



**Massachusetts Envirothon**  
**Spring 2025 Coach & Team Workshop**  
**University of Massachusetts Amherst Campus Center**  
**Friday March 14, 2025**

**8:00 Registration Opens      Coffee and refreshments**  
**8:30 Welcome and Keynote Speaker (Auditorium)**

**Rooted in Truths: Exploring the connections between climate change, environmental science, and Aboriginal rights.**

Andre StrongBearHeart Gaines, Jr. is a citizen of the Nipmuc people. He serves as a cultural steward for his Tribe, is a father, public speaker, traditional dancer, Indigenous Activist for Indigenous rights, carpenter by trade and an educator. Andre's work focuses on bringing traditional knowledge back to Indigenous Peoples. Andre is a board member of [Native Land Conservancy](#) and actively works alongside various land trusts fighting to make the LandBack movement possible and access to his traditional homelands a reality to his Nipmuc community. Andre is the creative director and founder of [No Loose Braids](#). Andre's work is grounded in restoring balance between everyday life and traditional values while navigating the colonial systems we live in.



**Concurrent Sessions (☀ = Current Issue presentation)**

▼ Room	10:00-11:00	11:15-12:15	L U N C H *	1:30-2:30
<b>Auditorium</b>	1. Sustainable UMass tour ☀	8. Field Guide fun-damentals		8. Field Guide fun-damentals
<b>Campus Center 162</b>	3. Plants and Pollinators ☀	4. Sea Level Rise ☀		
<b>Campus Center 163c</b>	5. Shining a Light on Sustainability ☀	5. Shining a Light on Sustainability ☀		6. Role of Conservation ☀
<b>Campus Center 165</b>	<del>7. Restoring Old Growth</del> ☀	2. Sustainable Materials ☀		2. Sustainable Materials ☀
<b>Campus Center 168</b>	9. Water Overview	9. Water Overview		10. Amherst Tree committee ☀

<b>Campus Center 174</b>	11. Soils Overview	12. Soils: Hands On!	12. Soils: Hands On!
<b>Meet at Registration</b>	13. The Gift of Trees ☀	13. The Gift of Trees ☀	
<b>Meet at Registration</b>	14. Tree ID	15. Tree Measurement	16. Tree Valuation ☀
<b>Meet at Registration</b>	17. The Wood We Use☀	17. The Wood We Use☀	

**Thank you to our partners!**

**Massachusetts Envirothon wishes to thank the  
University of Massachusetts Amherst for hosting us!**

Special thanks to:

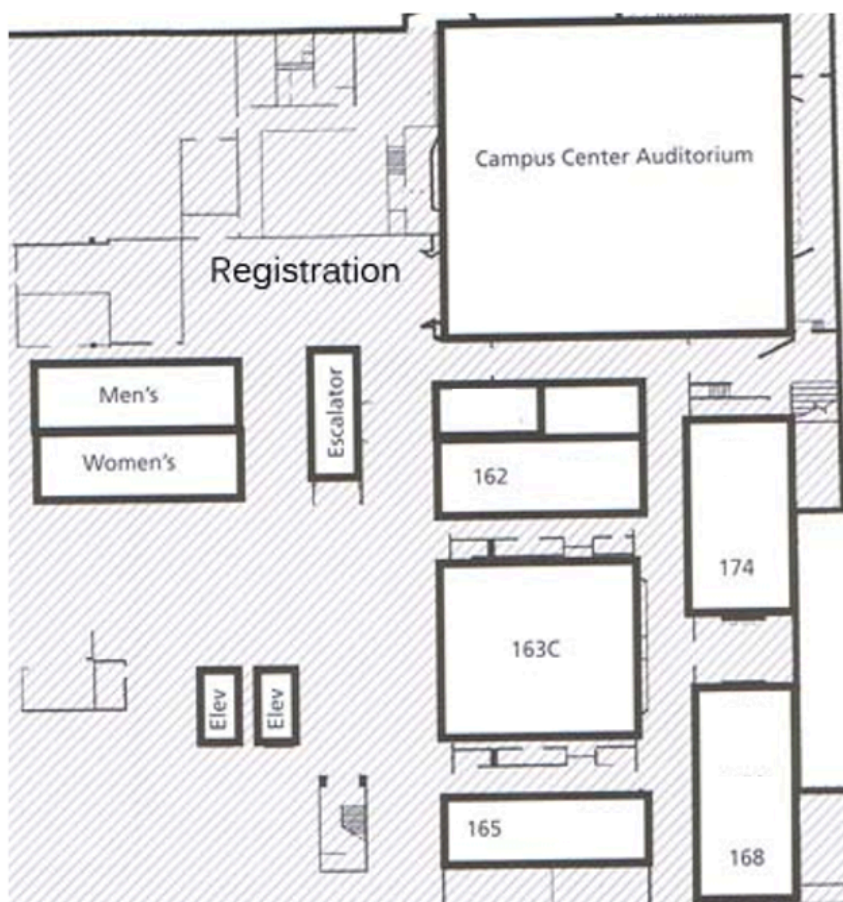
**UMass School of Earth & Sustainability (<https://www.umass.edu/ses/>)**

**and the**

**Department of Environmental Conservation**

**\*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). If you brought your lunch, you are welcome to grab a table in 163c!



