



Massachusetts Envirothon
Fall 2015 Coach & Team Workshop
 University of Massachusetts Amherst
 Campus Center
 Wednesday, November 4, 2015

Sponsored by

UMass Amherst College of Natural Sciences
UMass Center for Agriculture, Food, and the Environment/UMass Extension
UMass Department of Environmental Conservation

8:30 Registration Opens Coffee and refreshments Meet UMass!

9:00-9:30 Welcome and introduction to the day (Auditorium)

Concurrent Sessions (☀ = Current Issue presentation)

▼ Room #	9:40-10:30	10:40-11:30		12:20-1:10	1:20-2:15
904	1. Field guide Fundamentals	1. Field guide Fundamentals	L U N C H *	2. Wildlife Overview	
917	3. Water Overview	3. Water Overview		4. Groundwater and Contamination	
168-172	5. Soils Overview	5. Soils Overview		6. Hands-on Soils	6. Hands-on Soils
Auditorium	7. Tree ID	9. UAV ☀		10. Early Detection Species in the SuAsCo Watershed☀	7. Tree ID
163c	11. Same continent, different world	12. Panel: Getting started on CI research ☀		13. Panel: Invasives in a time of Climate Change ☀	14. A permaculture perspective on invasive species ☀
162-175	15. Spatial patterns of invasive species introduction and invasion risk ☀	16. Invasion, Biodiversity, and Conservation: ☀		17. Invasive Plant Problems and Solutions ☀	18. Where are we in invasive plant management? ☀
165-169	19. People power! ☀	20. The Best Of The Pests ☀	L U N C H *	21. Outsmart Invasive Species with your Smartphone! ☀	22. Vegetation Management and Electric Power Infrastructure ☀
174-176	23. Conservation Commissions and invasive plants ☀	24. Asian Longhorn Beetle ☀		25. Invasive species on Land Trust lands ☀	26. Cooperative Invasive Species Management Areas☀
Meet at Registration		8. Tree Measurement		8. Tree Measurement	

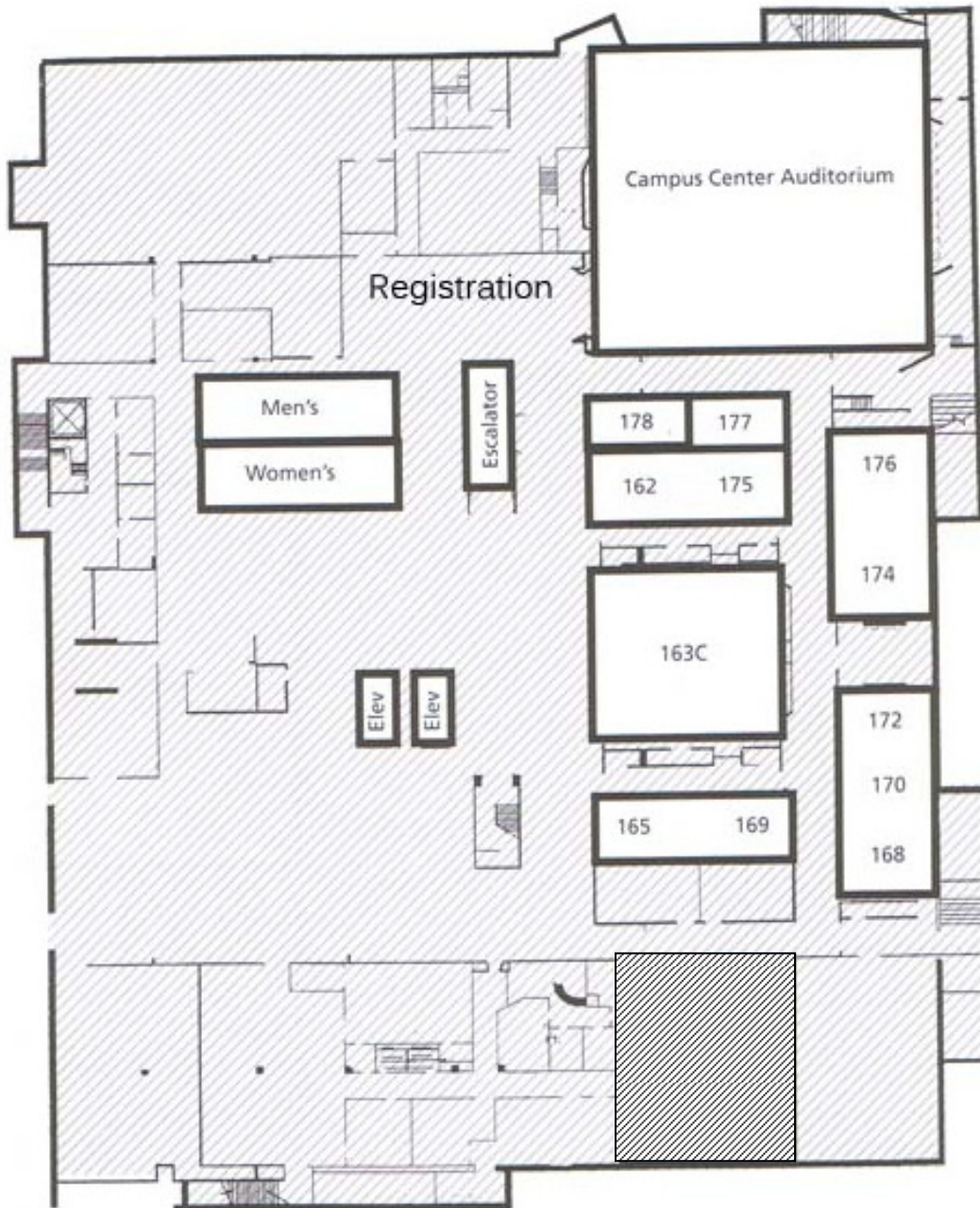
*Lunch Options at the UMass Campus Center

