

Community Engagement Award

Research & Action Checklist

The Mass Envirothon **Community Engagement Award** recognizes your team's research and action related to **Forest Stewardship: Resilience for a Changing Climate**, the 2025 **Mass Envirothon Current Issue**. To meet the standard for the award, your team must show that you have investigated a wide range of sources and used a variety of research strategies. Your team must also show that you have taken new ideas and connections based on your research and put them to work to benefit your community.

[Community Engagement Award](#)

[Clean Energy for a Sustainable Future](#)

[Massachusetts Envirothon Current Issue](#)

Use this Checklist to document your work.

[This Guide to Research and Action Strategies will help you put your 2024 research into action.](#)

There are three parts to this checklist:

1) RESEARCH. This checklist provides a list of required tasks to be completed to show that your investigations have been wide-ranging and rigorous. The checklist also gives you lots of choice in the direction and depth of this research. You may decide to pursue your own tasks that take you deeper, or in different directions. If your team departs from this checklist, be ready to explain how your work qualifies for the award.

2) ACTION. Your team must provide a description of the action project you are undertaking, and some form of evidence of your work (for example, a letter from a community partner)

3) REFLECTIONS. These items -- accompanying each research and action item -- are your team's opportunity to show the ideas, local savvy, and informed opinions you gained from your research and action experiences. Consider all the items throughout the checklist and respond briefly to five that resonate most with your experience. Yes, you can respond to more than five. You can also devise your own reflection questions. Be ready to talk to your Envirothon reviewers about any of the items listed.

To certify your Community Engagement Award, you must:

- * Make a copy of this Checklist google sheet, and rename it using your team name.
- * Share the Checklist with your team and complete it, including all research, all action, and at least five reflection items.
- * Make a copy of the Registration form google sheet, rename it using your team name, and fill it out:

[Community Engagement Award Registration form](#)

* Share the completed Checklist and Registration form with wsnyder@umass.edu by end of day Thursday, May 15.

* Bring yourselves, and examples of your community engagement, to an interview via zoom that will be scheduled for a time convenient for your team sometime in the week of the competition.

Questions? Contact Will Snyder, wsnyder@umass.edu or 413/387-2371.

Name of your School/Organization/Team

Lexington High School

Name of the municipality(ies) you are researching

Lexington

RESEARCH

1. PLACES: Trees grow all around us in Massachusetts, in a variety of places under a wide range of conditions. You could say we live in the forest! The first step in finding the right relationship with trees and forests is to get to know them.

How should you choose the forest places you will get to know? What widely differing examples of forest can you find in your community? Look for places that demonstrate the diversity of type, ownership, uses, potential uses, public interests, and private interests that may be found in your community. Consider: Streetscapes. Urban wilds and edges. School grounds. Parks. Working forests. Protected open space. Home landscapes and house lots. Wetlands.

If you are participating in the Harvard Forest Schoolyard Long Term Ecological Research, your study plot could be one of these. You might also find places using your municipality's Open Space and Recreation Plan (OSRP), which identifies town open spaces and plans for their acquisition and use.

[Schoolyard LTER Program at Harvard Forest](#)

[Open Space and Recreation Plan](#)

To respond to the questions below, your team will need to spend time observing and getting to know each of these places (perhaps investigating the soil, water, wildlife, and water elements of each place). You are encouraged to visit with a person who knows the place well. For each place you choose:

- Locate the place on a map. How large is it? What is the topography? What is its relationship to water and other forest areas?
- How would you describe this place if you were a forester? an ecologist? a poet? a real estate developer? an outdoor recreation specialist? an environmental advocate? What would you pay attention to, and what words and concepts would you use?
- What ecosystem services are represented here?
- What do we know about the history of this place? Who lived here 500 years ago? 150 years ago? What mattered to them about the land?
- Are these trees and their ecosystem under stress? Are they exhibiting "resilience"? How do you know?
- What is your community's current relationship to this piece of land? Who "owns" these trees and their ecosystem? Are they protected in some way? How? Who has responsibility for decisions about protection and use? Who cares about them, and how does that show?
- What role (if any) might this place play in furthering Massachusetts' Forests as Climate Solutions?

We became familiar with (at least) THREE local "forest" areas:

Area #1

Place name (if any)

Arlington Great Meadows

Use a mapping app or cell phone to get latitude & longitude.

Latitude:

42.434004

Longitude:

-71.200809

In a brief paragraph, describe the place as a forester would describe it, including location/size, topography, forest age and species composition. Provide information about the ecosystem services it represents.

