide variety of wonderful items that will be available. To donate an item, contact: Anne Jeanette LaSovage, alasovage@ymail.com

Exhibits & Vendors

Exhibits & Vendors will be located in the casino for frequent viewing by participants. Contact former MAEOE President and Board Member, Mike Mansour mmansour01@comcast.net if you would like to be an exhibitor or vendor.

Live Music



Enjoy music by singer, songwriter, guitarist, Joe Reilly from Ann Arbor. Reilly has used his songwriting skills as a method for teaching ecology and natural science. His CD includes 23 original songs with environmental themes that teach stewardship of the Huron River, the importance of planting and caring for trees and animals (including mosquitoes), and of the interconnection between all living creatures. The CD includes interviews with kids as they share what's important to them about the Earth and suggest simple things people can do to help support healthy ecosystems. Learn more about Joe's music online at:

www.joereilly.org/music.html

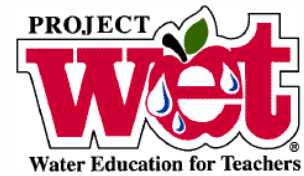
Conference Schedule (Tentative)

Friday Workshops

Spend part of your first day at the conference learning how to use one or more of the following curricula! We're taking the inspiration of being in an island setting and offering no less than THREE workshops based on water education. These, plus the new MEECS Climate Change unit, will broaden your students' awareness of our resources and the impact that choices involving their use can have on us all.

9am - 4pm (FULL DAY) Project Wet Educator Workshop

Presenter: Kathleen Dougherty, Oakland County Parks & Rec Cost: \$35
Project Wet is an internationally recognized curriculum that supports water education for teachers and other educators. Participants will receive the new Project WET curriculum and Activity Guide, Generation 2.0. In addition, they will sample various activities in the PW guide, learn how to access the educational portal and have great fun. Expect that you will be able to fully implement and use Project Wet to enhance and engage your students water education after this workshop.



9am - 12pm Michigan Environmental Education Curriculum Support (MEECS): Climate Change

Presenter: Teresa Tucker, MEECS Cost: \$50
The goal of the Climate Change Unit is to bring issues associated with climate change and Great Lakes sustainability to Instructors and students. MEECS units try to provide students with the understanding they need to make decisions, not tell them which decisions. Thick notebook of resources provided.

1pm - 4pm Earth Partnership for Schools: Rain Garden Curriculum

Presenter: Lisa Appel, Cranbrook Institute of Science Cost: \$15
During this workshop participants will learn how to use the Earth Partnership for Schools Rain Garden Curricular Sampler in a group setting. These activities developed by the University of Wisconsin-Madison Arboretum can be used to design and build a rain garden with students on school grounds or community setting. Each participant will receive a printed book of the activities.



1pm - 4pm *NEW* Aquatic WILD Educator Certification Workshop

Presenter: Tracy Page, DeVries Nature Conservancy Cost: FREE with MAEOE partnership!
Dive into the new Aquatic WILD Guide! Each hands-on, engaging Aquatic WILD Activity (easily integrated into current lesson plans) contains all the information needed to conduct that activity including objectives, method, background information, a list of materials needed, procedures, evaluation suggestions, recommended grade levels, subject areas, duration, group size, setting, and key terms





Conference Schedule (Tentative)

Friday Fieldtips

Chosen specially to appeal to all types of educators from both MAEOE and MESTA, our Friday Field Trips are a fun way to network with other professionals, visit someplace new, and add resources to your educational toolbox! Pertinent details for each field trip (including transportation details) will be sent to each participant after registration. Check out our featured Field Trips below!

9am - 12pm Pine Tree Acres Landfill: Environmental Systems Management & Renewable Energy

Leader: Kathleen Klein, Waste Management Cost: \$5

Join Waste Management for a tour of the Pine Tree Acres Landfill in Lenox Township. Pine Tree Acres is the only landfill in Macomb County, providing disposal services for MI communities and businesses located primarily in the Southeast Michigan Council of Governments' seven county area. Pine Tree Acres is also an energy producer, key employer, and community resource. Learn the science of landfill design and engineering!

9am - 12pm Marathon Petroleum Refinery Tour

Leader: MESTA Cost: \$5

Find out how crude petroleum is refined into gasoline, motor oil, compounds for making plastics, and other products our society is currently dependent on. Participants will tour the complex by van, then meet in the refinery's science labs to learn more about their operation. This facility is refining Canadian oil sands and therefore uses a new process different than most other refineries. Free examples of sulfur removed from the petroleum during processing may be given to everyone in the tour.

