



**DEPARTMENT OF
NEIGHBORHOOD SERVICES
PUBLIC WORKS DIVISION
FORESTRY**

**EMERALD ASH BORER
RESPONSE PLAN**

This plan details a response to EAB infestations that may be found in the City of Greenfield and surrounding communities.

The plan is based on the most recent scientific studies and recommendations from key partners and multiple state and federal agencies. Updates to this plan will be made as needed and posted on the City of Greenfield website.

This plan is in a dynamic state. Progress in research and management programs and recommendations by the DATCP, DNR and the Wisconsin EAB Management Team will likely impact the City's response.



EAB Executive summary

The Emerald Ash Borer (EAB) is an invasive species from Asia that arrived in the United States in wood packing material. The pest was first detected in Michigan in 2002 and has subsequently spread to Canada and a number of other states including northern Illinois. The pest kills all species of North American ash trees and has killed an estimated 30 million trees to date.

When it comes to the potential devastation of EAB, there is a lot at stake in Wisconsin. There are an estimated 737 million ash in our forests and another 5 million in our communities. Although we do not have accurate information on the number of ash trees in the City, it is estimated that on average, 20 percent of the trees in Greenfield are ash species. Impacts to the City will be substantial. Similar size communities that have experienced EAB infestation have seen dramatic increases in water and energy consumption, storm water run off and flooding and the problems associated with disposal and utilization of so much wood.

On August 4, 2008 officials from the Wisconsin Department of Natural Resources and the Wisconsin Department of Agriculture, Trade and Consumer Protection confirmed the arrival of EAB in the Village of Newburg. Three days later, a second EAB find a short distance from the first site was confirmed. Within a week, EAB quarantine regulations were put in place. As recently as October 2008 EAB was found in Kenosha county.

Since it was first discovered in Detroit, Michigan in 2002, EAB has spread to nine other states and to Canada. “This continued movement, coupled with the high price tag connected to the death of infested ash trees, are reasons why communities should prepare for this destructive invasive insect.” Richard Rideout Wisconsin DNR Urban forestry director said. “EAB is not a problem that belongs to any single agency or location.”

The actions taken by the City of Greenfield will be guided by the DATCP, DNR and Wisconsin’s EAB team. Each infestation will be individually examined and evaluated to determine the most appropriate course of action for that particular EAB find. The response to an infestation must take into account the unique circumstances surrounding the specific infestation. The State of Wisconsin and the City of Greenfield are committed to using the best available science and information about the economic, environmental and social consequences of the available options, as the basis for making appropriate management and control recommendations.

While there is much work yet to be done to fully prepare for EAB’s ultimate arrival, Wisconsin is taking proactive steps to prevent EAB from arriving and to find it early, before populations become established. DATCP, DNR staff and the University of Wisconsin, along with other partners at the state and federal level, continue to work diligently on matters of early detection, regulatory safeguards and public outreach in an effort to protect and preserve the ash resource across the entire state.

The Response Plan

The City of Greenfield response will be guided by and where discrepancies occur will differ to the State of Wisconsin EAB response Plan. Devised by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) and the Department of Natural Resources (DNR) The plan was created with the input of the University of Wisconsin-Madison, USDA Animal and Plant Health Inspection Service – Plant Protection and Quarantine (APHIS-PPQ) and the USDA Forest Service.

Goal

The goal of the Greenfield Emerald Ash Borer Program is to identify appropriate and effective response actions to be taken by the City and its residents when EAB arrives. These actions include prevention, detection, communication, regulation and management activities.

Objective

The objective of the plan is to minimize the destructive effects of EAB on our ash resources. Ash trees are a prolific species well adapted to the urban environment. In Greenfield, ash trees are one of the first species to reestablish on disturbed sites. The highly adaptable ash tree has been widely planted as landscape trees in our homes and parks for decades.

Background

EAB is native to Asia and appears to have been introduced on solid wood packing material to the Detroit, Michigan area sometime in the early to mid 1990s. The beetle went unnoticed for many years for a variety of reasons: EAB is small, ash often don't show symptoms in the first years they are infested, and many ash in the Detroit area were in poor health for other reasons. EAB was finally recognized in 2002 when the borer started causing widespread death of ash in the Detroit area and across the Canadian border in Windsor, Ontario. Quarantines on nursery stock, logs, firewood and other potential vectors of EAB were instituted, but EAB had already become established in many areas and it was just a matter of time before they were detected.

In 2003, EAB was found in northwestern Ohio. Nursery stock shipped to Maryland in violation of quarantine led to its introduction in that state and in northern Virginia. Populations of the borer found in Indiana in 2004 and in Illinois in 2006 may also have become established prior to the recognition of EAB in Detroit in 2002. EAB continues to spread and, in 2007, was found in western Pennsylvania. A recent introduction in West Virginia appears to have a firewood origin.

