

Emerald Ash Borer



Community Preparedness and Management Plan for the City of Princeton

As Approved by the Council on February 13,2014

Purpose

This plan was developed in response to a serious regional pest that has caused massive tree loss throughout 18 states. The intent of this plan is to:

1. Proactively mitigate the spread of EAB
2. Address public needs in an efficient and effective manner
3. Identify existing resources and needs for staff to implement management
4. Distribute costs and losses over a manageable time period
5. Lessen social and economic impact
6. Maximize and maintain long-term benefits of the urban forest
7. Maintain consistency and coordinate actions across jurisdictions and with surrounding communities
8. Provide education and outreach to elected officials, special interest groups and citizens
9. Assure a plan and infrastructure is in place to re-plant as removals occur

Applicability

This plan is applicable to all public properties where ash trees are currently growing in the City, on private properties where such trees may negatively impact public right-of-ways, on private properties where such trees threaten the safety of people or property, and on private properties where infested trees generally threaten the health of the urban forest overall.

Administration

This plan will be administered through the cooperative efforts of the City's Streets and Parks Division. All efforts will be effectively communicated between divisions. The implementation of certain plan objectives will be in cooperation with the Sherburne County Urban Forestry Committee.

Executive Summary

Emerald Ash Borer (EAB) is an exotic pest introduced to the U.S. from Asia. It was first detected in Detroit in 2002, although based on the population level at that time; it is speculated to have first arrived in the 1990's. Since being discovered in the U.S., it has spread to 18 states as well as into Canada. EAB was found in St. Paul, MN in May of 2009 and several months later in the cities of Minneapolis and Falcon Heights. In 2012, EAB was detected in Ramsey County. Major Travel Corridors coming from quarantined counties enter and border our community: US Hwy 10 out of Ramsey County and through Anoka County to Sherburne County, US Hwy 101 and I-94 out of Hennepin County. The primary method of spread is not natural movement of the insect but rather via firewood infestation. The proximity of Elk River to these roadways place the ash trees at a high risk. The pest attacks and kills *all* species of ash trees (*Fraxinus spp*). Ash trees were heavily planted throughout the city, especially during and since Dutch Elm Disease and Oak Wilt mortalities.

Once detected in an area, EAB populations are often high and at damaging levels. Based on the experience of hundreds of communities that are mitigating the impacts of EAB, Elk River can expect significant mortality of ash trees 8 – 10 years after infestation. Most infestations are not detected until affected trees show symptoms that become evident approximately 3 years after infestation. Early detection is critical in order to implement actions that may reduce EAB populations. The impact of EAB is more manageable over a longer period of time and eases the day to day pressure on available resources.

Ramifications associated with this level of tree loss are costly and will be recognized in the city budget through negative environmental impacts, aesthetic degradation and decreased property value.

The forest canopy assessment is a key component of this plan and will help identify the best management practices to implement. Examples of such practices include but are not limited to: pre-emptive removals of low value ash (improperly placed, structurally defective or hazard, small diameter (< 3") ash trees or those causing damage to infrastructure); chemical treatment of high value ash, diversification of canopy through annual planting, and early detection through regular monitoring and survey work.

Ash Management

Management techniques are based on the latest available information and recommendations from leading state agencies (Minnesota Department of Agriculture, Minnesota Department of Natural Resources, and the University of Minnesota). Techniques may be altered as EAB situation evolves and new technologies become available.

1. Tree Survey

A tree survey conducted during the leaf-on season in 2013 and involved a stratified random sampling of both public and private properties. The findings have enabled staff to define the scope of the problem and initiate remediation plans. The SWCD is coordinated with the U of M Urban and Community Forestry Department and the SCSU Spatial Analysis & Research Center to:

- Create maps
- Conduct the pre-sample
- Design the survey
- Train & support the volunteers
- Manage & process the data
- Compile inventory report

The city supported the inventory process by recruiting and providing volunteer contacts to the SWCD.

Inventory results and management considerations can be found at the end of this document.

2. Removals

Staff may begin proactively removing ash trees based on survey results and other inventory/monitoring efforts that are, but not limited to: in poor condition or improperly placed (such as under utility lines).

