

2013 Massachusetts Envirothon Current Issue Problem

Trees, Forests, and Sustainability

Background (For more extensive background see <http://www.maenvirothon.org/currentissue.htm>)

We live in the forest. The Massachusetts landscape has been dominated by trees since soon after the last ice age. Today's diverse forests vary from street trees and landscaped parks to timber-producing forest land and protected forest reserves.

These trees and forests provide a variety of ecosystem services. These include not only familiar provisioning services like lumber, cordwood, and drinking water, but also supporting services like photosynthesis, water cycling, and biodiversity, and regulating services like flood control, water purification, and carbon sequestration. Trees and forests also provide cultural services such as scenic values and recreational opportunities. The forest resource is limited, however, and sometimes use of these services can give rise to conflicts. The coming decades are expected to bring increased stresses to forest health that will test forests' resiliency and the ecosystem services they provide. Threats include invasive species, overuse, and climate change.

A variety of professionals, nonprofit organizations, local officials, and government agencies play roles in protecting and managing trees and forests and mediating among competing interests. Scientists have developed a storehouse of knowledge about tree and forest ecology and ecosystem services, but there is still much that is unknown, particularly with regard to the uncertainties of climate change.

Trees and forests will play a critical role in sustainability in the 21st century. What do we mean by sustainability? One good way to measure it is to ask whether we will be able to hand to our children a world with as healthy an ecosystem, and with as much opportunity and quality of life, as the world we received from our parents.

The Problem

A friendly member of your municipal government (a select board member or city councilor) has heard that your team has been researching the trees and forests of your community, and s/he offers to give you an opportunity to speak to the select board or city council about what you have learned.

Are these officials looking for a photo opportunity, or are they really interested in your thinking?

You decide to take a risk and go a step further – not only to introduce them to your community's trees and forests, but to make some bold, farsighted recommendations about stewardship of these resources.

With regard to forest resources, these officials want to do the right thing, but they are sometimes overwhelmed by immediate issues such as this year's snow removal budget. They haven't taken time to think long term. For example, they have heard of climate change, but they aren't clear that there might be ways to prepare for it, or to help prevent it, or that trees and forests can play a role.

Your presentation should accomplish four things:

- describe your community's trees and forests, and ecosystem services, in a way that awakens their stewardship values,
- note the people who are already involved and the issues they are working on,
- provide a vision of the future that engages your audience in thinking about positive, sustainable possibilities for your community and the world, and
- outline a specific, doable next step that should be taken, and to recommend what they can do to make this happen.

In your presentation, you should

Introduce the trees and forests in your community

- Provide a geographic orientation, including extent of forested areas, landscape patterns including continuity, edges, and connections with forests beyond the borders of your town. Include information about public and private ownership.
- Provide an overview of forest diversity, including species and age. Describe the impact of human activity, both intended (management) and unintended. Note ways that the forest has changed in the past 100 years.
- Show that you understand the forest as an ecological community

Explain the ecosystem services provided: How do trees and forests in your community contribute to the well-being of people? What management is needed to ensure these ecosystem services? Include consideration of

- water resources
- wildlife habitat and biodiversity
- effects on energy use
- wood fiber – what happens to it?

How healthy and resilient are your trees and forests? Are trees and forests being overused? Underused?

Be sure to consider how trees and forests affect and are affected by climate change

Provide a long term vision: How can your community be the best stewards of its trees and forests in order to contribute to a more sustainable (ecologically sound, economically viable, socially just) future?

Who is already thinking about this? What plans are already in place or underway?

Recommend a plan of action

- What actions (or inaction) at the local level do you recommend?
- What government involvement do you recommend? What will this cost? Who needs to be involved?
- How can individuals, nongovernment groups, and businesses contribute, and how can you convince them to do so?
- What is the first step you would recommend to your community right now? Why?

Some tips for your presentation

How it works:

- The Current Issue Presentation score is 25% of your team's total Envirothon score.
- Five (and only five) members of your team will make your presentation to a panel of five to eight judges. Other team members will be able to observe but not participate. The judges' job is to listen, ask good questions, assess your work, and give you feedback on your research, your proposal, and your presentation.
- Presenters will have 15 minutes for your presentation, followed by a 10 minute period when the judges can ask questions.
- Five of the judges will give your team a number score. The average of these will be your score for the competition.
- All the judges are asked to give you helpful comments. Copies of the score and review sheets are sent to your coach.
- Your coach will be able to observe the presentation.

Show the judges how you know what you know, and how you came to your conclusions. Tell them about where you visited, who you talked to, what documents you researched.

Practice your presentation. Practice makes it easier for you to be poised and at ease in your presentation, including being able to make good eye contact and speak naturally with the judges.

Be Prepared! You will be presenting in a tent, outdoors. The day of the Envirothon is often surprisingly windy and cold, and sometimes wet. Mount your visual aids on sturdy boards in case of wind.