# Concurrent Workshops

- 1 UMass Sustainability Tour** **Campus Center Auditorium 10:00am**  
 A walking tour of the many sustainability features of the UMass campus, including the Olver Design Building. This is mostly outside so dress appropriately!  
*Britt Crow-Miller, UMass Amherst Department of Environmental Conservation*
- 2 Sustainable Materials in the Built Environment** **Campus Center 165 11:15am & 1:30pm**  
 This presentation will showcase how sustainable materials are utilized in the Olver Design Building. The relationships between building with sustainable materials, biophilia, and forestry stewardship will be a one focus of the presentation. A second point of convergence will highlight the need to utilize forest products responsibly so that we can accomplish other sustainability goals such as energy efficiency and water conservation. Examples of how we can accomplish those sustainability goals will be illustrated with some small models of residential houses and other kinesthetic devices that harken to the importance of forestry.  
*Mike McNally, UMass Amherst Dept. of Environmental Conservation*
- 3 Plants and Pollinators in Solar Facilities: Including wildlife in the energy transition conversation** **Campus Center 162 10:00am**  
 Pollinators provide key ecosystem services, and are negatively impacted by habitat loss world wide. In parallel, there are massive landscape-scale changes occurring related to new solar energy production, to meet our renewable energy goals. In this event students will learn more about pollinators and key tensions that can make solar siting challenging. Students will play the role of different stakeholders in these important conversations, discuss and try to find sustainable, economic, equitable, and ecologically conscious areas forward.  
*Laura Figueroa, PhD, UMass Amherst, Dept. of Environmental Conservation*
- 4 Sea Level Rise -- Who is most at Risk Exercise** **Campus Center 11:15am & 1:30pm**  
 This hour will review what is happening to glaciers and ice sheets today and how events in the past 3 million years inform the future rates of sea level rise. We will do two hands-on activities related to sea level rise that show how local coastal systems will not be impacted the same.  
*Julie Brigham-Grette, UMass Amherst Department of Earth, Geographic, and Climate Sciences*
- 5 Shining a Light on Sustainability: The Shutesbury Road Solar Project Dilemma** **Campus Center 163c 10:00 & 11:15 am**  
 Join us for a hands-on workshop where you'll step into the shoes of a community member, environmentalist, or energy developer to determine the future of the Shutesbury Road Solar Project! In this interactive simulation, you'll research, discuss, and negotiate key environmental, economic, and community issues surrounding a proposed large-scale solar array. Work with peers to balance renewable energy goals with local concerns, and use your critical thinking skills to shape the future of a small town. Will you support progress, protect nature, or find a compromise?  
*Faith Nussbaum, Director of Undergraduate Advising, School of Public Policy, and Public Policy students*
- 6 The Role of Land Conservation in Responding to Climate Change** **Campus Center 163c 1:30pm**  
 "Protect nature so that it can protect us" is a mantra echoing across the Commonwealth. In the last decade, land conservation – intended to include land protection, ecological management, and ecological restoration - has been acknowledged as one of the most powerful strategies for responding to Climate Change. Building on Massachusetts' proud legacy of land conservation, the Commonwealth is pursuing bold goals of "Getting to 30 X 30"- where 30% of the land in the Commonwealth will be legally protected in perpetuity by the year 2030 and then putting the pedal down to get to 40 X 50! The Clean Energy & Climate Plan, the Resilient Lands Conservation Coalition (public/private conservation partnership to increase pace and magnitude of land

conservation statewide), the Forests as Climate Solutions initiative, various DCS open space protection grant offerings, and strategies for boosting resilience for nature (example: increasing connectivity of conserved lands to accommodate wildlife movement made necessary by climate change) and for people (planting trees to enhance flood storage capacity and mitigate extreme heat/urban heat islands) are some of the many state programs that your communities can become involved in.

*Bob Wilber, MA Executive Office of Energy and Environmental Affairs*

*Hilary Dimino, MA Executive Office of Energy and Environmental Affairs*

## **8 Field Guide Fun-damentals**

**Limit: 30**

**Campus Center  
Auditorium**

**11:15am &  
1:30pm**

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.