Tree removals are a normal component of urban forest management, as poor condition and dead trees need to be removed for reasons of aesthetics and liability. Post EAB tree removal could easily exceed existing resources so alternative methods should remain an option.

Removals of EAB infested trees on public property will be prioritized highest to lowest as follows:

- Hazard Trees
- Dead
- Dying
- Improperly placed
- Trees with poor structure (visible internal rot, included bark, stems cracks, cambium loss)
- All other trees

Tree survey data will be run through Purdue University's EAB cost calculator <http://extension.entm.purdue.edu/treecomputer/> to generate the estimated management control cost to the city.

Cost for existing staff to do tree removals:

- a. \$30 per stump (contract) with park employees cleaning and seeding
 - b. 7 worker hours per tree for removal and disposal
 - c. \$150 per tree to replace (specify varieties allowed & age)
- Total Cost per removal: \$180 plus 7 staff hours

Difficult removals justify hiring Contractors for removal operations which on average can cost:

- a. \$450 per tree removed + \$75 per stump include grinding & cleaning site
 - b. \$325 per tree to replace and guarantee for one year
- Total Cost per removal: \$850

Post EAB detection removals are critical to reduce hazard and liability posed by dead standing trees. Removals will be executed by existing city staff, unless extraordinarily precarious removals require the expertise of a certified arborist. If the number of removals overwhelms staff and sufficient funds are available, a private certified tree service may be contracted.

Tree removals will occur between October 1 and April 1 to reduce further spread of EAB. This recommended schedule will reduce time constraints on staff during the busy summer season when many priorities compete for limited resources.

Tree removal on private property will be the responsibility of the landowner. Ash trees that are infested with EAB will be subject to the nuisance tree ordinance. In cooperation with the Sherburne County Urban Forestry Committee, the City will co-host an *EAB Awareness and Best Management Practices* workshop for the local green industry. Attendees will earn an endorsement by the committee and be identified on the list of recommended contractors that can be used county-wide.

3. Tree Replacement

- a. Annual tree replacement will be accomplished through the shared resource of the Gravel Tree Bed Nursery. The SWCD will be available to work with city staff to determine priority planting locations. The City and SWCD will train, supervise and work with volunteers to plant gravel bed grown trees in late September through early November.
- b. Species grown in the gravel bed will be selected from the list of *"Recommended trees for Southeast Minnesota: An Ecosystem Approach"* by Gary R. Johnson,

University of Minnesota Extension Service – Urban and Community Forestry & Katie M. Himanga, Heartwood Forestry, or other published references as they become available.

- c. Bare root stock will meet the MnDOT 3861 Plant Stock Specification available at <http://www.dot.state.mn.us/pre-letting/spec/2000/sp3861.pdf>
- d. All trees will be planted according to MnDOT 2571 Plant Installation Specification available at <http://www.dot.state.mn.us/pre-letting/prov/order/2571.pdf>
- e. After planting and up to the time of killing frost, the SWCD will maintain regular communication with staff and volunteers to ensure adequate watering of new trees.
- f. The SWCD may annually request sufficient funds to purchase bare root stock for spring gravel bed installation.

4. Insecticide Treatment of Trees

Insecticides may be considered for ash trees that have been condition rated above 3 and that provide ecological services if EAB has been detected within a 15 mile radius. This will be allowing staff to stagger removals and reduce EAB populations – not to save trees in perpetuity.

- a. Large (>8” dbh) ash on public property that are a significant component of the urban infrastructure will be considered for treatment with Emamectin benzoate. Bids will be solicited to certified arborist for application to selected trees.
- b. Small (<8” dbh) ash on public property that are providing ecological services and are in good condition may be treated with imidacloprid by city/county staff that are licensed as chemical applicators. *(Treatment for trees of less than 8” dbh should be considered carefully. The investment is not necessarily worth the return. An ash tree does not start providing ecological services at a high enough rate to pay for itself until it is 8” dbh.)*

Treatment will be considered for high priority trees and will not be used on hazard trees, those planted in poor locations, those that have a poor condition rating or are causing damage to infrastructure.