Arlington Great Meadows has a varied topography including open meadows, wetlands, and gently rolling upland forest. The forest is primarily second-growth, with dominant tree species such as red maple, white pine, and black oak, and understory vegetation including native grasses and shrubs—though invasive plants like buckthorn and bittersweet are also present. This area provides key ecosystem services such as flood control, carbon storage, native biodiversity habitat, and recreational opportunities like hiking and birdwatching.

Why did you choose this place? Describe how you learned about it and things that YOU think are most important to know about it.

We decided to go to Arlington Great Meadows to help clear out invasive plant species and replace them with native flora as part of a hands-on environmental stewardship project. We learned about this site through local conservation groups and school-led initiatives focused on habitat restoration. One of the most important things to know about this area is that it serves as both a vital habitat for wildlife and a green space for the community, making its ecological health and accessibility especially important.

What is the community's responsibility here? In 2-3 sentences, state your opinion on whether, why, and how this place should be protected and/or used, and what stewardship practices should be in

The community has a responsibility to protect Arlington Great Meadows by actively managing invasive species, preserving native biodiversity, and minimizing human impact on sensitive habitats. This place should be protected through regular maintenance, educational outreach, and long-term restoration planning so it can continue to support both local ecosystems and public enjoyment for generations to come.

Area #2

Place name (if any)

Ipswich River Wildlife Sanctuary

Use a mapping app or cell phone to get latitude & longitude.

Latitude:

42.625607

Longitude:

-70.908523

In a brief paragraph, describe the place as a forester would describe it, including location/size, topography, forest age and species composition. Provide information about the ecosystem services it represents.

-The Ipswich River Wildlife Sanctuary is located in Topsfield and Wenham, Massachusetts. It is 1,995 acres in area and consists of wetland, lake, and forested habitat. There were both coniferous trees such as white spruce and hemlock, as well as broadleaf deciduous trees such as maples and oaks. These provided habitat for many black-capped chickadees, tufted titmice, and nuthatches. The lake was inhabited by painted turtles, canada geese, and mallards. Ipswich River provides incredibly valuable recreational ecosystem services, as it was a popular area for birding and kayaking.

Why did you choose this place? Describe how you learned about it and things that YOU think are most important to know about it.

We went here to go birding during an Envirothon field trip. We chose this location in particular because a team member visits here regularly on birding trips, and suggested that the rest of the team go as a way to practice wildlife and tree identification. One important thing to know about the wildlife sanctuary is that it possesses incredible value for instilling an appreciation for nature and conservation land in young children. During our visit, we saw numerous families exploring and climbing the Rockery trail, admiring the waterfowl, and enjoying the views.

What is the community's responsibility here? In 2-3 sentences, state your opinion on whether, why, and how this place should be protected and/or used, and what stewardship practices should be in

The community's responsibility is to minimize disturbances to the habitat and the wildlife in Ipswich River. In particular, visitors should refrain from feeding the waterfowl which has been in issue in the past, and make an effort to leave the trails the same way the found them. In order to protect this habitat and preserve it for future visitors of generations to come, routine trail maintenance and thinning of weaker or undesirable trees should also be conducted.

Area #3

Place name (if any)

Woods outside LHS

Use a mapping app or cell phone to get latitude & longitude.

Latitude:

42.4448067

Longitude:

-71.2341224

In a brief paragraph, describe the place as a forester would describe it, including location/size, topography, forest age and species composition. Provide information about the ecosystem services it represents.

The area is small and flat, with medium-aged trees. The main tree species are maples and oaks. The forest is close to the school and provides shade in the summer and blocks wind in the winter. This helps lower heating and cooling costs. It also provides clean air, absorbs rainwater, and offers habitat for birds and small animals.

Why did you choose this place? Describe how you learned about it and things that YOU think are most important to know about it.

We chose this place because we had tagged trees here for the Harvard Forest Survey. It's important to us because it is the forest area around our school, so studying and caring for it benefits our whole school community.

What is the community's responsibility here? In 2-3 sentences, state your opinion on whether, why, and how this place should be protected and/or used, and what stewardship practices should be in place

The community has a responsibility to protect and maintain this forested area by monitoring tree health. Stewardship practices should include periodic tree surveys, removal of invasive species, and the integration of student-led conservation efforts to ensure the long-term health of the ecosystem

Area #4 (This is beyond the requirement. Bravo!)

Place name (if any)

Use a mapping app or cell phone to get latitude & longitude.

Latitude:

Longitude:

In a brief paragraph, describe the place as a forester would describe it, including location/size, topography, forest age and species composition. Provide information about the ecosystem services it represents.

Why did you choose this place? Describe how you learned about it and things that YOU think are most important to know about it.