The **New Bluewall** (all sorts of different options), The **Peoples Organic** (coffee and pastries), & **Harvest Market** (grab and go food). Or try **People's Market** or **Earth Foods** in the Student Union right next door. We hope you enjoy your **50 minute lunch break**.

Rooms 904 and 917: Take the elevators to the 9th floor and follow the signs

Campus Center

First Floor



Workshop Descriptions

- 1 Field Guide Fun-damentals** **Limit: 30 Rm 904 9:40 & 10:40**
The ability to use field guides and other applicable resources is essential for the Envirothon. In this hands-on workshop students will work in small groups as they rotate through a series of stations to answer questions based on wildlife artifacts. You will hone your identification skills during this workshop and become more familiar with the use of field guides and other applicable resource materials.
Pam Landry, Education Coordinator, Division of Fisheries & Wildlife (MassWildlife)
- 2 Massachusetts Wildlife Overview** **Rm 904 12:20**
Through the use of PowerPoint this workshop will provide an overview of the wildlife key points, as established by the North American Envirothon, required to master the wildlife portion of the MA Envirothon. You will become familiar with the diversity of MA Wildlife species, habitat, wildlife management issues, & endangered species as they relate to the wildlife key points. Reference study material from MassWildlife will be available to view. This workshop is designed for new Envirothon coaches and team members or those who would like a refresher.
Pam Landry, Education Coordinator, Division of Fisheries & Wildlife (MassWildlife)
- 3 Water Overview Workshop** **Rm 917 9:40 & 10:40**
Participants in this workshop will receive an overview of water in the environment in preparation for the water eco-station at this year's Massachusetts Envirothon. Through the use of PowerPoint and discussion they will become familiar with the properties of water and water's role in nature. Also, some emphasis will be placed on wetlands, water quality and thought provoking current water pollution topics.
Kelley Freda, DCR – Water Supply Protection
- 4 Groundwater and Contamination** **Rm 917 12:20**
This workshop will offer an overview of groundwater, groundwater system contamination and public health using case studies from Love Canal, Pacific Gas and Electric (highlighted by Hollywood with the movie *Erin Brokovich*) and locally, W.R. Grace (a disaster made famous in the book and movie *A Civil Action*). An activity will also be included.
Kelley Freda, DCR – Water Supply Protection
- 5 Soils Overview Workshop** **Rm 168-172 9:40 & 10:40**
This workshop offers an understanding of how our soils came to be and why they are so variable. Presentation objective is to convey concepts of soil formation and behavior that will be applied to the Soils Hands-on Workshop and the Envirothon soils station. Group participation will be encouraged.
Al Averill, State Soil Scientist, USDA Natural Resources Conservation Service
- 6 Soils Hands-on Workshop** **Limit: 25 Rm 168-172 12:20 & 1:20**
(Strongly recommended to first attend Soils Overview Workshop)
This workshop applies information covered in the Soil Overview workshop. It entails identifying and describing soil characteristics including parent material, texture, color, drainage class and horizonation. Exercises will include applying knowledge of soil characteristics to resource management issues. You will get your hands dirty.
Al Averill, State Soil Scientist, USDA Natural Resources Conservation Service
- 7 Tree Identification Workshop** **Auditorium 9:40 & 1:20**
Learn how to identify a variety of native Massachusetts trees. The group will go outdoors to meet a variety of trees up close. Joe will introduce you to some simple learning techniques such as the acronym called MADCAPHORSE and other techniques. You will learn how to use the tree's bark, overall shape, branching pattern, buds, leaves, acorn, nuts and even the smell of the tree as identifiers. You will be sure to recognize these trees when you apply these methods through out the year and see them again on the day of the Massachusetts Envirothon.
Joe Perry, Forester, Mass. Department of Conservation and Recreation
- 8 Tree Measurement Workshop** **Meet at Registration 10:40 & 12:20**
Go outside on the University of Massachusetts campus and try out your hand at measuring trees. The instructor will review procedures for using a variety of tree measuring tools. You will learn how to measure height, diameter and determine board foot volume. These techniques will be tested on the day of the Massachusetts Envirothon.
Joe Perry, Forester, Mass. Department of Conservation and Recreation

