

## Session A Saturday, 8:30-10:00 am

### Ecological Consequences of Population Growth

Henry Barbaro, Board Member, New England Coalition for Sustainable Population

This workshop connects environmental issues to their root causes. Five classroom lessons, which focus on the ecological consequences of population growth, will be presented. Sustainable solutions intended to preserve the quality of life for present and future generations (e.g. prudent land use strategies) will be discussed. (grades 6-12)

### Mystery Migratory Birds

Mary Ann McGarry, Professor of Science Education, Plymouth State University

Jackie Wilson, Director of Education, Hubbard Brook Research Foundation

Participate in engaging activities to learn about unique characteristics, habitats, migration routes, and conservation concerns of four diverse migratory bird species that visit New England forests. We'll look at monitoring trends from 40 years of data collected in New Hampshire and explore scientific equipment and processes used in the field. (middle school level)

### STEM Polar Connections

Marie Silver, Program Manager, STEM ED Institute, UMass

An understanding of Climate Change starts with an understanding of the science research taking place in the polar regions. Teachers who have participated in the NSF funded STEM Polar Connections Nation-Wide Summer Institute at UMass will share their experiences, activities and resources with participants. (middle/high school level)

### No Child Left Inside: Reconnecting Children with Nature

Ryder Scott, Program Director, Bryant Pond 4-H Camp and Learning Center

Many of us are familiar with Richard Louv's book *Last Child in the Woods*. This workshop introduces participants to important research on the subject of children and nature, and will include resources and ideas on how to create, fund and promote "No Child Left Inside" initiatives at local and regional levels. (all audiences)

### Sustainability as an Integrating Theme for 21<sup>st</sup> Century Learning

Matt Dubel, Project Coordinator, Sustainable Schools Project

Shelburne Farms' Sustainable Schools Project works with schools to use sustainability as an integrating theme, linking curriculum, campus stewardship, and community engagement. Explore the possibilities for using sustainability as a theme to connect curricula, build common ground among community partners, and engage students as citizens working toward a desirable future. (grades K-8)

### Ecological Design in the Built Environment

Steve Whitman, Planner, Jeffrey H. Taylor & Associates and Adjunct Faculty Member, Plymouth State University

Beginning with an overview of ecological footprinting and permaculture principles, participants will go on a visual tour of projects from a variety of locations in the US and abroad, highlighting approaches which reduce human impact. A discussion on how to implement ecological design processes in New England will conclude the session. (all audiences)

### Using GPS and GIS to Help Understand Your Community

Lara Sharp, PASCO Scientific

Participants will learn how to collect simultaneous GPS and environmental data that can be plotted into GIS software. This data can help track climate change and other local environmental changes. GIS software is a valuable tool for comparing environmental, geologic, and geographical information. (all audiences)

### Cultivating Communities of Compassion: Emerging Partnerships on Behalf of the Planet

Rev. Dr. Mary E. Westfall, Senior Minister, Durham Community Church

What would a community look like that combines reason and intuition, critical thinking and deep caring, objective and subjective knowing to create a more sustainable and holistic future? This workshop will look at dynamic partnerships and collaborative endeavors undertaken by educators and faith communities joining to promote a healthier planet. (all audiences)

### Geowalking: Getting to Know the Earth and Its History in Your Town

Steve Winters, Board Member, Friends of the Great Falls Discovery Center

Learn how to design accessible walks that give people three-dimensional, 'up close and personal' introductions to the geological wonders surrounding them. We'll look at an immensely popular geowalk designed for the village of Turners Falls, Massachusetts. (all audiences)

## Session B Saturday, 1:30-3:00 pm

### What's In Your 3d Quadrat?

Zach Smith, Program Coordinator, Wright Center for Science Education, Tufts University

This workshop will provide a very simple framework and conceptual understanding of how all systems (physical, chemical, biological) interrelate and coexist, from your backyard to polar research. This concept can be reproduced for <\$10 and forms the basis of a deeper understanding of earth system science which can include collecting and analyzing real data. (grades 4 and up)