1pm - 4pm Devonian Fossil Collecting

Leader: Dave Thomas, Washtenaw Community College Cost: FREE!

For this trip you will car-pool to an abandoned limestone quarry, now under Michigan DNR supervision. The plentiful mid-Devonian age fossils (~380 mya) are in limestone scattered all over the surface. Fossil identification handouts and on-site assistance will be provided. Participants only need to bring zip lock bags, tissue paper to protect fossils, slips of paper to record fossil names, and a rock hammer ONLY if you already have one. Old jeans are appropriate and hiking boots are recommended, though tennis shoes would be acceptable.

10am - 4pm Lake St. Clair Delta Boat Trip and Workshop

Leader: Dave Chapman, MESTA Cost: \$15 with a sponsorship from Seagrant

Learn about the geological processes that form what may be the world's largest freshwater delta, as well as the ecology of the lake and wetlands dependent on it. You will experience the Lake and Delta by boat while also receiving lessons to relate the experiences to basic concepts taught in your classroom or center. Resource specialists from the DNR, the Huron Clinton Metroparks, the Army Corp of Engineers, and a geologist from the environmental consulting company LimnoTech will lead parts of the day. Activities include water testing and sediment sampling. Attendees will take home sediment, basic rock types related to the sediments, and printed resources!

1pm—4pm U of M Dearborn, Environmental Interpretive Center

Leader: Jessica Fabisiak, U of M Dearborn EIC

The EIC is a University of Michigan-Dearborn facility that promotes environmental sustainability through community education and scientific research. The Center is the gateway to the 300-acre Environmental Study Area available to university students, school groups, and the public. Programs include Invasive Species, Land, Life and People: Making Connections, Maple Syrup Science, Pollination Partnerships, Pond Explorations, Seasonal Nature Explorations, Soil Science and Stewardship, and Trip of a Drip.

Saturday Session Sampler

Subject to change

Session #1 (8:45am – 9:40am)

- ~ Integrating Engineering into Environmental Education using the Engineering is Elementary
- ~ When Henry David Thoreau Came to Michigan ~ Getting Inner-City Students Outdoors
- ~ Effective Teaching & Learning: Making the Global Connection through Linking Forestry Research & Education
- ~ Science in Flight: Birds to Physics and Beyond ~ MESTA Rock Shop & Free and Inexpensive Shop OPEN
- ~ Where Did All The Water Go? Looking for Answers with Mars MAVEN Mission

Session #2 (9:55am – 10:50am)

- ~ Global Issues ~ Designing an Environmental Literature Unit for English Classes ~ Frog Island
- ~ Hands-on Curriculum for a Crowded Planet ~ Lions and Wolves and Carp...Oh My!
- ~ Habitat Restoration in Urban School Communities
- ~ MESTA Rock Shop & Free and Inexpensive Shop OPEN
- ~ Michigan's Regulatory Response to High Volume Hydraulic Fracturing



Session #3 (11:05am – 12:00pm)



- ~ Werewolves, Aware of Wolves, and Where Are The Wolves?
- ~ Workshop-Teach the Next Generation Science Standards Outdoors with Models
- ~ Nature Investigations-The intersection of Art & Science ~ The Detroit Salt Mine
- ~ Tree ID: Exploring the Belle Isle Forest
- ~ Bringing Environmental Education to the Special Education Classroom
- ~ What Would Galileo Do? Teaching Solar System Concepts
- ~ Interpreting Geological Cross-Sections For More Accurate Geologic Time
- ~ SPECIAL SESSION: Career Building in Environmental & Outdoor Education

Session #4 (2:15pm – 3:10pm) *Includes 120 minute sessions*

- ~ A Walk Through Time: Michigan Geology in 460 Steps ~ Groundwater Fundamentals: Know It and Show it
- ~ Geology Credit By-Exam Program ~ Tips and Tricks on "Taking A Nature Walk" – 120 mins
- ~ Arctic Bears & Sustainability: A Personal Journey Through a Teacher's Eyes – 120 mins
- ~ Holistic Education in Grades 4-8 – 120 mins
- ~ Future Problem Solving: Kids Actively Involved in Earth's Future – 120 mins
- ~ Workshop-Monarch Butterflies: Citizen Science for Young Learners – 120 mins

