



Our Common Wealth: Environmental Education is for Everyone



March 11, 2015
Hogan Campus Center
College of the Holy Cross
Worcester, Massachusetts

Our Common Wealth: Environmental Education is for Everyone

Massachusetts Environmental Education Society
2015 Conference

Conference Schedule

8:00 a.m. – 8:30 a.m.

- ⇒ Registration
- ⇒ Coffee & Breakfast
- ⇒ Exhibits

8:30 a.m. – 9:15 a.m.

- ⇒ Welcome
- ⇒ Annual Meeting
- ⇒ Keynote Panel

9:30 a.m. – 10:45 a.m.

- ⇒ Session A

11:00 a.m. – 12:15 p.m.

- ⇒ Session B

12:15 p.m. – 1:15 p.m.

- ⇒ Lunch
- ⇒ Exhibits

1:15 p.m. – 2:30 p.m.

- ⇒ Session C

2:45 p.m. – 4:00 p.m.

- ⇒ Session D

Join us for the 2015 Annual Conference!

We've heard from our members throughout the years that a morning welcome would help bring everyone together to share a little inspiration before heading off to the workshops. So, in the spirit of sharing "our common wealth", we have invited several speakers to participate in a panel discussion. They will remark on the state of Environmental Education in our great Commonwealth.

After the introductory remarks we hope you will join your colleagues and friends and participate in the many and varied workshops throughout the day.

Looking forward to seeing you on March 11 in Worcester!

MEES Board of Directors



WELCOME | 8:30 a.m.—9:15 a.m.

Registration begins at 8:00 a.m. in the foyer of the Hogan Campus Center. Once registered, please enjoy coffee and breakfast and **find a seat** in the main Ballroom. MEES President Louise Beaudry will provide opening remarks and manage the MEES Annual Meeting.

Following the welcome, MEES is introducing a panel to discuss current Environmental Education policies and how they affect our Commonwealth.

SESSION A/B | 9:30 a.m.—12:15 p.m.

A/B1: Birding and Migration in Schools and in the Community

Lisa Hutchings, School & Youth Education Coordinator, and Adrienne Lennon, Teacher Naturalist & Summer Camp Director, Mass Audubon—Joppa Flats

Mass Audubon's Joppa Flats Education Center operates a seasonal bird banding station on the Parker River National Wildlife Refuge on Plum Island. Our educators offer schools, families and adults group education programs about the migratory songbirds, raptors and shorebirds of our region. For preschool and elementary educators attending this workshop we will share science activities, group games, songs and art projects, as well as guided imagery and role-play scenarios. For teen and adult educators, we will focus on empowerment and action, independent research, and classroom application.

Strand: PEC | CT | EOE

A/B2: Electronics for Measuring the Environment

Shawn Reeves, President, EnergyTeachers.org

Students can learn about electronics and the environment at the same time, while acquiring special skills. Homemade circuits allow inexpensive and novel studies of field-data. Participants will choose sensors and learn to build them into a circuit to take.

Shawn teaches electronics and environmental science lab courses at Babson College.

Strand: CT



SESSION A | 9:30 a.m.—10:45 a.m.

A1: SAGEEE Meeting

Robin Organ, SAGEEE Chair and Project Manager of the Massachusetts Energy and Environmental Education Plan, MEES Board Member

Join SAGEEE—The Secretary's Advisory Group on Energy & Environmental Education—for an interactive discussion on the "State of Environmental Education" across our Commonwealth. Make recommendations for our state's Energy & Environmental Literacy Plan and have your voice be heard!

Strand: NS

STRAND KEY

PEC: Preschool and Early Childhood Educators

CT: Classroom Teachers

EOE: Environmental and Outdoor Educators

A: Administrators

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Session A continued on next page...

SESSION A | 9:30 a.m.—10:45 a.m.

A2: Educating the Whole Child

Coleen O'Connell, Instructor, Lesley University and Colleen Kelley, Environmental Educator, Hitchcock Center

Join with us in a lively interactive workshop about setting the standards for whole child education—an education that doesn't just teach to mental concepts but engages the body, mind and spirit of a child. What are the skills, capacities, experiences that every child should have as they traverse their childhood years? Join us in crafting of a bill of rights for childhood.

Strand: PEC | CT | EOE

A3: Ocean Science in the Classroom

Corrine Steever, Teacher Services Supervisor, New England Aquarium

Teachers participated in summer institutes to learn about how to incorporate oceans into their classrooms. During the school year, they implemented lessons with their students. Join us as they share their ideas, challenges, and activities they used to increase environmental education in their classroom while they share their firsthand experience of how it impacted their students.