What is the community's responsibility here? In 2-3 sentences, state your opinion on whether, why, and how this place should be protected and/or used, and what stewardship practices should be in place.

REFLECTION: We were surprised to learn about this OBSTACLE to protection/conservation/stewardship efforts in our community:

We were surprised to learn that even small, local forests like the woods outside Lexington High School often go unnoticed and unprotected because they are seen as less important than larger conservation areas. This lack of attention can lead to neglect, even though these areas offer valuable ecosystem services and educational opportunities.

REFLECTION: The most DISTRESSING example we saw of a LACK of natural resource (soil, water, forest, wildlife) protection/conservation/stewardship was this:

The most distressing example of lack of forest stewardship was seeing invasive plants taking over large areas in Arlington Great Meadows. These non-native species were outcompeting native plants and changing the habitat, making it harder for native wildlife to survive.

REFLECTION: The most HOPEFUL example we saw of natural resource (soil, water, forest, wildlife) resilience was this:

The most hopeful example was at the Ipswich River Wildlife Sanctuary, where a wide range of native species were thriving in a well-maintained habitat. We saw active management of trails and ecosystems, and the area served as a great model for how conservation and recreation can work together to support long-term resilience.

REFLECTION: Of the places we investigated, we think this place (identify the place) has the most potential to contribute to Massachusetts Forests as Climate Solutions, and this is why:

We think Arlington Great Meadows has the most potential to contribute to Massachusetts Forests as Climate Solutions because of its size, biodiversity, and ability to store carbon. With proper care and restoration, it can play a major role in climate resilience while also providing habitat and recreation.

2. PEOPLE (firsthand connections): **We interviewed (at least) THREE people** involved with trees and forests in our community, representing a wide range of roles, backgrounds, and perspectives (These people may be listed elsewhere in this checklist. Interviews may be in person or via video link. Collect the following information about each person)

Name #1

Christopher Filadoro

Organizational affiliation

Public Works

Contact phone or email

781-274-8300

Their expertise or special interests/concerns related to trees and forests

Tree stewardship and grounds keeping; works to promote the protection and preservation of trees.

What they do, day-to-day, to further forest conservation

Maintains approximately 15,000 street trees and numerous trees on public grounds, historic sites, conservation

Name #2

Jonathan Thompson

Organization (if any)

Harvard Forest/ Harvard Extension School

Contact phone or email

jthomps@fas.harvard.edu

Their expertise or special interests/concerns related to trees and forests

Landscape ecologist; studies how forests change over large areas.

What they do, day-to-day, to further forest conservation

Works with the Massachusetts governor's office to create climate policy and quantifies how land use interacts with forest conservation.

Name #3

Holly Samuels

Organization (if any)

KREFTA LANDSCAPING INC.

Contact phone or email

elhepinfo@gmail.com

Their expertise or special interests/concerns related to trees and forests

Landscape designer; began a long-term ecological restoration project at Cataldo Reservation in East Lexington.

What they do, day-to-day, to further forest conservation

Focuses on creating beautiful outdoor environments that are enjoyable to humankind, supportive towards healthy ecological functioning, and environmentally sustainable.

Name #4 (This is beyond the requirement. Hooray!)

Organization (if any)

Contact phone or email

Their expertise or special interests/concerns related to trees and forests

What they do, day-to-day, to further forest conservation

REFLECTION: We think this person's (name the person) work is especially important for assuring a healthy, resilient future for trees and forests, and for people, and this is why:

We think that Holly Samuels' work is especially important for assuring a healthy, resilient future for trees and forests, and for people, because she focuses on creating beautiful outdoor environments that are sustainable and useful to other people. She also began a long-term project that involved the support of wildlife and prevention of invasive species from sprouting, and its goal was to provide a model for restoring adjacent natural areas in East Lexington and other conservation areas in Lexington.

REFLECTION: We think (name the person) is especially effective at mobilizing missing voices around tree and forest issues in our community, and this is why:

We think Jonathan Thompson is especially effective at mobilizing missing voices around tree and forest issues in our community because he works directly with the Massachusetts governor's office to create climate policies. It can therefore be inferred that if a community member has a strong opinion about a certain issue, he could talk to Thompson. Thompson could then take care of that by talking to the office about it.

REFLECTION: We were inspired by this example of ACTION for tree and forest conservation in our community:

Simone Monteleone is currently working on a forest resiliency project that includes replantings and invasive plant management. This especially inspired us because even though she usually focuses on preserving historic buildings, and can't go outside due to her position as a superintendent, she still manages to think about the forests and how they greatly impact the park and our community.