Session #5 (3:25pm – 4:20pm) *Second half of 120 minute sessions*

- ~ Urban Geology ~ Importance of Mining in Michigan History and Economy
- ~ MIQuakes - Earthquakes in the Classroom: Loose Sediments to Hard Core
- ~ Arctic Bears & Sustainability: A Personal Journey Through a Teacher's Eyes (*cont'd*)
- ~ Tips and Tricks on "Taking A Nature Walk" (*cont'd*) ~ Holistic Education in Grades 4-8 (*cont'd*)
- ~ Future Problem Solving: Kids Actively Involved in Earth's Future (*cont'd*)
- ~ Workshop-Monarch Butterflies: Citizen Science for Young Learners – (*cont'd*)



Conference Schedule (Tentative)

Sunday Field Trips & Belle Isle Fun

It may be Sunday but the conference isn't over, yet. Local sites on both side of the border offer recreation and experiences for conferencegoers - and their families, too!

7am - 12pm Autumn Bird Migration at Point Pelee National Park, Ontario, Canada

Leaders: Joan Chadde, Michigan Technological University & Mike Mansour, Hawk Woods Nature Center

Cost: FREE

Every autumn, Point Pelee National Park and vicinity is visited by enormous numbers of migrant birds. Unlike spring, when most species are brilliantly colored and singing vigorously, the autumn migrants are generally dull plumaged and, except for call notes, usually silent. The fall migration is a less hurried affair than the frenzied northbound movement of birds in the spring. Golden eagle,

peregrine falcon, red-necked phalarope, long-billed dowitcher, northern saw-whet owl, jaegers and baird's, stilt and buff-breasted sandpipers (all rare in the spring) are commonly seen during autumn. In addition, the Monarch butterfly migration is best from late August until early October and generally peaks in September. Over 360 bird species have been recorded in the park. Transportation for 10 participants will be in a Michigan Tech van to Point Pelee National Park in Leamington, ON, just 42 miles from Detroit (an hour's drive). Additional participants will carpool.



9am - 12pm Belle Isle Habitat Restoration Tour

Leader: Mike Reed, Belle Isle Nature Zoo Cost: FREE!

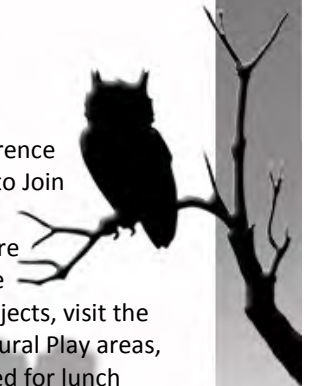
The Detroit River Area of Concern Beneficial Use impairments include loss of fish habitat. The Belle Isle communities of partners have conducted several projects to address this and other issues. Several projects were created to recreate coastal wetland immediately downstream from a spawning reef and create deep and shallow water habitats. Invasive plants were threatening to alter Belle Isle's native plant communities. Lets us take a tour of these projects and see how the community with the help of local schools and a host of community partners came together to increase the value of these areas for local flora and fauna and at the same time help turn them into hands on living science laboratories for local students and the community at large. Come see the "natural" world of Belle Isle through the projects designed to support it.



12pm - ? Belle Isle Family Fun Day!

Leader: Mike Reed, Belle Isle Nature Zoo Cost: FREE!

Join Belle Isle leadership team Terri Conner, Mike Reed, Tracey Lawrence and Keith Flournoy as they invite 100 families from the community to Join MAEOE and MESTA members and their families for a bike/car tour around the various Belle Isle facilities and amenities. Come see where you can Kayak, the new birding trails, ride the Giant slide, see where Lake St. Clair meets the Detroit River, Urban Forest Stewardship projects, visit the Nature Zoo and the Dossin Great Lakes Museum, Conservatory, Natural Play areas, the Giant Fountain, the Green Houses and so much more. Stay tuned for lunch options and bicycle rental information.



MESTA/MAEOE Collaborative Conference

Registration Details

You've been waiting all year for this, right? Well here it is, your formal invitation to register for this fall's conference!!!

First, the most up-to-date conference information, programs, maps and registration information will be online. The following information should be read thoroughly and used as a reference when you go to finalize your registration through Survey Monkey at MAEOE.com or via your MAEOE ListServ email announcement.

MAEOE membership renewal is \$20 for a student/retiree, \$35 for an individual, \$70 for an Organization (up to 3 people) and \$300 for the best deal---a LIFETIME Membership which never expires. Becoming a member means you will receive a substantial discount on conference registration fees, the thrice annual MAEOEgram newsletter, and access to a resource filled listserv. Visit the Membership Benefits link online to learn more.