Strand: CT

A4: Bogged Down

Patti Steinman, Education Coordinator, Mass Audubon—Arcadia Wildlife Sanctuary and Nan Childs, Teacher, Hilltown Cooperative Charter School

Massachusetts is rich with many diverse plant communities for environmental educators to explore; perhaps one that fascinates many a naturalist is a bog. Through hands on activities and slides, learn the characteristics of a bog, common flora and fauna and their adaptations to such a harsh environment. We will include ideas for teachers and other educators to use in the classroom or on a field trip that follow the common core standards. We'll also discuss bog conservation and ethics when visiting bogs with a group.

Strand: CT | EOE



A5: Living Systems: Bioremediation Using the EcoMachine Model

Russell J. Anderson, Environmental Teacher, Worcester Technical High School and Eugene Bernat, Fisherville Redevelopment Corp & John Todd Ecological Design

Bio-remediation is a method of using plants and other living things to filter out nutrients; a natural method of cleaning our water. In this workshop teachers will learn about a classroom EcoMachine at Worcester Technical High School. It was modeled after the Eco-machine bio-remediation project developed by John Todd Ecological Design at Fisherville Mill in South Grafton which treats polluted water in the Blackstone Canal with a combination of aquatic cells and mushrooms to break down fuel oil. Teachers will collaborate on how this could be implemented and demonstrated in a classroom setting and make connections to the Massachusetts Curriculum Frameworks for Science and Technology.

Strand: CT

A6: Studying Climate with Picture Posts

Don McCasland, Program Director, Blue Hill Observatory Science Center and Brian Fitzgerald, Program Manager and Weather Observer, Blue Hill Observatory Science Center

Learn how to use Picture Posts either at your own site or one of the many in the area. Picture Posts allows scientists to look at and analyze digital photos taken by citizen scientists to monitor climate by looking at changes in vegetation in the photos people upload. We will do an actual picture post set of shots that participants take and upload during class. We will then look at methods of using data sets in the classroom. We will also look at the long term climate record at Blue Hill Observatory and how we can integrate information from photos with information from the many weather instruments to get a complete climate overview.

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SESSION B | 11:00 a.m.—12:15 p.m.

B1: Aligning Classroom Practice with the New Massachusetts Standards

Ted Watt, Naturalist/Science Educator, Helen Ann Sephton, Science Educator, and Patty O'Donnell, Science and Energy Educator, Hitchcock Center for the Environment

The Hitchcock Center has been studying the new Massachusetts Science and Technology/Engineering Standards. We have developed three environmentally focused units for schools aligned with the new national standards: Third Grade: The Pond Ecosystem, Fourth Grade: Energy is Electrifying, and Fifth Grade: The Hydrosphere, Water, and How We Use It. We'll introduce the new standards and guide you through some of the activities in our units. Participants will leave with content, activities and teaching approaches designed to bring an environmental perspective to the upcoming standards.

Strand: CT | EOE | A

B2: Teaching Sustainability, Science, and Math Through School Composting and Gardening

Janice McPhillips, Farm Educator, and John Belber, Education Director, Friends of Holly Hill Farm

Hingham High School has a great sustainability program with daily composting of 50 pounds of food scraps into 12 onsite compost bins. Twice a year, Friends of Holly Hill Farm educators visit the school to use the finished compost for planting in the school's raised beds, teaching math, science and sustainability along the way.

Strand: CT | EOE | A

B3: River Schools Network: Connecting Schools Through Our Rivers and Waterways

Robin Stuart, School and Groups Program Coordinator, Mass Audubon—Drumlin Farm and Susan Erickson, Science Curriculum Specialist, Weston Schools

Every community has its own unique natural resources that provide a variety of ways to engage students in STEM based scientific practices. Learn about the River Schools Network Project in the SuAsCo Watershed and how we deepen student experience and understanding by connecting them to their local rivers and each other's work.

Strand: CT | EOE | A

B4: A Soil Smorgasbord: Celebrating soil by navigating through lessons about the soil food web

Barbara Passero, Founder and Director, and Jean M. Devine, Meadowscape for Biodiversity

Participants will move from station to station to sample a smorgasbord of soil educational activities. Hands-on, inquiry-driven experiments help learners understand soil biology. Each experience taps into one of the senses. For example: "Get Dirty", "Let soil light your pen", "What's this smell?", "Worms! Not tasty or pretty, but good for you".

Strand: PEC | CT | EOE

B5: Climate Education: New Directions for a New Environment

Brock Adler, Chair, Advocacy Committee, NAAEE

The climate is changing, education is changing, and climate education must change. Following the creation of the national EE Capacity project on new climate education, this session will present a look at the effort so far and try to further the process of creating new climate education models.

