



Exploring Trends in Tree Mortality as a Response to Disturbance Drivers

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Regional Exploration Project Completion Report: Exploring Trends in Tree Mortality as a Response to Disturbance Drivers

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Background



In 2023, the FEMC engaged in a scoping project to determine the need for a regional rapid response network to tree mortality events. The initial interest was to coordinate monitoring for both acute events and delayed responses following chronic stress. As a scoping project, FEMC met with community partners to learn about gaps in tree mortality monitoring and opportunities for FEMC to serve as a hub for coordinating rapid response plans.

2023 Activities

The Tree Rescue Scoping Project was planned for 2023 as an FEMC Regional Project to gauge interest and identify needs in the formation of a rapid response network to tree mortality events. FEMC staff engaged with another research group, consisting of faculty and students from Harvard University, University of Massachusetts, University of Maine, and University of Vermont as well as staff from the U.S. Forest Service and Forest Stewards Guild, and members of the Saint Regis Mohawk Tribe. This group was in the final stages of outreach and engagement on their project focused on Emerald Ash Borer. Connecting with this group provided FEMC an opportunity to learn about their process and what they identified as needs in the area to determine if this could be a pilot program for a more general rapid response network across the region. The group met three times to describe the EAB project, explore needs and opportunities for a rapid response network, and to plan a working session held at the FEMC Annual Conference.

Community Needs

Development of a community forum to serve partners across the FEMC region was identified as a niche FEMC could fill in responding to tree mortality events. The forum was envisioned as a space for researchers, agency employees, and private landowners to share information about pest outbreaks or tree mortality events, co-create resources, and offer training in identification or best practices. Such a forum would allow for opportunities to share directly with other members about tree mortality events and opportunities for rescue actions. Using ash as the pilot response network, ideas were explored for what is needed by stakeholders in response to outbreaks, and how information flows within the network.

Limitations of a forum were also discussed. There was concern about how a forum would be managed and maintained to keep community members active and engaged in sharing knowledge and resources. Without an engagement plan, as well as a long-term funding plan, it is often difficult to sustain activities and maintain relationships. However, if this was something that could be formed using networks that already exist, the longevity may be improved.

Following the discussions with external partners, FEMC then discussed a need for rapid response network with members of the FEMC Joint Committee, which consists of the FEMC Steering Committee,



FEMC State Coordinators, and members of the State Partnership Committees. During this discussion, numerous questions were raised about the need for a regional rapid response network. The Northeast Compact provides much of this infrastructure across the FEMC region. Additionally, the challenges of sharing information across state borders will likely limit the success of a regional network.

Following the Joint Committee Meeting, a working session was held during the FEMC Annual Conference. The session was led by FEMC staff and attended by state agency employees from Connecticut, Maine, New York, Rhode Island, and Vermont who were able to speak about the protocols used in each of their states.

Each state follows different protocols and procedures for responding to a tree mortality event. Some states have well-defined response plans that include placing staff on response detail, routes to make funds available, and opportunities to contract with private consultants. Other states have minimal protocols in place, resulting in weaker responses.

Communication was identified as a barrier to activating a response network. Silos exist between agencies, limiting the ability to easily share information. Bureaucratic constrictions also result in barriers to sharing information across state borders, with many steps required before communicating with a agency in a different state. Additionally, the unique nature of every type of event or outbreak was also identified as a barrier to the formation of a regional network. Each type of event has different characteristics, ranging from which state is being impacted, community being impacted, understanding of the threat. These barriers make it unlikely that FEMC would be able to effectively form a regional response network.

The full working session summary can be found in the 2023 FEMC Annual Conference Proceedings.

Next Steps

As of February 2024, FEMC will not continue to explore development and management of a regional rapid response network for tree mortality events. The needs of the community are being filled by overlapping response organizations is not a niche that is empty.

FEMC continues to explore opportunities to share vital information about threats to tree health in a rapid and organized manner, despite the completion of this project. One specific project that is being developed is the creation of a dashboard for insect DNA metabarcoding data that contributes to the early detection of pests and diseases captured in insect traps. Information about pests and diseases found in traps will be disseminated broadly through communication networks to alert partners and community members. The early detection and alert will provide opportunity for a response plan to be developed and activated when a detection is made or confirmed, which may be before traditional detections.