REFLECTION: We encountered this genuine, honest difference of opinion on tree and forest protection/conservation/stewardship in our community:

A lot of our interviewees, including Jonathan Thompson and Jon Marquis, said that the biggest threat to trees was invasive species. However, Michael Downey said that the biggest threat to trees was urban development.

3. RECOMMENDATIONS FOR TREE/FOREST EDUCATION.

We found that these **THREE websites are especially good resources** for well-presented, accurate information about the protection/conservation/stewardship of trees and forests, with particular relevance to **forests as climate solutions** in Massachusetts. We have evaluated these using the SIFT method or other resources and recommend them as background for people who want to take action.

[The SIFT method](#)

These are our TOP THREE (ONLY THREE) recommendations. (Provide URLs to guide the reader to the particular page you most recommend as a resource):

Website/page #1 URL:

<https://www.fs.usda.gov/>

Ten words on how it is valuable/useful:

Valuable information surrounding forests, conservation, and the impact they have.

Website/page #2 URL:

<https://www.mass.gov/orgs/department-of-conservation-recreation>

Ten words on how it is valuable/useful:

The DCR website goes into depth about their conservation efforts.

Website/page #3 URL:

<https://harvardforest.fas.harvard.edu/>

Ten words on how it is valuable/useful:

Harvard Forests provides information about the research they're conducting.

We think this IN-PERSON resource (person? place? organization? program?) offers the best opportunities, formal or informal, for people in our community to learn about trees and forests so that they can participate in decision-making and take responsible action:

Describe the resource:

Mass Audubon

Provide a web URL if possible:

<https://www.massaudubon.org/>

Twenty words on how it is valuable/useful:

Mass Audubon has extensive events for everybody, from children to adults and more. They also have publications and resources available.

4. SUMMARY OF OUR RESEARCH AND RECOMMENDATIONS

Below is a summary of the main point(s) of our Mass Envirothon 2025 Current Issue presentation in 3-4 sentences:

Our Current Issue presentation provides an overview of the history of land ownership and conservation in our town, then describes the various benefits the green spaces in our town provide, including recreational opportunities, commercial resources, and ecological services. We also outline a 3-step plan to contribute to the MA goal of 30% conservation by 2030 and 40% by 2040. These 3 steps involve acquiring new conservation land through the Local Acquisitions for Natural Diversity Grant, performing outreach by connecting our peers at Lexington High School as well as other town residents to the initiatives of Citizens for Lexington Conservation while raising awareness about the tax benefits available to landowners who sign their land to a conservation easement, and developing a forest management plan with funding from the Urban and Community Forestry Grant. Finally, we discuss some of the possible impacts of our plan, such as adding limitations to future housing development in our town. However, we ultimately concluded that the ecological and spiritual benefits of the conservation land that Lexington will gain through this plan far outweigh this drawback.

REFLECTION: AUDIENCE. These are the specific municipal authorities and local stakeholders who have the power and/or influence to make the changes we recommend in our presentation:

There are various town organizations that will be instrumental in implementing our plan. Among these, we wanted to highlight the Lexington Conservation Commission, who manage our conservation lands. Along with the conservation commission, organizations such as the Department of Public Works and the Lexington Tree Committee help with advocating for and implementing green plans.

REFLECTION: AN UNEXPECTED FIND! We were surprised at how important and valuable this (identify: person, place, organization, or other) resource is for our community's participation in tree and forest conservation:

In our research, we learned about the Citizens for Lexington Conservation, a community-led organization that runs activities such as birding walks in our town's conservation areas. Specifically, we found that their outreach efforts had contributed to the preservation of over 1300 acres of conservation land throughout our town.

REFLECTION: UNEXPECTED HOPE! Of all the people, places, and online research we did, this is the thing we found that gave us the most hope (Tell us why!):

After talking to Charlie Wyman, a member of Lexington Living Landscapes and the former Conservation Commissioner for Lexington, we were hopeful about the future of conservation land acquisition in our town. He mentioned that there were actually many parcels of land that have potential to be acquired as conservation land, allowing us to expand our current permanently conserved land by great measures.

REFLECTION: ANOTHER QUESTIONS we would like to answer about our research (and our answer):

What was the most surprising thing we found during our research?

We discovered the financial benefits of trees for homeowners were far greater than we had originally expected. Specifically, we discovered that trees planted near buildings can reduce energy costs by up to \$250, reducing a home's heating and cooling costs by 15 to 50%.

ACTION!