Strand: PEC | CT | EOE

B6: Challenges and Successes of a High School Green Team

Eleanor Burke, Housemaster, Kevin Rossley, Director of Buildings & Grounds, and Christopher Collins, Environmental & Earth Science Teacher, Lincoln-Sudbury Regional High School

The Lincoln-Sudbury H.S. GreenTeam includes students, staff, facilities department, and administration, achieving environmental projects, energy technologies, and curriculum development. GreenTeam members describe the journey and discuss recent research indicating there may be a virtuous cycle at play in the all-school collaboration.

Strand: CT | A

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LUNCH | 12:15 p.m.—1:15 p.m.

Please use the lunch hour to **walk through the exhibit hall**, network with your fellow Environmental Education colleagues, and enjoy a delicious lunch.

Vegetarian and vegan options will be provided.

SESSION C | 1:15 p.m.—2:30 p.m.

C1: National Parks as Classrooms

Alice Puccio and Michelle Pizzillo, SCA Education Interns, Olmsted Center for Landscape Preservation, National Park Service

National Parks are a great tool for learning and enhancing your students' experience with the natural world. This workshop will introduce classroom teachers, educators, and program administrators how to apply curriculum standards from various disciplines such as social studies, language arts and visual arts to place-based learning in National Parks and to incorporate hands-on stewardship activities.

Strand: CT | EOE | A

C2: Creating Inclusive Interpretive Experiences

Lucy Gertz, Statewide Education Projects Manager, Mass Audubon and Marcy Marchello, Universal Access Program Coordinator, MA DCR

Toward our goal of creating 20 accessible nature trails around the Commonwealth, Mass Audubon has already completed 10. We've learned a lot about inviting and engaging sanctuary visitors needing accessibility accommodations. We'll share our experience in collaboratively developing outdoor experiences, welcoming people with different abilities, and describe our ongoing efforts and continuous learning curve in inclusion and accessibility.

Strand: EOE

C3: I Speak for the Bees

Gail Howe Trenholm, President, Nature Visits with Gail

How can we get students involved in learning about and providing for our native bees. Learn who some of these valuable bees are, what are their needs and why are they so important to our own survival. Build a bee hotel. PowerPoint and displays are used. List of native plantings available.

Strand: CT | EOE

C4: Teaching Climate Change in Elementary School

Susan Rauchwerk, Associate Professor, Lesley University

Engage in a series of activities a group of 24 elementary teachers developed to teach themselves about climate change, and to develop effective climate change units, lessons, activities and science centers for their students. Learn about the process of letting students take the lead and direct their own learning.

Strand: CT | EOE

C5: Best EE Student Practices Green-o-vating our Common-wealth

Maureen Aylward, Director of Students & Schools, Green Schools and Eric Magers, Director, Manchester/Essex Regional Middle/High School

Join the Green Schools, a national leader in EE, STEM, and Youth Development, Manchester Essex Regional School District, and Newton North High School's Green-gineers for a collaborative workshop how to implement Best Green-o-vative Practices in your program, school, community and our Common-wealth!

Strand: CT | A



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Session C continued on next page...

SESSION C | 1:15 p.m.—2:30 p.m.

C6: The Incredible Complexity of Trees

Henry Lappen, Naturalist

Trees have a hormonal system rivaling teenage humans. Well almost! But they are as complex as they are beautiful and important ecologically. Come learn what is under the bark and how complex they really are, and what the town of Amherst is doing to promote urban forestry.

Strand: CT | EOE



C7: Hands-on Human Ecology for the Next Generation

Beth Nickles, Workshop Facilitator, Population Connection

Discover interdisciplinary activities to explore global population trends, carrying capacity, human impacts on environment systems and paths to sustainability. Engage in memorable lessons designed to meet the Next Generation Science Standards and Massachusetts Curriculum Framework.

Strand: CT | EOE

C8: The Nature of Science: Merging Traditional STEM Lessons with Environmental Education

Laurel Carpenter, Visitor Services Specialist, U.S. Fish & Wildlife Service

Silvio O. Conte National Fish & Wildlife Refuge

With outside constraints limiting environmental education in the mainstream classroom, staff at the Great Falls Discovery Center developed 20 environmental-themed, inquiry-based, hands-on physics and chemistry lessons with grade 4 curriculum in mind, and extensions through grade 12. This workshop will allow participants to actively explore a selection of those lessons.

Strand: CT | EOE

SESSION D | 2:45 p.m.—4:00 p.m.