*Brittany Gutermuth, MassAudubon*

## **9 Water Overview Workshop**

**Campus Center 168**

**10:00am &  
11:15am**

Participants in this workshop will receive an overview of water in the environment in preparation for the water ecostation including judging water quality based on chemistry and bioindicators. Water chemistry can fluctuate while the benthic macroinvertebrate community remains more stable over time. In this activity explore how both are used to determine water quality.

*Kathryn Parent, Education Program Coordinator, DCR Division of Water Supply Protection*

*Joshua Sjogren, Environmental Analyst, DCR Division of Water Supply Protection*

## **10 Amherst Public Shade Tree Committee**

**Campus Center 168**

**1:30pm**

Every town and city in Massachusetts is required by law to have a tree warden, someone who is responsible for the care and maintenance of trees that grow on public property. Many towns and cities also choose to have public committees that work with their tree warden to care for trees, plant new ones, make decisions on tree removals, and advocate for trees and tree-related issues in their community. These committees can play a major role in shaping the urban canopy and building up climate resilience through intentional planting practices. This session offers the opportunity to engage with members of the Amherst Public Shade Tree Committee, formed in 1977, to learn about the role of community engagement and advocacy in planting a future. (One member of the committee is a first-year UMass student!)

*Members of the Amherst Public Shade Tree Committee*

## **11 Soils Overview Workshop**

**Campus Center 174**

**10:00am**

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.

*David Zimmermann, Acting State Soil Scientist, USDA Natural Resources Conservation Service*

*Matthew Karas, Conservation Planner, Hampden-Hampshire Conservation District*

## **12 Soils: Hands On!**

**Limit: 25**

**Campus Center 174**

**11:15am & 1:30pm**

**Effectiveness of this workshop requires participant knowledge of concepts presented in the Soils Overview Workshop and contained in the soils section of the Envirothon manual.** Participants are expected to have a basic knowledge of soil properties, formation, and morphology. Small groups will rotate through few stations, and complete exercises by interpreting what they see and feel. 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.

*David Zimmermann, Acting State Soil Scientist, USDA Natural Resources Conservation Service*

*Matthew Karas, Conservation Planner, Hampden-Hampshire Conservation District*

- 13      The Gift of Trees** **Meet at Registration** **10:00 am & 11:15am**  
Humans have always had a deeply reliant relationship with trees. For millennia, we have used trees as food, medicine, building materials and more. Trees have also been to our myths, stories, and art. During this session, we will explore the UMass landscape and unlock some of the ways we have relied on trees and used them to make sense of our world.  
*Dan Bensonoff, UMass Amherst Department of Environmental Conservation*
- 14      Tree Identification Workshop** **Meet at Registration** **10:00am**  
Learn how to identify a variety of native Massachusetts trees by learning the basics of tree ID techniques. Felicia will introduce you to some simple strategies 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 throughout the year and see them again on the day of the Massachusetts Envirothon.  
*Felicia Hubacz, Forest Health specialist, Mass. Department of Conservation and Recreation*
- 15      Tree Measurement Workshop** **Meet at Registration** **11:15am**  
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.  
*Felicia Hubacz, Forest Health specialist, Mass. Department of Conservation and Recreation*
- 16      Tree Valuation (formerly Yay for Trees)** **Meet at Registration** **1:30pm**  
In this workshop you will learn how urban foresters and arborists measure trees using DBH tapes, and then use those measurements to quantify the value of sample trees in the Waugh Arboretum for carbon storage, reducing the costs of heating and cooling, providing habitat and more. You will learn how to compare the benefits of a smaller tree to those of a larger tree, and hear about the academic and career opportunities available to you if you, too, want to become a steward of the urban forest. You will learn how the Waugh Arboretum at the University of Massachusetts, Amherst came to be and is currently maintained, and get up-close and personal with some of the state champion trees growing on campus.  
*Stella Dee, UMass Amherst Dept. of Environmental Conservation*
- 17      The Wood We Use** **Meet at Registration** **10:00am & 11:15am**  
This hands-on workshop invites students to explore how we use wood products in our everyday lives. Engaging with both living trees on campus and consumer wood products, we will work to understand how trees of different sizes (diameter and height) represent our annual per capita consumption of wood products. Students will be challenged to answer the question: "Where do you think the tree you use each year comes from?" Data on how much of the total annual wood use in Massachusetts comes from the forests of Massachusetts vs. being imported from other states and nations will be explored.  
*John J. Scanlon, UMass Amherst Dept. of Environmental Conservation*