Conference Registration:

<u>MEMBER Registration Fees</u>	<u>NON-Member Registration Fees</u>
Full Conference Oct. 4-6, 2013 - \$85	Full Conference Oct. 4-6, 2013 - \$160
Student/Retiree Full Conference - \$40	
Friday, Oct. 4 Only - \$35	Friday, Oct. 4 Only - \$60
Saturday, Oct. 5 Only - \$35	Saturday, Oct. 5 Only - \$60
Sunday, Oct. 6 Only - \$35	Sunday, Oct. 6 Only - \$60
Friday and Saturday Only - \$65	Friday and Saturday Only - \$95
Saturday and Sunday Only - \$65	Saturday and Sunday Only - \$95

New this year-SCECHs will be available during some sessions, offered by the Wayne RESA. Interested conference participants will be able to sign-up onsite.

Lunch is included in the Friday and Saturday registration fees, lunch Sunday and all Breakfasts (\$10) and Dinners (\$25) are an additional fee. This is how members have asked it to be handled, so they may pick and choose what to spend on their conference registration, and we listen to our membership. We are proud to have local food service providers, GoLightly catering our group!

There are several lodging choices available including onsite camping for \$10 a night on Belle Isle-- with modern showers and restrooms open at the adjacent Detroit Yacht Club. This is a once-in-a lifetime experience to camp on an urban island! Pictures are in the following pages.

The second choice is to book a room at the Roberts Riverwalk Hotel or the Crown Plaza Ponchetrain hotel. Both are approx. \$160/night, and you will be asked if you'd like to be placed with a roommate on your registration to share the cost. These hotels are within 2 miles of the bridge to the island---visit TripAdvisor.com for more information or to find out more booking information.

Saturday sessions are open to all participants unless otherwise noted. Friday & Sunday's field trips and workshops require pre-registration. Details and pricing are listed in the following pages. There is something to pique

Presenters please register by Sept. 15th. General registration ends Oct. 1.

So in short, go online to www.maeoe.com and click on [The Conference tab](#) and find the [2013 Conference link](#)...you're in!

If you have any questions email us at info@maeoe.com

Lodging Options

Option 1: Rustic camping on Belle Isle—\$10/night

Camp near the Detroit Yacht Club on beautiful Belle Isle. You must provide all camping gear. Bathrooms accessible at the Detroit Yacht Club.



Option 2. Roberts Riverwalk Hotel 1000 Riverplace Walk Detroit (313) 259-9500

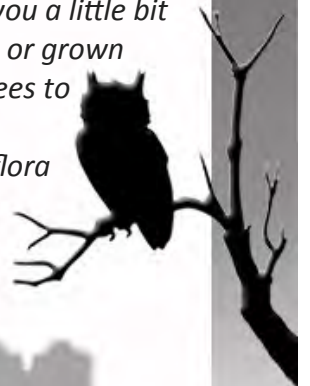
Double occupancy around \$160 a night. Be sure to check the box on your registration form if you would like to be added to the list of people that would like a roommate.



Option 3. Crown Plaza Ponchartraine Hotel or other area hotels— Most around \$160 per night for double occupancy

A note from our Hospitality Committee:

Have you signed up for the MAEOE conference in October yet? If not, you really should as this event will be a truly unique experience for conference attendees! As always, the conference will be an opportunity to broaden your horizons in the realm of environmental and outdoor education while networking with your peers. This year we've added activities that will make the conference even more memorable, such as an acoustic night with a rising guitarist around a bonfire. The chance to test your knowledge and engage in some friendly competition for prizes during the "Nature Trivia Challenge". And many more games/ activities are planned as it continues to excite and engage our resident attendees and newcomers. Something unique this year is the addition of beverage stations throughout the conference to quench your thirst or satisfy your caffeine cravings. And plans are currently in the works to even teach you a little bit about home brewing beer in Michigan and taking advantage of ingredients made or grown right here in this great state! Even more exciting this year is the option for attendees to camp on Belle Isle. This is a rare opportunity just for our guests! Experience the freighters sauntering by on the Detroit river as well as the abundant wildlife and flora on the island! This year's conference is shaping up to be the best ever, and we want you to be a part of it! Registration will fill up fast so sign up today!