### Creating a Small-scale Ecovillage

Coleen O'Connell, Faculty, Ecological Teaching and Learning MS Program

Lily Fessenden, Coordinator, Ecological Teaching and Learning MS Program

Audubon Expedition Institute at Lesley University

The Ravenwood Collective is an evolving example of a small Maine ecovillage striving to be a model for ecological living. Learn the story of the unfolding commitment to land preservation, living simply, growing food, appropriate technology, community building, and making other arrangements in the time of crumbling oil infrastructure and global climate crisis. (all audiences)

### Motivate, Integrate, Educate: Energy Education for Grades K – 12

Carol Wilson, President, Wilson Educational Services

This workshop will inform participants about highly effective energy education programs which teach students to use age-appropriate academic skills to address real energy problems in their schools. These programs are interdisciplinary and have positive results academically, as well as saving energy and money for their schools.

### Developing Agents of Change through Service-Learning

Barbara Fiore, Education Consultant, KIDS Consortium

Learn how to use service-learning as a teaching strategy to engage your students in identifying and researching environmental problems in your community. By building partnerships with community members working on local needs, students explore solutions and learn how to effect positive change in the world. (grades K-12)

### Coastal Ocean Acidification

Erin B. Hobbs, Lead Interpreter, Seacoast Science Center

Participants will be introduced to current research on coastal ocean acidification and will participate in classroom activities dealing with the carbon cycle, climate change, acidification, and human impact. Discussion of the challenges that educators face in bringing current science into the classroom will conclude the session. (middle/high school level)

### World Wide Waldens

Susan Frey, Director of Education, The Walden Woods Project

World Wide Waldens empowers students around the globe to find their 'Walden' – a place that needs care and protection - in their own community. Inspired by the life and writings of Thoreau, students put Thoreau's words into action and connect to other young people who share the same concerns and convictions. (middle/high school level)

### What's Your Eco-Footprint?

Tracy Truzansky, Director of Education

Becca Rimmel, Volunteer Coordinator

ECHO Lake Aquarium and Science Center

Inspiring others to look at their ecological impact can require asking tough questions. ECHO takes you through our thirty minute, high tech experience using a *Personal Response System*, and then leads a discussion and extension activities on how this experience can expand ecological meaning to those you serve. (all audiences)

### Outside Our Window

Janet Altobello, School Program Coordinator, Harris Center for Conservation Education

Jan Yardley, 2<sup>nd</sup>-4<sup>th</sup> Grade Teacher, Harris Elementary School

Jan and Janet will share the story of a joint project called "Outside Our Window". Jan's second graders teamed up with 7 and 8 year olds in Brazil, Italy, and New York through e-Pals to study and compare their discoveries on the patch of land outside their classroom window. (grades 2-8)

### Working Toward a Sustainable Model of Business

Patti Carrier, Facilities and Environmental Manager, New Hampshire Ball Bearing

Do your students think of environmental concerns when they think beyond life sciences? This workshop will take educators outside their box to consider the business world that their students may enter. Learn how a local forward-thinking company is working to reduce its carbon footprint and demonstrate the positive role that business can take. (all audiences)

## Session C Saturday, 3:30-5:00 pm

### Building Place Based Memories

Micky Johnson, M.Ed, First Grade Teacher, Antrim Elementary School

Fabiola Woods, Fourth Grade Teacher, Antrim Elementary School

Would you like to find a way to bring the magic of the forest to your school? We may have just the answer. Reverence of Place is a standards based initiative that encourages stewardship by bringing whole learning communities outside ... and increases test scores! Find out how we did it. (elementary level)

### Not-The-Usual Suspects: Creating Dynamic Relationships with Unlikely Partners

Kelly Stettner, Director, Black River Action Team

Shake up your paradigm! Explore ways of thinking outside the box to seek out and draw in partners you would either never think of, or think about in negative ways. Reach beyond what you expect of yourself and your fellow volunteers. (all audiences)

### Carbon Footprint: Teaching Strategies and Resources for Educators

Stefany Arsenault, Assistant Director, Maine Energy Education Program

Beth Otto, Carbon Footprint Educator, Maine Conservation Corps

Participants will learn about the impacts of climate change in New England and how to calculate their carbon footprint. Suggestions for student activities include an energy efficiency journaling exercise that can feed into a public outreach campaign and a school energy efficiency audit. (middle school-college level)