As of 2013, the average cost for treatment:

Emamectin Benzoate (TREE-äge)	\$10 - \$12 / diameter inch at breast height
Imidacloprid (Merit)	\$5 - \$8 / diameter inch at breast height

5. Wood Utilization

Currently the City of Princeton has a compost site that is open for public use at Sylva Corporation. Similar compost sites are also located in the cities of Zimmerman, Big Lake, and Becker. Wood waste collected at these sites is contracted to be ground by a private company on an as needed basis during the summer. Ground material is taken off site and processed into various grades of mulch.

In the face of EAB, city staff will investigate the process necessary to acquire permits/licenses needed to store wood infected with EAB.

The Urban Forestry Committee will contact Great River Energy in Elk River to discuss the potential for them to accept ash material when volumes overwhelm the capacity of the compost sites.

Creative, innovative ideas will be considered for utilizing large diameter ash logs. Through collaborative efforts of the Urban Forestry Committee the city will pursue contracts with sawmills that are within the county or in other quarantined counties sharing a boundary with Sherburne County. The list for the Metro and surrounding areas is:

http://files.dnr.state.mn.us/forestry/um/twincities_sawmill_drykiln_listing.pdf

Monitoring & Reporting

The Sherburne County Urban Forestry Committee will coordinate an annual volunteer monitoring survey to monitor ash trees for signs and symptoms of EAB and to condition rate high priority ash trees.

1. Visual Scouting of public trees can be conducted by Streets and Parks staff when their daily work accommodates close proximity to ash trees.
2. Ash that are removed for reasons other than EAB will be inspected for “D-shaped” exit holes and “S-shaped, sinuous” galleries.
3. The city will participate in and support public outreach through current media.
4. Priority areas to monitor include: boulevards, parks, and all city owned property. Sink trees may be used as a method of detection. The City will work with MDA and SWCD on timing of setting, checking and removal.
5. Through the media, homeowners will be encouraged to visually survey their trees for signs associated with EAB.
6. All suspect trees will be reported to MDAs Arrest the Pest Program @ 1-888-545-6684 (voicemail) or Arrest.The.Pest@state.mn.us and a First Detector will be dispatched.

Update Ordinances & Policies

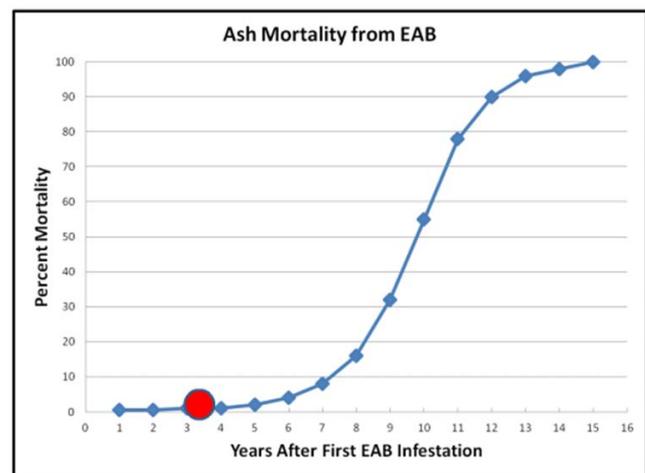
1. The City of Princeton currently references Oak Wilt and Dutch Elm Disease in a Vegetation Ordinance. This ordinance will be revised to include EAB and all diseased or infested trees.
2. The City of Princeton will initiate a tree preservation policy or ordinance to address proper sanitation measures for diseased and insect infested wood.
3. The City of Princeton no longer accepts ash (*Fraxinus* spp) in landscape plans submitted for public/private infrastructure.
4. Private landowners will be encouraged to plant alternative tree varieties through local newspaper articles, the city website and other means of communication.

