

Opportunities to participate in MaMA include:

Using the MaMA Ash/EAB Surveys citizen science project to report sites where you have or have not detected signs of EAB infestation.

This project, hosted on the citizen-science platform Anecdata.org, is open to public participation and tracks EAB's spread and effects in real time. Because knowing where EAB has not yet appeared is important in prioritizing management, both EAB presence and absence reports are needed. It takes only a few minutes to document EAB status at a site and submit a report!

Setting up an ash mortality monitoring plot as part of the MaMA Monitoring Plot Network.

This rapidly growing network comprises sites where land managers or citizen scientists designate particular trees to monitor when they are killed by EAB. The data that you upload via Anecdata.org are used by ERI to determine which areas are ready to be searched for likely EAB-resistant lingering ash. *Participation in this project requires attending a single-session MaMA training workshop.*

Searching for and reporting lingering ash using the MaMA Lingering Ash Search project.

Once the appropriate ash mortality threshold has been reached in an area, ERI will notify citizen scientists and land managers to search for lingering ash there. The locations of lingering ash can then be reported via the MaMA Lingering Ash Search project, also hosted by Anecdata.org. *Participation in this project requires attending a single-session MaMA training workshop.*

Using the MaMA Potential Lingering Ash Toolkit to protect trees that might hold the key to ash conservation.

It can take years from the onset of EAB infestation for an area to reach a mortality threshold triggering the local search for lingering ash. However, even before these thresholds are met, if you notice particular ash trees that are unaffected by EAB when those around them are dead or dying, you can take steps to safeguard these trees. Using our toolkit will help you report the locations of these trees and protect them from being cut down.

MaMA's decision tree provides guidance on whether to cut or treat trees or use them for mortality monitoring and lingering ash detection (crucial for ash conservation). Although there are good reasons to cut ash in particular circumstances, cutting should not be done for the purpose of decreasing the spread or lethality of EAB, as in fact it has the opposite effect – accelerating it. Our decision-tree will help you choose how to best manage your ash.

MaMA's single-session training workshops include training in all three citizen science/land manager projects, an introduction to MaMA's "Possible Lingering Ash Toolkit", and an overview of MaMA's other tools and overall approach to EAB management and ash conservation.

To find out about or schedule a MaMA training workshop near you, contact us at outreach@MonitoringAsh.org or 845-419-5229.



MaMA training workshop - field component.

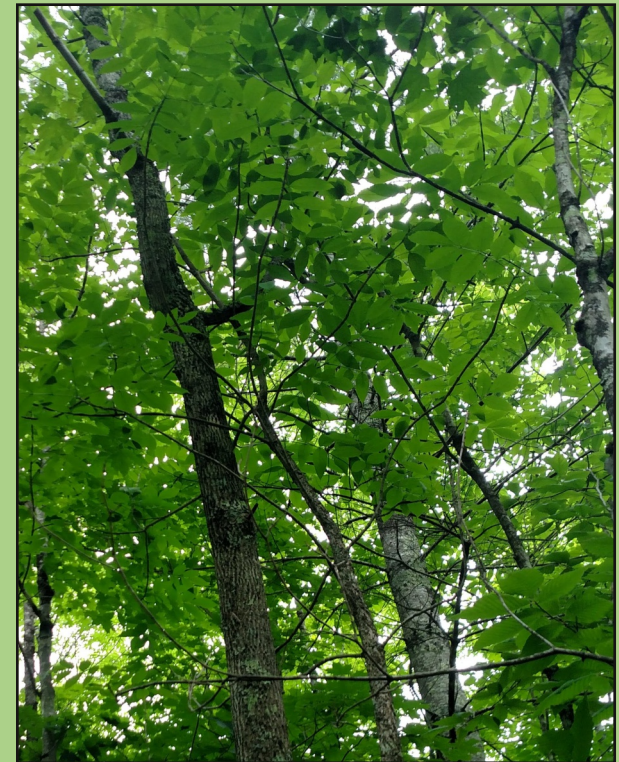


Program partners include: US Forest Service; New York Invasive Species Research Institute; NYS DEC Forest Health; NYC Department of Environmental Protection; Watershed Agricultural Council; Otsego County Conservation Association; Cornell Cooperative Extension of Delaware, Sullivan, Greene & Columbia, and Schoharie & Otsego counties; SUNY Ulster; M. Kudish Natural History Preserve.

Monitoring and Managing Ash (MaMA) in the Catskills

• **Resistant trees** offer great hope against emerald ash borer (EAB), an invasive beetle threatening the Catskills' ashes.

• By **participating** in the MaMA program for citizen scientists and land managers, **you can help find these trees!**



****See action map inside to learn which steps to take in your area****



For more information:

MonitoringAsh.org

Outreach@MonitoringAsh.org

845-419-5229

Monitoring and Managing Ash (MaMA) is an innovative ash conservation and emerald ash borer (EAB) mitigation program created and directed by the Ecological Research Institute (ERI) in close consultation with leading scientists of the US Forest Service. Its implementation throughout the Catskills is supported by the Catskill Regional Invasive Species Partnership (CRISP) based in the Catskill Center at Arkville, NY. MaMA provides crucial, constructive actions to be taken in all parts of the Catskills, even in areas where EAB has already killed all the ash trees and areas where it has not yet arrived.