Action projects can be as simple as putting your research findings and recommendations into a letter to the editor or to a decision maker, or making your Current Issue presentation to an audience beyond the Envirothon. Many forms of action are possible: community education (e.g. making and sharing a video, or organizing a public event), participating in a project you learned about, lobbying for legislation, or meeting with decision-makers. Teams can plug into an existing community effort or develop a project of their own.

[See these Action Resources!](#)

5. THIS IS HOW WE ARE TAKING ACTION BASED ON WHAT WE HAVE LEARNED:

- Best approach: Write and attach a brief news release about your project and/or provide a link to photos and other documents about the work.
- At least: Write a paragraph below presenting the basic facts of your project: who, what, when, where, how, and why.

Our project involved working with Holly Samuels, a local resident and landscape designer who regularly performs volunteer work in nearby green spaces. Specifically, our team came and helped out with some of her landscaping projects by removing invasive species and planting native ones. In the fall, we worked at Arlington Great Meadows to plant native seedlings near a stream bed, and removed large swaths of invasive Oriental Bittersweet plants. We even learned how to saw down small invasive trees and spread herbicide on the remaining stumps. In the spring, we worked with her in a plant nursery near Lower Vine Brook to transplant sassafras, cranberry, and willow saplings into larger pots that she would later plant into the surrounding landscape.

Finally, towards the end of the year, we also met with the Citizens for Lexington Conservation about possibly helping them with publicity in the following year, specifically targeting students of Lexington High School so that more people were aware of the valuable green spaces around our town such as the ones we had volunteered at.

REFLECTION: TACTICS. There is always more than one way to reach a goal. This is why we chose the specific tactics we used for accomplishing our goal:

We chose to participate in both volunteer work and in community outreach to accomplish the goal of improving the quality of our town's green spaces as well as increase awareness about them so that they could be enjoyed and appreciated by more people. We liked to divide and conquer in order to get as much done as possible. We also had to listen carefully to Holly Samuels' directions. We were able to gain productivity due to dividing and conquering. We were also able to learn a lot more about some of the invasive species that threatened our local green spaces by listening to Holly's directions.

REFLECTION: OUTCOMES. We see these results (planned and unplanned, in ourselves and in the community) from our research and action:

Invasive species usually wipe out tons of native species, so removing them helps the native species to thrive even better. Although we have not returned to the location we worked on in Arlington Great Meadows in the fall, we expect that the native species we had planted will become relatively well established as the year goes on. Because the area has trails that are regularly used for recreational purposes, we hope that the work we did to remove invasives would further improve the area's spiritual and recreational value.

REFLECTION: TEAMWORK. These are the ways we worked best as a team, and these are the ways we could improve:

We worked best in terms of dividing and conquering. As much of the volunteer work we did happened at the start of the year, it was helpful as a form of team bonding that allowed us to gain a better understanding of each other's strengths, as well as how to best work efficiently. As we hope to continue to work with Holly in the coming years, we hope to continue to improve in communicating with each other clearly and in becoming more experienced with some of the more challenging physical tasks that we have to perform (such as transporting heavy piles of Oriental Bittersweet for disposal).

REFLECTION: ANOTHER QUESTION we would like to answer about our action (and our answer):

How would the planting natives help with forest conservation? According to USDA, planting natives would promote diversity and provide food and shelter for wildlife. It would also help to reduce air pollution and erosion.

6. EVIDENCE OF OUR COMMUNITY ENGAGEMENT

- **EITHER** (best approach): Provide a copy of a letter or email from a community partner outside our school about the action we have chosen to take.

[\(Here are some tips for how to ask for a letter\)](#)

Letter writer's name:

Holly Samuels

Position/Organization:

KREFTA LANDSCAPING INC.

Letter writer's email address:

elhpinfo@gmail.com

- **OR:** Provide a different form of evidence (Please describe):

REFLECTION: SECOND CHANCES. If we were going to do this community action over again, this is what we would do the same, and this is what we would change:

We would choose to divide up tasks specific to each team member's strengths again to perform the volunteer work efficiently. However, we would also work on communicating with each other more clearly and creating a stronger sense of community so that every member feels like they play a unique and valuable role in our action project. Had we learned about them earlier, we would also have liked to start working with the Citizens for Lexington Conservation earlier in the year so that we could gain a greater understanding of the community initiatives regarding the conservation areas in our town.

REFLECTION: WHAT'S NEXT? Based on our experience, this is the next step we recommend for ourselves or other young people in this community:

We recommend for other young people in our community to research and visit some of the conserved areas in our town, such as by visiting one of Citizens for Lexington Conservation's events. We believe that this will help raise awareness about the value of our town's conservation land, and to garner support for conserving more available land in Lexington.