Identification of Resources & Needs

1. Existing Resources for Managing EAB:

- a. Streets and Parks have licensed pesticide applicators and are capable to treat trees on public property with Imidacloprid.
- b. Streets and Parks staff are trained and equipped to conduct tree removals on public property. An average of 10-15 removals are done every year.
- c. Infested wood will be transported to an approved compost facility to be sorted, processed and dispatched.
- d. A Compost site is located at Sylva Corporation and other available Compost sites are located in Becker, Big Lake, Elk River and Zimmerman.
- e. Streets and Parks staff includes individuals that maintain their Tree Inspector CEUs and status.
- f. The City of Princeton may also utilize the Forest Health and First Detector Services of the Sherburne Soil & Water Conservation District.

Minneapolis/St. Paul



2. Additional Resources Needed for Managing EAB:

- a. The current budget will not support the anticipated cost for increased tree removals. Additional sources of funding will be required to follow manage the volume of proactive and dead tree removals.
- b. The tree inventory survey will be conducted with additional resources from SWCD staff, U of M staff, SCSU staff and volunteers.
- c. EAB infested ash trees on private property need to be managed through removal and sanitation of wood or chemical treatment (or a combination of both). The city will attempt to arrange a contract price extension for landowners dealing with EAB.
- d. Through the collaborative efforts of the Urban Forestry Committee, grant funds will be sought when available to assist with the cost of managing EAB on both public and private land.
- e. EAB Cost Calculator: <http://extension.entm.purdue.edu/treecomputer/> will assist with projecting budget needs for removals and treatment (which can be added after the survey results, combined with data form the city is analyzed).
- f. The City may need to contract tree removal services when mortality peaks, requiring additional funding not currently in the budget.
- g. The City may need to contract with certified arborists to administer Emamectin benzoate (injected with Arborjet®) – also requiring additional funding not currently in the budget.

Potential Competing Priorities

It is unlikely that existing staff will be able to manage the impacts of EAB without additional resources. Staff time is dedicated to essential services and does not currently have the ability to accommodate such an increase in workload.

Authority

1. Local Authority – City ordinance will be updated to include reference to EAB in the definition of a nuisance tree.
2. State of MN Regulation and Quarantine – “The emerald ash borer (EAB) is a serious invasive tree pest, and consequently quarantine has been placed on Ramsey, Hennepin, Houston, and Winona Counties to help slow the spread of EAB to other areas. Materials such as: ash logs and lumber, ash tree waste, ash chips and mulch, all hardwood

firewood; are now considered regulated articles by the Minnesota Department of Agriculture (MDA).

No regulated articles are legally allowed to move outside of a quarantine (untreated or treated), unless they are accompanied by a MDA certificate. MDA Certificates are only available when a Compliance Agreement (CA) is signed between the Minnesota Department of Agriculture and the company, city, county, agency, or organization interested in moving the regulated article.”-MDA.

Further information can be found in MINNESOTA DEPARTMENT OF AGRICULTURE STATE FORMAL QUARANTINE EMERALD ASH BORER **AG: #2488080-v1**

3. Federal Regulation & Quarantine - USDA **7 CFR 301.53-1 through 301.53-9** addresses federal regulations on EAB.

Communication

Currently, consistent communication regarding EAB is conducted through the Sherburne County Urban Forestry Committee, where staff from the municipalities within Sherburne County, collaborate planning and preparedness efforts.

When EAB is detected:

- Contact MDA, the MN DNR and the Sherburne SWCD.
- The city sends a press release to the local newspapers in the surrounding communities.
- Education and Outreach materials will be posted on cable channel and website.
- Email/postcards will be sent out to those who volunteered in the community tree inventory survey to inform them and acknowledge their contribution to readiness.

Education and Outreach

1. Elected Officials (city council, park advisory committee and planning commission) have been informed of the seriousness of EAB through a live presentation given by the Sherburne SWCD on behalf of the Urban Forestry Committee. They will view the “Cycle of Destruction” animation and be able to examine the larvae and adult beetle samples in addition to a sample ash branch complete with galleries. Elected officials are encouraged to learn more by visiting www.emeraldashborer.info and www.mda.state.mn.us/plants/pestmanagement/eab and <http://www.dnr.state.mn.us/invasives/terrestrialanimals/eab/index.html>
2. Streets and Parks staff will continue to attend necessary training to obtain CEUs for “Tree Inspector” status and become even more familiar with EAB signs and symptoms. Information garnered from training will be shared at staff meetings and department head meetings. SWCD may be asked to give a presentation at such meetings.