CURRENT ISSUE WORKSHOPS

- 9 Unmanned Aerial Vehicles (UAV) and Invasive Species Mapping** **Auditorium 10:40**
When used properly, UAV's have the potential to be very useful tools, especially for invasive species monitoring and for other environmental management applications. Check out one in action and see how it has been used to map invasive plants in the Westfield area, among other applications.
Charles Schweik, Professor, UMass Department of Environmental Conservation & Center for Public Policy and Administration
Ryan Wicks, Seth Engelbourg, & Todd Beals, Graduate students, UMass Dept. of Environmental Conservation
Dan McLeod, UMass Public Policy and Administration MS student
Ron Fortunato, Trillium Learning
- 10 Early Detection Species in the SuAsCo Watershed** **Auditorium 12:20**
Learn key identification characteristics for early detection species in the Sudbury, Assabet, Concord River's watershed and hear how one community successfully identified the early invader Mile A Minute, notified their conservation commission and engaged their community to do something about it.
Amber Carr, Field Ecologist/ SuAsCo Cisma Coordinator, Mass Audubon's Ecological Extension Service
- 11 Same Continent, Different World: Learning with the James Bay Cree in Northern Quebec** **Rm 163C 9:40**
This presentation will relate some of what my students and I have been learning via a unique course entitled "Cree Culture, Natural Resources, and Sustainability." Built around an experiential learning trip to the traditional winter camp of a Cree family, 700 miles north of UMass Amherst, we are studying nature, culture, and place (sensu Orion) from two points of view: (1) the dominant Euro-American/Euro-Canadian perspective; and, as best we can, (2) the Cree or Indigenous perspective. Most Americans and Canadians would describe the boreal forest near Hudson's Bay as a "wilderness." After about 250 generations in this region, the Cree people refer to their homeland as a "garden." These two words embody two world views; one of them seems more compatible with the central tenets of conservation and sustainability than the other.
Paul K. Barten, Professor and Honors Program Director, Dept. of Environ. Conservation, University of Massachusetts Amherst
- 12 Getting Started: People and places to investigate as you begin your Current Issue research.** **163c 10:40**
The focus of this panel is on the people (including organizations and local officials), places, and issues that teams will encounter, or should seek out, as they begin their community research.
Amber Carr, Field Ecologist/ SuAsCo Cisma Coordinator, Mass Audubon's Ecological Extension Service
Chris Polatin and Joan Deely, Polatin Ecological Services
Julie Richburg, Ph.D., Regional Ecologist, The Trustees of Reservations
Janice Stone, Mass Association of Conservation Commissions, Conservation agent for Hadley and South Hadley
- 13 Panel: Perspectives on Invasive Species Issues: Where have we come from? Which way should we be going?** **163c 12:20**
This panel offers an opportunity to hear the stories of people who have formed their perspectives on invasive species issues through on-the-ground, in-the-community experience. We will hear about these experiences, and also their thoughts on how we should address invasive species issues in the future, particularly in light of expected effects of climate change.
Cynthia Boettner, Coordinator, Invasive Plant Control Initiative, Silvio O. Conte National Fish and Wildlife Refuge
Lisa Depiano, Stockbridge School
Karen Lombard, The Nature Conservancy
Jennifer Forman Orth, Ph.D. Mass. Dept. of Agricultural Resources

