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Early response to tree disease eases budget impact



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Channels under the bark indicate the presence of emerald ash borer larvae in an infected ash tree.

The challenge for local officials who manage and maintain the trees along public roadways is to address EAB before hundreds of dead or dying ash trees pose a safety hazard, requiring a response that overwhelms financial resources.

THE SPREAD OF emerald ash borer (EAB) in Wisconsin has been news since forestry officials identified the first infestations in the southeast area of the state in 2008. The larvae of the invasive beetle attack ash trees by boring beneath the bark and feeding on important conductive tissue. Findings so far indicate that infected trees die within two to four years.

In Wisconsin's urban areas, ashes make up an estimated 20 percent of the trees. As of September, 11 Wisconsin counties that had evidence of EAB infestation were under quarantine. The action restricts movement of hardwood firewood, ash nursery stock, logs or timber out of the quarantined area.

The challenge for public works directors, street supervisors and other local officials who manage and maintain the trees along public roadways is to address EAB before hundreds of dead or dying ash trees pose a safety hazard, requiring a response that overwhelms financial resources.

Start with inventory

Communities inside and outside the quarantined counties are acting to minimize the impact of EAB and preserve the urban forest, an important capital asset. Trees help reduce runoff from storms, contribute a traffic-calming element and improve air quality, among other benefits.

An inventory of public trees is critical to an informed approach that includes the systematic removal of diseased or at-risk trees and a program to plant replacements.

Local governments can apply for an Urban Forestry Grant to help defray the costs of expanding local tree management efforts—which include conducting or updating a tree inventory. The Wisconsin Department of Natural Resources Division of Forestry sponsors the grants program, which requires a 50/50 match. It currently favors applications for EAB readiness and response projects.

Besides regular forestry grants of up to \$25,000 to improve an existing program, the department

offers “startup grants” between \$1,000 and \$5,000 for communities without an active tree program.

Get ahead of threat

The City of Sparta in western Wisconsin offers an example of a local government that is getting ahead of the threat. Director of Public Works Jordan Skiff applied for and received an Urban Forestry Grant in 2008 to fund an ash tree inventory and hire a forestry consultant to develop a plan of action.

It was August of that same year when authorities reported Wisconsin's first known infestation of EAB in the southeast area of the state in the Village of Newburg in Ozaukee County. Skiff says Sparta's response began about three years earlier when he heard a DNR presentation about EAB.

“I was surprised to hear with such certainty how widespread and devastating the threat would be,” he recalls. He learned that quarantines and treating affected trees did little to arrest the spread of the

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Planting a single kind of public tree runs the risk of losing every one at the same time when the species succumbs to a tree disease like EAB. When the expected borer infestation kills this row of young ash trees in a Sparta neighborhood, the city will replace them with a more diverse mix of trees.

Early EAB response eases budget impact

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“The inventory allows us to identify trees to be removed, track the progress of our various programs and may help us spread out future removals.”



Homeowners plan to pay for treating this ash on the public terrace near their property, an option Sparta gives residents who want to extend the life span of a mature tree.

ash borer, which has no natural enemies in North America. Skiff shared these facts and got support from elected officials to pursue a grant to fund a measured response.

Sparta invested just over \$12,000 to develop an EAB plan. Bluestem Forestry Consulting of Drummond, the firm hired to do the plan, reviewed relevant city ordinances and recommended changes to aid the city's EAB response. They conducted a complete inventory of all public ash trees, interfaced the data with Sparta's GIS system and estimated the costs for managing this threatened population.

The response plan also included a proposal for a marshalling yard, or waste wood processing and staging site to handle felled timber. A list of recommended replacement trees became the cornerstone of a replanting program. Finally, the consultants outlined a process for removing a manageable number of city ash trees annually over several years to reduce the impact on the city budget.

Skiff was dismayed to learn from the inventory that about half the trees on city boulevards—more than 1,900 trees—were ashes, “a large percentage for a community our size.” He says the long-ago practice of planting a monoculture of trees was a lesson in what not to do. Sparta's replanting program now features a variety of species.

The inventory proved the most useful part of Sparta's EAB plan.

“It allows us to identify trees to be removed, track the progress of our various programs and may help us spread out future removals,” Skiff says. His long-range plan is to add data about other public trees to the inventory, enhancing its value as a management tool.

Pre-emptive strategies

Richard Rideout, State Urban Forestry Coordinator with the DNR's Forestry Division, confirms the arrival of EAB is a certainty wherever ash trees are growing in the state but says it is hard to predict how fast the insect will spread. “We're still learning about this exotic pest and finding better



Large healthy ash trees, like these public trees near the Sparta courthouse, might benefit from treatment and remain standing safely for a few more years as part of a measured EAB response plan.

ways to detect new infestations,” he explains. “What we do know is that the quality of the local response is important in slowing its spread.”

Rideout advises that pre-emptive planting of new public trees at the same time communities remove ash trees is a smart move. “An inventory of public trees tells you where you can plant now so when it's time to remove more trees at risk of EAB, you have a head start on replacements,” he says.

Sparta's plan includes those strategies. The city began in late 2008 to remove boulevard ashes in poor condition before they become infested. At the same time, they replanted a diverse selection of replacement trees recommended in their EAB plan. Skiff says the trees they removed were not an immediate threat to traffic or pedestrians but a deliberate approach made it easier to use department crews rather than hire the project out. Removing less desirable trees also helped reduce the ash population without creating a public relations nightmare.