WHOLE EARTH: EDUCATING A GLOBAL COMMUNITY

OCTOBER 4-6, 2013 ~ BELLE ISLE, DETROIT

A MESTA/MAEOE COLLABORATIVE CONFERENCE

VENDOR & EXHIBITOR APPLICATION

Name: _____ Organization: _____

Address: _____

Phone: _____ E-mail: _____

Please select one option below & complete information requested:

_____ **Exhibitor:** cost \$20 per one 8-foot table; **NO items for sale**

_____ # of tables requested: _____ x \$20 = _____

Title of Exhibit/Exhibitor (for program): _____

Description (50 words or less):

_____ **Vendor:** cost \$60 per one 8-foot table; **Items for sale**

_____ # of tables requested: _____ x \$60 = _____

Title/Name of Business: _____

Description (50 words or less):

Send completed form and check payable to "MAEOE" to:
MAEOE, P.O. Box 271, Birmingham, MI 48012

To learn more about the Joint MAEOE-MESTA conference, or to attend the conference, visit the MAEOE website: www.maeoe.com or the MESTA website: www.mestarocks.org

MESTA – Teachers Helping Teachers since 1967!
MAEOE – Promoting Environmental Literacy through Education across Michigan





MICHIGAN ALLIANCE FOR ENVIRONMENTAL
AND OUTDOOR EDUCATION (MAEOE)

Invites you to join us in
Whole Earth: Educating A Global Community
October 4-6, 2013-Belle Isle Detroit, Michigan
A MESTA/ MAEOE Collaborative Conference

MESTA – Teachers Helping Teachers since 1967!

MAEOE - Promoting Environmental Literacy through Education across Michigan

Becoming a 2013 Conference Sponsor!

The 25th annual 2012 MAEOE/MESTA conference will take place October 4, 5 and 6th at the Belle Isle Park in Detroit Michigan, the Country's largest Urban Island Park.

Become a sponsor to target the nearly 200 + educators that specialize in outdoor, nature, environmental and experiential learning---from schools, nature centers, camps, volunteer and government agencies---that attend the conference. And sponsorship contributions to MAEOE are fully tax-deductible.

In addition to lending exposure to your organization, your donation will support an organization whose mission is "Promoting environmental literacy through education."

Environmental Literacy can be defined as: possessing the basic ecological awareness, understanding and skill to have the ability to make informed decisions and to choose actions that lead to the least amount of detrimental effects on the environment.

In short, MAEOE seeks to build an environmentally aware and informed public. Many levels of sponsorship are offered on the enclosed form. If your organization supports the mission please donate today!

Thank you for your consideration,

The MAEOE Board

Michigan Alliance for Environmental and Outdoor Education
P.O. Box 271
Birmingham, MI 48012
www.MAEOE.com



Promoting environmental literacy through education

Please Choose Your Sponsorship Preference:

All sponsorships at the \$100 level or higher include an organization/business listing with a one color logo in the conference program & on the website.

_____ \$2000 White Pine Sponsor – Funds will be applied to celebrating the best environmental educators of the year at the annual awards banquet!

- Entitles the sponsor to one of three complementary full page two color ads to appear on the inside or outside cover of the program, a verbal thank you during the banquet, full conference registration including meals, a *vendor* table, and inclusion of organizational literature on the registration table.

_____ \$1600 Calcium Sponsor – Funds will be applied to resource room for Conference visitors and Family Fun Community program.

- Entitles the sponsor to a complementary two color full page ad in the program, a verbal thank you during the breakfast, full conference registration including meals, a *vendor* table, and inclusion of organizational literature on the registration table.

_____ \$1000 Copper Sponsor – Funds will be applied to welcoming conference

- Entitles the sponsor to a complementary two color full page ad in the program, a verbal thank you during the breakfast, full conference registration including meals, a *vendor* table, and inclusion of organizational literature on the registration table.

_____ \$500 Petoskey Stone Sponsor – Funds will be applied to conference registration costs, including program printing!

- Entitles the sponsor to a complementary two color ½ page ad in the program, full conference registration including meals, an *exhibitor* table, and inclusion of organizational literature on the registration table.

Michigan Alliance for Environmental and Outdoor Education
P.O. Box 271
Birmingham, MI 48012
www.MAEOE.com



_____ \$250 Greenstone Sponsor – Funds will allow for a scholarship to be granted to one educator to come to the conference---be generous---help several educators attend!

- Entitles the sponsor to a complementary one color ½ page ad in the program, one day of conference registration including meals, an *exhibitor* table, and inclusion of organizational literature on the registration table.

_____ \$100 Sugar Maple Sponsor – Funds will be applied toward student and one day scholarships!

- Entitles the sponsor to a complementary one color ¼ page ad in the program, an *exhibitor* table, and inclusion of organizational literature on the registration table.