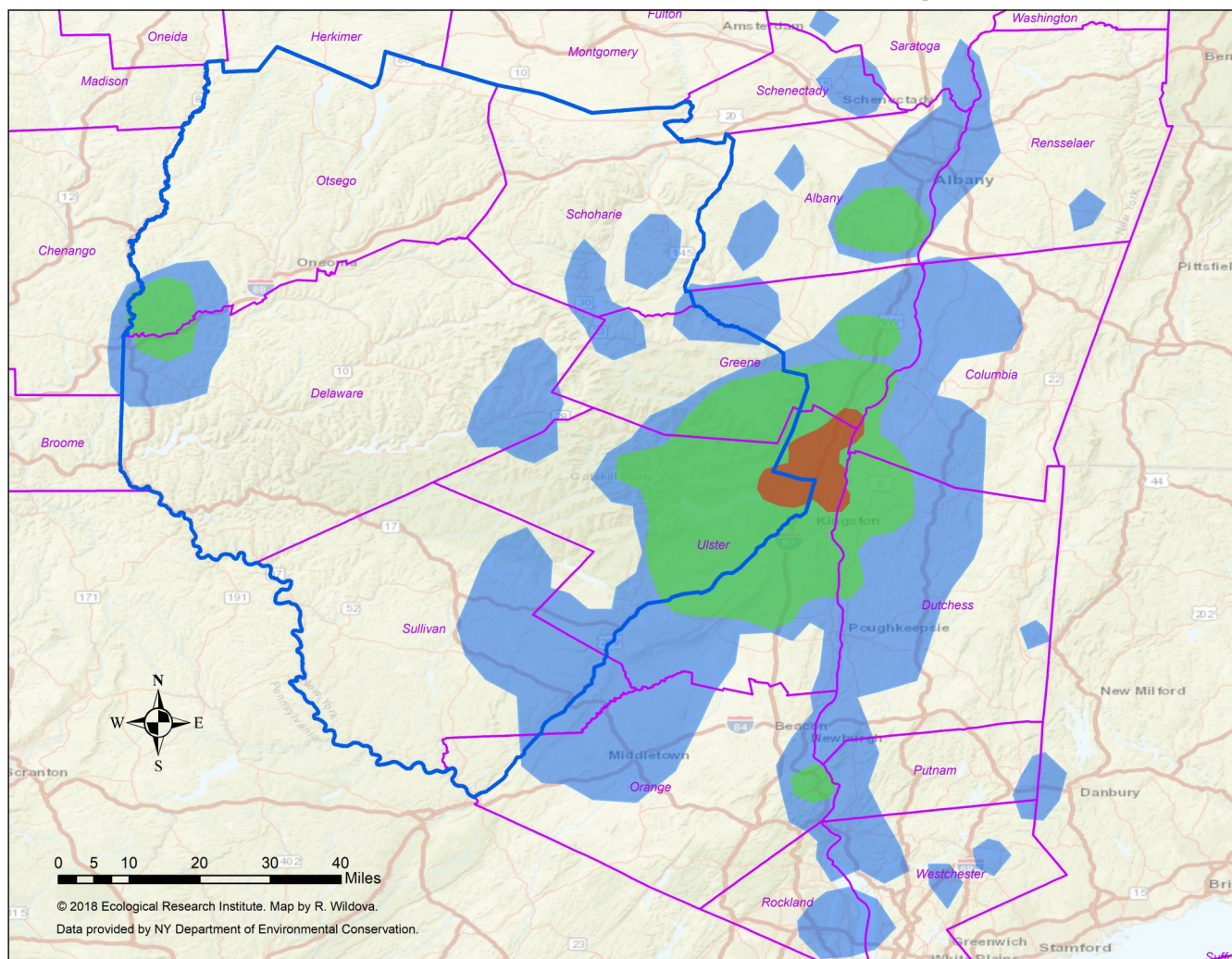
MaMA's land-manager and citizen-science projects enable detection of **"lingering ash"**, naturally occurring trees that stay healthy even when the nearby trees around them have died from EAB. Our partners at the US Forest Service use lingering ash to yield EAB-resistant lines of native ash, with these trees offering the best hope for ash conservation and restoration.

Our **Catskills MaMA Action Map** uses detailed data from our partners at the New York State Department of Environmental Conservation and MaMA's citizen-science projects to prioritize particular ash conservation actions for different parts of the Catskills. This map, updated as the EAB invasion spreads, lets you know the most important steps to take for ash conservation in your area!



Tagging trees in an Ash Mortality Monitoring Plot.

2018 Catskills MaMA Action Map



Priority actions for the CRISP region

- Long-infested areas**
EAB first detected 2010 / **Actions:** Protect potential lingering ash; establish mortality monitoring plots.
- EAB first detected 2014** / **Actions:** Protect potential lingering ash; establish mortality monitoring plots; consider trees for pesticide treatment or cutting; consider sites for mitigation.
- Recently infested areas**
EAB first detected 2017 / **Actions:** Protect potential lingering ash; establish mortality monitoring plots; consider trees for pesticide treatment or cutting; consider sites for mitigation.
- Areas with no infestation yet detected**
Actions: Do Ash/EAB surveys; consider trees for pesticide treatment, sites for lingering ash detection, sites for mitigation; establish mortality monitoring plots.
- CRISP boundary**
- County lines**