In Wisconsin, DATCP and DNR have been surveying for the pest since 2004. Surveys have been done using commonly accepted delimitation strategies in counties nearest established populations and using other common techniques in areas of high risk such as campgrounds.

The City of Greenfield established a moratorium on planting all ash species and extended that moratorium to all developments in the City shortly after EAB was first identified in Michigan.

In 2008, established populations of EAB were found in Ozaukee & Washington counties. In October 2008 EAB was also found in Kenosha County however that find does not appear to be part of an established population. The Wisconsin EAB team is investigating the site to decide if county should also be under quarantine. To date, four Wisconsin counties are under quarantine to control the movement of ash trees and ash products.

Current Detection Activities

The State of Wisconsin has been conducting targeted surveys of high-risk areas since 2004. Surveys include destructive sampling of girdled ash trees and deployment of the purple prism traps throughout the state.

The City of Greenfield is working to establish an accurate estimate of the ash population and its distribution in the community using information gathered from the City's right of way inventory, aerial survey maps and ground observation.

The City Forester will investigate all reports of suspect ash trees in the community and make a determination as to whether the incident warrants further investigation by state EAB officials.

Residents are encouraged to report trees that exhibit visible signs of Emerald Ash Borer infestation such as crown thinning, vertical bark splits, D-shaped exit holes, dead and dying branches, woodpecker damage and epicormic sprouts.

Management and Response Activities

Once EAB is identified in the City of Greenfield or Milwaukee County, the City will assist the DATCP and the Wisconsin EAB team wherever possible.

Although most of the actual command staff will be comprised of representatives from DATCP, DNR and USDA-APHIS, the Greenfield City Forester, Tree Commission and selected DPW staff will assist as needed.

Projected early EAB management activities will include press releases, distribution of EAB literature and educational meetings available to City and County residents and interested industry personnel.

The City Forester and State Command Staff will assist Greenfield residents with identification and management options of infected trees on private property.

The City of Greenfield does not endorse total ash tree eradication, unless otherwise dictated by the DATCP. Greenfield residents will be however be expected to maintain their ash trees in a safe manor and condition.

The City of Greenfield will maintain a strict policy of removal or treatment of infected park and right of way ash trees. However in some instances the City may reserve the right not to remove infected ash trees where it is deemed that such removal will cause excessive damage to remaining healthy trees or the environment and where the dying trees will not pose a hazard to the community at large.

Once EAB is found in Milwaukee County, the DATCP will likely issue a county wide quarantine to restrict the movement of EAB and infested host material.

Disposal and Utilization

Ash trees killed by EAB or those taken as part of a management plan may result in a significant number of trees. As a result, one of the largest challenges in EAB management will be disposal and utilization of ash material. Because quarantine regulations restrict the movement of ash material out of quarantined areas (with some exceptions), wood utilization becomes even more difficult. These restrictions may limit the ability to use this material as commercial landscape mulch, wood pulp chips and solid wood products (lumber, railroad ties).

Given the potentially large volume of resulting wood debris, wood utilization issues are of primary concern. The state EAB task force is currently gathering information regarding the location of potential utilization assets, such as biomass fuel users, firewood processors, tree care firms, sawmills, pulp mills, mulch manufacturers, and landfills. The City of Greenfield is exploring local wood utilizations options and will weigh them against options provided by the EAB task force.

It is hoped that new markets will become available or can be developed. For example, wood chips can be used as a bulking agent for sewage sludge composting or as feedstock for creation of pyrolysis oils. Pyrolysis oils can be used as heating oil, a carrier for creosote treating, or as a feedstock for the production of various wood chemicals and wood pellets.

Implementing EAB Management Strategies

Implementing one or all of the management strategies will perhaps slow, or in some cases stop, the movement of EAB. While researchers continue to develop tools to manage EAB, delaying the spread and population expansion of the insect allows more time to develop even more effective management tools. Wisconsin communities, homeowners and woodland managers and forestry professionals will need as much time as possible to implement practices that could buffer the effects of quickly losing large numbers of ash trees.

Management strategies are based on research findings and the experience of managers working with EAB. Some of the management options are considered experimental and may change as new information is acquired. The most current and best information must be used when evaluating options.

Management Strategies

Factors that Influence Feasibility of Control or Containment Strategies

1. Age and Size of Infestation

Recent research has provided a reliable method for determining the age of an infestation. Infestations that have been present for several years have had the opportunity to become established and spread. It is much more difficult to determine the boundaries of these infestations. Large infestations covering a range of habitats and landowners are typically more difficult to manage aggressively.

2. Ash Density and Distribution Within and Adjacent to Infestation

This information, obtained from a combination of existing resource maps, database and newly collected data will give decision-makers insight into the amount of resource at risk in the area. Areas with higher densities of ash will create serious management challenges.

4. Proximity to Other Infestations

Examining how each infestation fits in the bigger picture of a larger infested area will guide strategic management decisions and allow more efficient use of available resources. The proximity to existing infestations affects the likelihood for success of certain management strategies. This factor is closely related to the likelihood of reintroduction.