Please Choose Your Sponsorship Preference:

_____ \$_____ Sponsor – Funds will be directed to a part of the conference you feel most comfortable supporting! Where would you like your funding to go? _____

- Entitlements based on parity with above described levels of funding.

_____ \$_____ **Silent Auction Items** Describe: _____
Est. Value

- Past donations include books and field guides, teaching supplies, Proceeds from Silent Auction go to the MAEOE Endowment Fund for special projects. Please send auction items to MAEOE by Oct. 1, 2013 or contact info@maeoe.com to make other arrangements.

Conference Program Ad:

One Color: _____ \$40 ¼ page ad _____ \$75 ½ page ad _____ \$140 full-page ad
 Two Color: _____ \$70 ¼ page ad _____ \$110 ½ page ad _____ \$200 full-page ad

Additional support opportunities are available by purchasing: a \$30 Exhibitor Table that entitles the attendee to provide information or a \$60 Vendor Table that entitles the attendee to sell merchandise. Vendor and exhibitor registration is available online at www.maeoe.com.

\$_____ TOTAL SPONSORSHIP



Michigan Alliance for Environmental and Outdoor Education
 P.O. Box 271
 Birmingham, MI 48012
www.MAEOE.com



Sponsorships will be collected in two ways:

- 1. By check made payable to and mailed to MAEOE
- 2. Online credit card payment via PayPal by visiting our registration site at www.maeoe.com

Contact information:

Name: _____

Organization (if applicable): _____ Website: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Phone: (____) _____ Email (print clearly): _____

To learn more about the Joint MAEOE-MESTA conference, or to attend the conference, visit the MAEOE website: www.maeoe.com or the MESTA website: www.mestarocks.org



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**MICHIGAN ALLIANCE FOR ENVIRONMENTAL
& OUTDOOR EDUCATION**

Educator's Stipend

Application-2013



The Michigan Alliance for Environmental and Outdoor Education (MAEOE) is seeking nominations for the **Educator's Stipend Program** which assist Michigan formal and non-formal educators with registration to attend an upcoming professional development conference. The conference will be held at Belle Isle in Detroit, MI October 4-6, 2013. Successful applicants will receive reductions the conference registration and plus a one-year membership with MAEOE. Educators must complete the attached application form which must be supported by a supervisor or administrator. **Application Deadline is September 1, 2013.**

A wide variety of sessions will be offered including Friday Workshops and Field Trips to nearby educational venues. The conference supports professional development for classroom teachers, non-formal environmental educators, university faculty and natural resource professionals.

For more information and criteria for nominations visit the Michigan Alliance for Environmental and Outdoor Education website at: www.maeoe.com

Application Process:

- ✚ Please use the enclosed application for applying for a stipend.
- ✚ The educators requesting stipends complete Part 1 of the application.
- ✚ The nominating administrator/MAEOE member completes Part 2 of the application.
- ✚ Applicants will be notified by September 15.
- ✚ Late Conference Registration fees waived for applicants.

MAEOE Educator's Stipend Application-2013



Criteria for educator stipends are as follows:

- ✦ Applicant must be a current classroom educator/teacher **OR**
- ✦ Working as an educator in a non-formal setting such as a nature center, museum, park, camp and similar facility.
- ✦ Demonstrate leadership experience or the potential for leadership in Environmental, Natural Resources, Outdoor Education or related field.
- ✦ Preference will be given to educators who are new to MAEOE or newly attending the MAEOE Fall Conference.
- ✦ Please provide a brief recommendation from either your administrator or a supervisor or a current MAEOE member.
- ✦ Past scholarship or stipend recipients will **not** be considered.

MAEOE Educator's Stipend Application - 2013

I. Completed by the Educator

PLEASE PRINT



Name:	_____
Phone:	_____
School:	_____ School Phone: _____
School Address:	_____
Home Address:	_____
Cell Phone:	_____
Email:	_____
Grade/Subjects Taught:	_____

Please indicate the best way to contact you!

1. Describe your experience and interest in natural resources, environmental or outdoor education:

2. Describe how conference attendance will benefit you professionally.

3. Describe how you intend to apply conference experience in your current classroom/educational role and share with your school/work colleagues:

4. Other additional information that would support your nomination: (Use additional paper, if necessary)

MAEOE Educator's Stipend Application - 2013



II. Completed by school administrator, supervisor or MAEOE member

Nominated by:	_____
Organization:	_____
Address:	_____
Phone Number:	_____
Email:	_____

Please indicate the best way to contact you!