Street projects accounted for other tree removals and Skiff notes the city also responded to requests from residents to remove their boulevard ash trees.

Around 18 percent of the city's marginal or small ash trees are gone now, a total of 350 trees. Next up: removing mature, healthy ash trees. The plan is to distribute

the removal and replanting program evenly to avoid decimating a single neighborhood in a clear-cut operation.

Scheduling time and costs

The schedule for completing the removal of Sparta's ash trees depends on how quickly the borer moves. If EAB holds off for five to eight years, Skiff plans to draw the ash population down gradually so city crews can integrate that work with other jobs. “But if it's here already or closer than we realize, we may need to accelerate our timeframe and get it done in three to five years.”

Ash trees quickly become brittle after they die. Once the city ashes show signs of dying, it becomes imperative to remove them without delay. Pre-emptive removals now allow Sparta to keep the work and costs in-house.

Skiff says he expects to spend about \$100,000 for tree operations in 2010, covering crew time plus benefits. He allocated another \$7,000 for a contractor to do waste wood processing. Spring tree planting costs totaled about \$18,000. Some removals and replacements this year involved non-ash trees that died but Skiff estimates about 80 percent of the budget addressed EAB.

Treating trees with chemical injections is not in Sparta's current EAB budget. But the city does give

residents the choice of paying for treatments to a public tree near their property as long as it is not yet a hazard. That and a partnership with Chamber businesses that agree to “adopt” a tree for treatment involve the community in the process and keep some larger trees healthier longer.

Toolkits and guidelines

Rideout says there is a growing body of knowledge available to help local governments understand the implications of EAB.

A good comprehensive source is a website emeraldashborer.wi.gov hosted by the Wisconsin DNR Division of Forestry in association with UW–Extension, the Wisconsin Department of Agriculture, Trade and Consumer Protection, the U.S. Department of Agriculture and the U.S. Forest Service. The site is a clearinghouse of information on



The need to remove a row of infected ash trees on a residential street, left, leaves a stark landscape, right.

EAB, existing regulations, management options, other resources and ongoing statewide efforts.

Rideout also highlights two DNR Forestry publications created to help local governments control costs and the management of valuable public trees. One is the *Emerald Ash Borer Toolkit for Wisconsin Communities*, available in hard copy or as an electronic download. It contains useful checklists and details on everything from detecting EAB and assessing local resources (inventories, equipment, debris handling, mutual aid agreements and other considerations) to dealing with the media.

A new 13-page *Guidelines* publication about managing ash in Wisconsin’s urban forests and reducing the impact of EAB assists communities in setting tree management goals and customizing their response. DNR Forestry is releasing the *Guidelines* in electronic format only to make updates easier. “This information depends on the ever-changing science and practice of dealing with EAB,” Rideout says. “We’re asking communities who use the guidelines to supply us with feedback on how they adopt or adapt the ideas so we can keep the information current and answer questions that arise.”

Because dealing with a complicated threat like EAB benefits from expert help, smaller local governments without a forester on staff can contract with a certified arborist to advise on the condition of their ash trees. Rideout reminds communities that the DNR’s

regionally based Urban Forestry Coordinators are available to work with them on an EAB response. The coordinators also connect local officials responsible for tree and forest management in a region to each other so they can share EAB information and resources.

Skiff describes the coordinator in his area as a great source for practical and timely training and a range of advice. “She recognizes that small communities lack the designated budget and staff for forestry issues that a larger community may have and provides expertise to fill that void,” he says.

Informed is prepared

Communities across Wisconsin and in other affected states are implementing EAB response strategies that range from treating all public ash trees to sequential removal of their entire population of ash trees over a five to ten year period. Knowing the extent of the threat helps these cities, towns and villages restructure annual tree maintenance operations and make provisions to manage the impact of this insect. Most base their approach on data from a tree inventory that records the quantity, location and condition of all threatened trees.

As EAB spreads, local governments can prepare for its arrival by exploring DNR Forestry recommendations and resources, seeking grant support for program improvements and learn from what others are doing. ■

Knowing the extent of the threat through an inventory helps cities, towns and villages restructure annual tree maintenance operations and make provisions to manage the impact of this insect pest.

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Resources

<http://dnr.wi.gov/forestry/uf/leabl>
Link to *Emerald Ash Borer Toolkit for Wisconsin Communities* on Wisconsin DNR Forestry site.

<http://dnr.wi.gov/forestry/uf/pdf/ManagingUrbanAsh8-3-10.pdf>

Link to ash management guidelines for reducing the impact of EAB in Wisconsin’s urban forests.

<http://www.emeraldashborer.info/index.cfm>

Multinational website with information about the spread of EAB in the U.S. and Canada.

Readiness Checklist

Steps to preparing a plan from EAB Toolkit.

- Learn about EAB
- Create readiness team
- Inform elected officials
- Review tree ordinances
- Conduct tree inventory to determine risk
- Estimate costs and adjust budgets
- Survey trees for EAB
- Plan for wood disposal
- Develop a public awareness campaign
- Review tree care or removal contracts
- Explore market for ash residue