3. The City may coordinate efforts through the Urban Forestry Committee and the MN DNR in posting “Don’t Move Firewood” Signs at compost sites, in city newsletters, on billboards as well as other possible areas.
4. The Urban Forestry Committee will communicate with lake associations and townships and encourage including the “Don’t Move Firewood” message in regular newsletters.
5. In conjunction with the tree inventory survey, door hangers will be used on private homes to increase awareness about EAB with links to websites where more information can be found.
6. The City may make available on the website links to the most recent publications made available by leading experts in the field.
7. The City is coordinating educational opportunities for staff, local utilities and green industry on EAB, detection and management.
8. More technical information on EAB can be found at:

EAB University - <http://www.emeraldashborer.info/>
MN Department of Agriculture, Plant Protection Division -
<http://www.mda.state.mn.us/plants/pestmanagement/eab.aspx>

Definitions

Tree inventory survey – a method of inventorying a random sampling of urban trees to affordable establish a database of urban tree information necessary for adequate planning.

dbh – Stands for diameter at breast height, it is a standard measurement of a tree’s trunk taken at 4.5’ above the ground.

EAB – Stands for Emerald Ash Borer, *Agilus planipennis* Fairmaire in any stage of development.

Hazard tree - Any tree or tree part that poses a high risk of failure or fracture; that would result in damage to people or property.

Quarantine area—A defined geographic area from which goods may not be transported; quarantines will be established by federal or state agencies to restrict ash wood movement out of infested areas to avoid emerald ash borer infestation of new areas; *quarantines* can be applied to an individual property, township, county, or entire state.

Contact List

Mark Abrahamson	MN Department of Agriculture – Plant Protection Division	MN Dept. of Agriculture, 625 Robert St. N, St. Paul, MN 55155-2538	651-201-6505	Mark.Abrahamson@state.mn.us
Arrest the Pest	MDA			Arrest.The.Pest@state.mn.us
Ken Holman	MN DNR – Urban & Community Forestry	500 Lafayette Rd. St. Paul, MN 55155	651-259-5269	ken.holman@state.mn.us

Sherburne County Urban Forestry Committee

Gina Hugo	Sherburne SWCD	14855 Hwy 10 Elk River 55330	763.241.1170 ext 101	ghugo@sherburneswcd.org
Rodney Schreifels	Elk River - Park Maintenance Supervisor	19000 Proctor Road Elk River 55330	763.635.1123	rschreifels@ElkRiverMN.gov
Rebecca Haug	Elk River - Environmental Administrator	13065 Orono Parkway NW Elk River 55330	763.635.1068	rhaug@ElkRiverMN.gov
Mark Thompson	Elk River - Streets Superintendent	19000 Proctor Road 55330	763.635.1122	mthompson@ElkRiverMN.gov
Mike Goebel	Big Lake - Public Work Director	18041 198th Avenue 55309	763.263.2268	Mike@ci.big-lake.mn.us
Jamie Cassidy	Becker - Becker Park & Rec Director	11500 Sherburne Ave. 55308	763.200.4272	Jcassidy@ci.becker.mn.us
Joe Danielson	Becker - Public Works Director	12060 Sherburne Ave. 55308	763.200.4275	publicworks@ci.becker.mn.us
Randy Piasecki	Zimmerman - City Administrator	12980 Fremont Ave. 55398	763.856.4666	rpiasecki@sherbtel.net
Bob Gerold	Princeton - Public Works Director	705 2nd Street North 55371	763.389.2040	bgerold@princetonmn.org
Jon Sevald	Sherburne County Planner	13880 Business Center Dr NW 55330	763.765.4450	jon.sevald@co.sherburne.mn.us
Scott Zlotnik	Park & Rec Director	400 2nd Street S. St. Cloud, MN. 56301	320.650.3170	Scott.zlotnik@ci.stcloud.mn.us
(Office @ Lake George 1101 7th St. S.)				