- 14 A permaculture perspective on invasive species** **Rm 163C 1:20**
 Permaculture uses principles of ecology to create solutions that meet human needs while increasing the health of the ecosystem. One of the main principles is how to turn problems into solutions. In this workshop we will look at the idea of “invasive species” in a broader historical context to understand how these plants entered the ecosystem, what niches they fill and the potential they can play in mitigating climate change and improving human health.
Lisa Depiano, Stockbridge School
- 15 Spatial patterns of invasive species introduction and invasion risk** **162-175 9:40**
 This session will take a geographical perspective to better understand and predict patterns of invasion based on where invasive species are found. We'll also talk about what past patterns of introduction and invasion suggest for current invasive species management.
Bethany Bradley, Assistant Professor of Environmental Conservation
- 16 Invasion, Biodiversity, and Conservation: What Are They and Why Do We Care?** **162-175 10:40**
 Why are certain plants (and animals) able to establish themselves in a foreign range better than others? During my talk I will review the basics about invasion biology, biodiversity, and conservation. More importantly, I will talk about how these three ideas are connected and why we should all care about them! I will highlight some famous invasive species, what historically has been done to eradicate them, and if it has worked.
Laura Hancock, Graduate Assistant UMass Amherst Department of Environmental Conservation
- 17 Invasive Plant Problems and Solutions - Successful Restoration Projects** **Rm 162-175 12:20**
 We will explore the impact of invasive species on a variety of natural systems, including bird populations, erosion and allelopathy. The concept of ecological restoration will be explored and illustrated with examples of successful restoration projects.
Chris Polatin and Joan Deely, Polatin Ecological Services
- 18 Where are we in invasive plant management?** **Rm 162-175 1:20**
 In the past twenty years, control of invasive plant species has been a main area of focus for many organizations and agencies focused on the restoration of native habitats. Much time and resources have been spent assessing and controlling invasive plants with mixed success. This presentation will discuss lessons learned from past invasive plant control projects as well as provide some recommendations and considerations for the future.
Karen Lombard, Director of Stewardship and Restoration, The Nature Conservancy, Massachusetts Field Office
- 19 People Power! Volunteers Making An Impact on Invasive Plants** **Rm 165-169 9:40**
 Some invasive plant species can be controlled by hand or with simple tools. For those, volunteers have proven to be an enormous help. However, in order for a project to be fully worthwhile (both environmentally and for the people involved), it's important that projects be chosen strategically with a realistic goal in mind. This presentation will highlight "lessons learned" from actual projects in the Connecticut River watershed--projects with involvement by multiple organizations that garner the help of volunteers, including high school aged Youth Conservation Corps. One of these is the Water Chestnut Control Initiative where everyone pulls this invasive aquatic plant from canoes!
Cynthia Boettner, Coordinator, Invasive Plant Control Initiative, Silvio O. Conte National Fish and Wildlife Refuge
- 20 The Best Of The Pests: The Latest On Invasive Insects and Plant Pathogens in Massachusetts** **Rm 165-169 10:40**
 Get the most up-to-date information about high-priority invasive insects and plant diseases in Massachusetts and what the state is doing to prevent the spread of these problem pests.
Jennifer Forman Orth, Ph.D. Mass. Dept. of Agricultural Resources
- 21 Outsmart Invasive Species with your Smartphone!** **Rm 165-169 12:20**
 Calling all citizen scientists! Learn about successful projects using the Outsmart Invasives app and short instructional videos for identifying invasive plants and (weather permitting) head outside to try it out. Use of smartphones is encouraged.
Lena Fletcher, Lecturer, UMass Amherst Department of Environmental Conservation

- 22 Vegetation Management and Electric Power Infrastructure Rm 165-169 1:20**
Utility vegetation management is the art and science of balancing the need for safe and reliable electricity with careful management of our shared natural resources. Learn about the vegetation challenges that utility companies face and the methods they use to keep the lights on while being stewards of the trees, forests and ecosystems under their care.
Eric Seaborn, Senior Vegetation Strategy Specialist, Vegetation Strategy Group, National Grid
- 23 Conservation Commissions and invasive plants Rm 174-176 9:40**
Conservation Commissions are responsible for permitting any work within wetlands, water bodies, 100-ft buffer zones and 200 ft Riverfront Areas. Type of permitting depends on technique.
Janice Stone, Conservation agent for Hadley and South Hadley
- 24 What are we doing to combat Asian Longhorn Beetle in Massachusetts Rm 174-176 10:40**
Members of our group will take turns going over the different aspects of the ALB Program, Beetle Biology, Dendrology, Citizen Scientist, Survey, Removal, Climbing, and Regulatory
Antony Massop, Supervisory PPQ Officer, and the crew from the Asian Longhorned Beetle Eradication Program
- 25 Invasive species on Land Trust lands – what can land trusts do? Rm 174-176 12:20**
Land trusts conserve habitats for native species and for people to enjoy, but what happens when invasive species occur in the habitats? How do we decide which species to control and which ones to leave? And how do we control them? The Trustees of Reservations is a Massachusetts state-wide land trust that has been working on habitat restoration and invasive species control for decades to preserve the special places of Massachusetts.
Julie Richburg, Ph.D., Regional Ecologist, The Trustees of Reservations
- 26 Cooperative Invasive Species Management Areas: what are they and what do they do? The Westfield River Watershed Invasive Species Partnership Rm 174-176 1:20**
CISMA's are comprised of many partners – federal, state, & local agencies, non-profits and individuals that work together to address invasive species issues across a landscape or watershed. The Westfield River Watershed Invasive Species Partnership was founded in 2010 and has been working on several projects across the watershed to address invasive species. Learn about how these partnerships form and how they work together to manage invasive species and improve the quality of our natural habitats.
Julie Richburg, Ph.D., Regional Ecologist, The Trustees of Reservations