D1: ecosYSTEM™: Using Ecology as an Integrating Context for STEM Education

Meg Edstrom Jones, Outreach Director, The Ecology School

Are you ready to challenge yourself to think beyond traditional STEM definitions and boundaries? This workshop proposes an education model that fosters 21st Century thinkers who take a systemic approach to learning and applying STEM skills. Alignment to Common Core and Next Generation Science Standards will be also addressed.

Strand: CT | EOE | A

D2: A Framework for Animal Science

Mary Beers, M.Ed., Director of Education, and Andrea Harrington, Teacher/Naturalist, Thornton W. Burgess Society

Environmental Education is at home in the new State Science Standards for Grades K-3 through Life Cycles, Animal Adaptations and Senses, Biodiversity and Habitats. Have fun being the "student" while laying a solid foundation on which to build your own exciting Life Science program.

Strand: PEC | CT

Session D continued on next page...



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SESSION D | 2:45 p.m.–4:00 p.m.

D3: Going DEEP in the Outdoors: Exploring Digital Environmental Education

Renata Pomponi, Program Innovation Coordinator, Mass Audubon

Mass Audubon's Digital Environmental Education Project embraces technology's potential to enhance people's understanding and appreciation of the natural world. We'll share our experiences using mobile devices to collect and share ecological data, online games that develop environmental connections, and smartphone apps that engage learners in STEM content. Join us on our digital journey outside.

Strand: CT | EOE

D4: Science for the Very Young

Lisa Carlin, Education Coordinator, Mass Audubon – Broad Meadow Brook

Do you want to do science with your preschool or kindergarten age students? Do you need new interesting activities? Science and nature can be fun and we will show you how in this hands-on inquiry based workshop. We will share with you a number of activities that you can do with your students right away. They require minimal materials - many of which you already have. All of the activities can be connected to the NGSS Standards and the new MA STE Draft Standards.

Strand: PEC | CT | EOE

D5: Inclusive Program Design: Developing Nature Connections for Urban Youth

Brianne Studer, Program Director, Farrington Nature Linc

Did you grow up catching frogs and playing in the mud? For many of the youth that we serve, those formative experiences are not a part of their childhood. This workshop will delve into how we create programs at Farrington Nature Linc that acknowledge the experience of the unknown and provide a scaffolded approach to connect urban youth with the natural world.

Strand: CT | EOE

D6: Workshop Cancelled



D7: Tips & Tricks for Effective Outdoor Teaching

Lindsay Watkins, Outdoor Adventure Coordinator, and Joanna Lemmon, Outdoor Program Development Manager, Appalachian Mountain Club - Youth Opportunities Program

Effective environmental education happens outdoors! Several experienced environmental educators and outdoor trip leaders from the Appalachian Mountain Club will share some ideas for maximizing students' learning and fun outside the controlled environment of the classroom.

Strand: EOE

D8: Interactive Nature Trails

Don Salvatore, Science Educator, Museum of Science

Science, including nature study, is an activity, not an observation. Yet too often visitors to a nature center are asked to view, not do. What would it take to create a hand-on nature trail? In this workshop, participants will break into teams and brainstorm activities that can turn a static walk through the woods into a fun and rewarding science experience. At the end of the session, groups will share their ideas.

Strand: EOE



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REGISTRATION INFORMATION

Register online at <https://mees.wufoo.com/forms/mees-2015-conference-registration/>

Registration deadline is Wednesday, March 4, 2015

Registration fee includes conference attendance, lunch, and an annual MEES membership.

Early Bird Rate—\$75

If registered by Friday, February 6, 2015

Registration Rate—\$90

For those registered between February 7 and March 4

Student Rate—\$25

Applies to high school, undergraduate and graduate students.

Exhibitor Rate—\$65

Includes six-foot table and lunch. Half-tables are available for \$40.

Additional attendee registrations are \$20 each for those Exhibiting.

MEES offers a generous **scholarship program**, open to anyone. The reduced scholarship rate is **only \$25** and is available to anyone who is willing to apply. Scholarships are provided on a first-come, first-served basis. To apply, please email Kathryn Parent: rootswings@gmail.com.

Presenting a Workshop? You are still required to register online!

Workshop LEAD Presenter—FREE Conference Registration—*Includes your annual MEES membership and lunch.*

Workshop Additional Presenter(s)—\$40—*Includes your annual MEES membership and lunch.*

If the conference is cancelled for any reason, MEES is unable to provide a refund.

Cancellation information will be announced via
the MEES website: www.massmees.org and the [MEES Facebook Page](#)

Questions? Concerns? Comments? Please email Ann Gisinger: board.massmees@gmail.com