### STEM RAYS: Authentic Student Science Research on Sustainability

Marie Silver, Project Manager, STEM RAYS Project, Greenfield Community College  
STEM RAYS allows students in upper elementary and middle schools to engage in authentic science research linked to colleges in an after school setting. Come see what the kids are working on and learn how to engage your students in authentic research. (elementary/middle school level)

### Using Local Examples of Human-Accelerated Environmental Change

Cornelia Harris, Changing Hudson Project Coordinator, Cary Institute of Ecosystem Studies  
It's not all about global warming! Other human impacts, such as biodiversity loss, land use change and pollution interact with global warming. During this workshop participants will be encouraged to think critically about these changes using a jigsaw format that can be adapted for different classrooms and regions. (middle/high school level)

### Exploring Transfer of Learning Approaches in Environmental Education

Deb Sugerma, Consultant, Experiential Concepts  
Good teaching involves helping students realize lessons learned and discover ways to apply that learning elsewhere. In this workshop participants will gain knowledge of the theories behind transfer of learning and will experience techniques designed to facilitate the transfer of learning. (all audiences)

### Collecting Stories and Connecting Communities

John Harris, Executive Director, Monadnock Institute of Nature, Place and Culture  
Katherine Morgan, Director, NH Heritage Project and Coordinator, North Country Collecting Stories Project  
Designed for teachers and community members interested in regional heritage, this workshop will engage participants in the use of place-centered essays, oral history techniques, and print and electronic anthologies, and will describe our efforts to collect local memories and celebrate communal connections in the North Country region of New Hampshire. (all audiences)

### Healthy Neighborhoods/Healthy Kids

Matt Dubel, Project Coordinator, Sustainable Schools Project, Shelburne Farms  
How do we engage students in neighborhood development that improves quality of life? Join us in answering this question as we explore the Healthy Neighborhoods/Healthy Kids activities and tools. Learn how students become actively engaged in community planning, decision-making and service-learning while evaluating and addressing their neighborhood's quality of life. (all audiences)

### Creating a Teen Community in Environmental Education

Henry Burke, Camp Director, Seacoast Science Center  
Michele Wensman, Volunteer Coordinator, Seacoast Science Center  
The Seacoast Science Center has fostered a growing teen environmental education community through volunteer projects, fun science-based social events, and research projects. With ideas and active participation from the teens themselves, we have created programs that benefit both teens and the Center. (middle/high school level)

## Session BC Saturday, 1:30-4:30 pm

### A Collaborative Approach to Social Change

Curtis Ogden / Gibrán X. Rivera, Senior Associates, Interaction Institute for Social Change  
What does it mean to work for social change in an interconnected world? In the face of complex social and environmental issues, we are called to tap the participation of others to create shared visions, strategies, and movement for more just and sustainable communities. Explore new frameworks and develop collaborative tools for greater impact. (all audiences)

## Carbon Storage in Your Local Forest

Sarah Silverberg, Project Coordinator, GLOBE Carbon Cycle Project, University of New Hampshire

Do trees in your backyard store more or less carbon than is stored in the global human population? How will carbon storage change if forested areas are converted to baseball fields, parking lots or houses? Come learn how field data collection can bring the global carbon cycle to a local level. (middle/high school level)

## Friends of Forest Birds

Kristen Sharpless, School Programs Coordinator, Green Mountain Audubon Center

Curious about how the birds in your schoolyard can capture students' interest in science and conservation? Spend an activity-packed afternoon learning about Audubon Vermont's fun and successful *Friends of Forest Birds* elementary school program. Take home ideas for lessons, teaching tricks, resources – and the forest bird itch! (elementary level)

## Exploring Acid Rain

Jacquelyn Wilson, Education Associate, Hubbard Brook Research Foundation

Mary Ann McGarry, Professor of Science Education, Plymouth State University

The Hubbard Brook Research Foundation developed a teaching guide for secondary educators that includes slideshows, inquiry-oriented activities, and outdoor fieldwork. Participants will receive copies of the guide, experience highlights and hands-on activities, and familiarize themselves with our blog site where teachers share implementation plans, science questions, and feedback. (grades 7-12)

**Check out Sunday! Sunday workshops were selected to be especially interactive and many involve local community field trips**