6. Risk of Artificial Spread from a Location

Knowledge of the level of risk of artificial spread and how it may occur will help determine the likelihood of successfully managing an infestation and determine the strategies needed to minimize artificial spread. If a site is deemed a high risk for further spread, managers may wish to focus additional efforts at reducing that risk.

7. Presence of Natural Dispersal Corridors

The presence of natural dispersal corridors could provide additional challenges and require managers to focus on options for limiting spread through these corridors. The presence of such corridors may increase the likelihood of a particular management strategy designed to restrict movement through that corridor. In contrast, a site that is very isolated with limited corridors for dispersal may be managed differently since spread may be less likely.

Making decisions related to the implementation of control or containment options must include evaluation of the factors that influence feasibility and selection.

Factors that Influence Selection of Control or Containment Options

1. Environmental impact
2. Land ownership
3. Land use and classification (e.g. state natural area, agricultural, river edge, swamp, etc.)
4. Cost of implementing management
5. Availability of resources to carry out management
6. Sociological impact
7. Size of infestation

The above factors have been identified as important to analyze as part of the process for selecting a control or containment option. The order of the factors is not significant. The influence of one may outweigh others and each infestation should be analyzed separately.

Management Strategies

Integrated EAB Control or Containment: Taking No Action

Taking no action means EAB is permitted to multiply and expand without any human intervention. The rate of spread of EAB across the landscape will be much greater if no action is taken.

Considerations

When choosing to take no action, EAB management is reactive instead of proactive. The general consensus based on research findings and survey work concludes that most ash will be eliminated from the landscape.

1. There is little or no evidence of any inherent resistance or tolerance in any species of native ash in North America.
2. There is little or no evidence of any environmentally based resistance due to soil types, moisture, nutrients, light, heat and topographic position.

EAB in Greenfield

1. Who will be responsible for removing EAB-infested trees?

Answer: The residents of Greenfield are responsible for maintaining all privately owned trees in a safe manor and condition. The City will not force removal except in instances where public safety is a concern. The City of Greenfield will continue to strictly enforce its hazard tree policy.

The City of Greenfield Department of Public Works will continue to be responsible for the safe management and removal if necessary of all municipally owned park and right of way trees.

2. Can the DPW handle the additional work without additional financial resources?

Answer: Not likely. The DPW and City forester are exploring management options to improve crew and equipment efficiency. The City is also exploring wood utilization options to help defer some of the expenses associated with wood storage, treatment and removal. Communities that have already experienced EAB infestations have had their budgets stretched to the limits often suspending maintenance and equipment purchases for several years as EAB moves through the community.

3. How will EAB infested trees be disposed of?

Answer: The City will provide a safe area for storage and processing of diseased wood removed by City crews and Greenfield residents only.

Commercial tree and landscape companies will be charged a fee to dispose of ash wood in the municipal storage area. Fee yet to be determined.

4. Who will be notified of a possible EAB problem, and how will citizens receive EAB information?

Answer: General EAB information will be distributed on a county wide basis. The Department of Public works, the City Forester and the City website can provide answers to specific questions posed by residents.

Conclusions

Ultimately effective management of this potentially devastating pest must be a dynamic process of continual analysis, assessment and adjustment of techniques and policy as needed.

Our urban forest is a valuable and under-utilized resource that can be ‘put to work’ to positively impact storm water problems, air pollution, and climate change. We need to protect what we have while planning and replanting for a sustainable, pest resistant urban forest in the City of Greenfield. The support, cooperation and commitment of the City fathers and residents of Greenfield will determine whether we can preserve the quality of life and our environment in Greenfield.

Available resources

EAB information can be found at the Wisconsin Emerald Ash Borer Resource website at emeraldashborer.wi.gov (exit DNR) and at the Websites of the DNR, DATCP, the University of Wisconsin and UW-Extension, the U.S. Department of Agriculture-Animal and Plant Health Inspection Service, and the U.S. Forest Service. These agencies share responsibility for responding to EAB. The [Wisconsin Emerald Ash Borer Resource](http://emeraldashborer.wi.gov) Web site also has a link to the [Wisconsin Emerald Ash Borer Response Plan \(pdf\)](http://emeraldashborer.wi.gov) (exit DNR), which details how state and federal agencies will respond to EAB finds.

Another valuable source of information is the [Emerald Ash Borer Toolkit for Wisconsin Communities](#), a compilation of documents and resources prepared by DNR Urban Forestry staff. The Toolkit is regularly updated and includes planning documents, copies of sample ordinances, and information about management strategies that can be used “as-is” or adapted to meet a community’s circumstances. All or select parts of the Toolkit now can be downloaded from the DNR [Urban Forestry](#) Web site. A CD of the Toolkit can also be ordered from that webpage at no charge.

Greenfield’s DPW and City Forester, UW-Extension staff and private sector consulting arborists are valuable resources for City residents.