Describe briefly your reasons for nominating this educator. How will attending the conference help your nominee to improve their teaching skills? Additional information can help the committee to make the best decision:

Please submit this form by September 1, 2013

Or print this form and mail to:

Tracy Ortiz
36587 Park Place Drive
Sterling Heights, MI 48310
Tel: 313-613-4746 Fax: 586-693-5356
Email: tracy.ortiz@att.net

MICHIGAN ALLIANCE FOR ENVIRONMENTAL & OUTDOOR EDUCATION

College Student Scholarship *Application – 2013*



The Michigan Alliance for Environmental and Outdoor Education (MAEOE) is seeking your help in nominating college students for our **Scholarship Program**, which funds Michigan college students to attend an upcoming professional development conference. The conference will be held at **Belle Isle in Detroit, MI October 4-6, 2013**. Scholarship recipients will receive conference registration and a one-year MAEOE membership. Students must complete the attached application form which must be supported by a faculty member. **Application Deadline is September 1, 2013.**

A wide variety of sessions will be offered including Friday Workshops. The conference supports professional development for classroom teachers, non-formal environmental educators, university faculty and natural resource professionals.

For more information, visit the **Michigan Alliance for Environmental and Outdoor Education website**: www.maeoe.com

This is an exciting opportunity for undergraduate or graduate Michigan students to participate in a professional development conference. **Successful candidates will be required to assist at the conference for 4-6 hours.**

Application Process:

- ✦ Please use the enclosed application for nominating a student.
- ✦ The student completes Part 1 of the application.
- ✦ The nominating faculty/sponsor completes Part 2 of the application.
- ✦ Applicants will be notified by September 15, 2013. Late conference fees are waived for all applicants.

MAEOE

College Student Scholarship Criteria 2013



Criteria for student scholarships are as follows:

- The recipients shall:
 - ✓ Be Michigan college student or graduate students.
 - ✓ Major or minor in Outdoor Education, Environmental Education, Recreation Education, Natural Resources, Elementary or Secondary Education or a related field.
 - ✓ Have completed coursework in the area and have a GPA of at least 3.0 in the major/minor field.
 - ✓ Have demonstrated a capacity for leadership involving Environmental Education, Outdoor Education or related fields.
- Persons receiving a scholarship are not eligible for future MAEOE scholarships.
- Unaccepted scholarships shall be filled by the next eligible candidate.
- There shall be no more than three scholarships awarded to students from the same college each year without Board Approval.

MAEOE
College Student Scholarship
Application - 2013



I. Completed by the student

Name:	Cell Phone:
College or University:	
Email:	
Address:	
Permanent Address (if different):	

Please indicate the best way to contact you!

Year in College: (circle) 1st 2nd 3rd 4th 5th Masters PhD

Major: _____ GPA: _____

1. Experience in related environmental education fields (i.e. summer employment, service learning, volunteerism, etc.):

2. Applicable courses completed at the college level (semester completed and course titles):

3. Describe your professional goals and/or career plans:

4. Describe how attendance at the conference will benefit you professionally:

5. Other additional information (use back of sheet, if necessary)

MAEOE
College Student Scholarship
Application - 2013



II. Completed by nominating college faculty or staff

Nominated by:	_____
Department:	_____
Office Address:	_____
Work Number:	_____ Cell Phone: _____
Email:	_____

Please indicate the best way to contact you!

Describe briefly your reasons for nominating this student:

Please submit this form by September 1, 2013

Or print this form and mail to:

Tracy Ortiz
36587 Park Place Drive
Sterling Heights, MI 48310
Tel: 313-613-4746 Fax: 586-693-5356
Email: tracy.ortiz@att.net



WHOLE EARTH: EDUCATING A GLOBAL COMMUNITY

OCTOBER 4-6, 2013 ~ BELLE ISLE, DETROIT

A MESTA/MAEOE COLLABORATIVE CONFERENCE

2013 MAEOE POSTER COMPETITION FOR COLLEGE STUDENTS

Saturday, October 5, 2013

Any Michigan student enrolled in a college or university is invited to participate in the Michigan Alliance for Environmental & Outdoor Education (MAEOE) Conference Poster Competition on Belle Isle in Detroit, MI. College students are invited to submit a poster that relates to the conference theme of: "Educating a Global Community" featuring:

- Student-faculty research in Environmental and Outdoor Education
- Plan for proposed research
- Student project work, such as field studies, community engagement, international experiences
- New lesson plans, curriculum and educational materials
- Learning experiences and outcomes (i.e. tell a story about something that you have done or experienced that relates to education of K-12 students or adults about the environment, nature, outdoors, etc.)

Apply for the Poster Session: Submit an abstract for your poster. **DEADLINE EXTENDED to Sept. 21, 2013** Email your abstract to info@maeoe.com. For questions, please contact Dr. Shari Dann at sldann@msu.edu Your abstract should include:

- Poster title
- Names and contact information for all poster authors, both students' and supporting faculty
- Maximum 300-word description

Poster Guidelines: Minimum poster size is 32" x 40". Posters will only be accepted if they are printed on a single sheet of poster-sized paper. You may also bring handouts, business cards, and sample materials or products (website, video, lessons, etc.) and a laptop for displaying your electronic work, to share during the formal presentation session. Previously presented posters or projects are acceptable and encouraged!

Poster Judging: The posters will be judged by a panel of MAEOE members. *Students must be available to discuss their poster during the judging and presentation session on Saturday, October 5, 2013* (time TBA).

Criteria for judging will include:

- Presentation of current research or best-practice in environmental or outdoor education
- Presentation of useful and relevant data and information for the audience (MAEOE attendees)
- Visual quality and writing/communication quality

Conference Registration required: All students presenting posters must register to attend the MAEOE Conference on October 5, 2013. Student registration is reasonable and low-cost housing or camping are available. **Student scholarship information** and conference registration are available at www.maeoe.com.

Cash prizes for 3 Student Posters!! 1st prize \$250, 2nd prize \$150, 3rd prize \$100

All poster presenters will receive a Certificate of Recognition. To be eligible for a cash award, a student must be present at their poster during the presentation time on October 5, 2013.



Thanks to Project Wild and Project Learning Tree for sponsoring the cash prizes.

Visit MAEOE's new website!!! www.MAEOE.com

MAEOE ABOUT CONFERENCE E.E. RESOURCES INITIATIVES PROJECT WILD FLYING WILD GET INVOLVED

Michigan Alliance for Environmental and Outdoor Education

Promoting environmental literacy through education.

Michigan Alliance for Environmental and Outdoor Education

The Michigan Alliance for Environmental and Outdoor Education is a professional association supporting and advancing environmental education in a variety of settings, including:

- ~ K-12 Classrooms
- ~ Nature Centers & Camps
- ~ Youth Programs
- ~ Government Agencies
- ~ For-profit and Non-profit Organizations

We hope this site provides you with quick and easy access to information about Michigan Environmental and Outdoor Education in one location, so you can spend more time outdoors with the kids!

If you are looking for the Maryland Association for Environmental and Outdoor Education, please [click here](#).

Stay up to date on ~~w~~hat's happenin*g* in Michigan!

About MAEOE

The Michigan Alliance for Environmental and Outdoor Education is a professional association supporting and advancing environmental and outdoor education in a variety of settings, including K-12 classrooms, nature centers, camps, youth programs, government agencies, as well as for-profit and non-profit organizations. MAEOE advocates environmental literacy and personal responsibility for environmental sustainability.

MAEOE advances the idea that direct experience in the natural environment establishes a sense of place, enhances environmental appreciation and builds a foundation for environmental stewardship.



www.MAEOE.com

Michigan Alliance for Environmental
and Outdoor Education
P.O. Box 271
Birmingham, MI 48012

A state-affiliate of the National
Association of Environmental Education.
www.naaee.org



Check out the all new MAEOE display! Do you have an event, workshop or conference that the MAEOE display would work well at? Contact us to get it there!

elkinsn@michigan.gov

Clip and use this form to renew your own membership, or share it with a friend or co-worker.

MAEOE Membership Form

Membership Benefits:

Professional Newsletter
Annual Recognition Awards
Opportunities for Professional Involvement

Annual Conference
Networking
Email Listserv

Name _____ Email _____

Address _____

City _____ State _____ Zip _____

County _____ Home Phone (____) _____ Work Phone (____) _____

Occupation* _____ Employer _____

*If you are a teacher please indicate grade level and subject: _____

Please check: New Member Renewal

- Individual (\$30)
- Life (\$250)
- Organization (\$60)
- Family (\$50)
- Full-time Student (\$15)

Please make checks payable to MAEOE and mail to:

MAEOE
P.O. Box 271
Birmingham, MI 48012

Questions? Email info@maeoe.com