



Winterset Tree Commission  
City of Winterset, Iowa  
Emerald Ash Borer Infestations  
Disease and Dead Tree “Readiness Plan”  
Final 2-10-16

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**Winterset Tree Commission, City of Winterset**  
**2015 EMERALD ASH BORER (EAB) INFESTATIONS**  
**DISEASE AND DEAD TREE READINESS PLAN**  
**Final 2-10-16**

In the City of Winterset diseased and dead trees on city property and right of ways are managed by the cooperation of three city departments; parks and recreation, street, and utility departments. The City formed the Winterset Tree Commission (WTC) in 2014 in anticipation of the emerald ash borer tree infestations. Active planning discussions which included the three departments began. Monthly tree inventory updates (trees cut down) have been requested. The tree board decided to create a readiness plan for diseased and dead trees due to EAB infestations. This readiness plan outlines the initial planning needs and recommended action steps for the upcoming five years. The WTC plan is modeled after ISU EAB readiness planning guideline.

As we all know, and science demonstrates, trees provide shade and lower summer temperatures by evaporating water through their leaves. In addition trees provide value by intercepting storm water, preventing erosion, sequestering carbon which removes the air pollutant, and releases oxygen. Trees can also have a positive psychological and sentimental value that is difficult to quantify. Therefore the value of shade trees to City residents (appraised value and benefits) greatly exceeds their costs. For everyone's benefit the City's goal will be to maintain an overall forest canopy of greater than forty percent (40%).

## **INTRODUCTION**

The City of Winterset recognizes the need to be prepared to respond to the presence of the emerald ash borer (EAB), a destructive, highly invasive, non-native insect that has the potential to affect the City's urban forest for years to come.

Goal: The short term goal of this Plan is to identify appropriate and effective response actions to be taken in the event that the EAB is discovered within city limits of Winterset s. These actions include prevention, detection, communication, management, and reforestation activities.

Goal: The long term goal is to build and sustain a healthy diversified tree canopy in the city of Winterset.

The City is 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 reforestation recommendations.

## **OBJECTIVE**

The objective of this Readiness Plan is to minimize the destructive effects of EAB on the City's tree population; and to promote the planting of a wide variety of new trees. Currently we know Ash trees are a valuable component of the City's forests. They have been widely planted throughout the city on both public and private properties and grow naturally in wooded areas throughout. However the tree canopy will be greatly affected by the upcoming EAB infestation similar to the lost Dutch Elm tree forests in the 1960's.

The EAB has recently been confirmed in adjacent counties, and is expected to be confirmed in Madison County anytime. The WTC is recommending taking a proactive approach to this invasion; it will enable the City to address public and private needs in an efficient and cost effective manner. This Readiness Plan lays out key steps to take now and will continue to be an evolving document with revisions being made as more information becomes available on the EAB and its control.

## **BACKGROUND**

The EAB, *Agrilus planipennis*, is a small, slender, elongated (3/4" long, 1 1/8" wide), bright metallic green beetle, native to Asia. It likely arrived in the United States (in Michigan) from China sometime in the mid-1990s, probably traveling with ship cargo.

The EAB has a one (1) year life cycle, emerging between May and July. The EAB kills trees relatively quickly and affects North American ash whether healthy or stressed. The EAB deposits eggs on the surface or in cracks of ash tree bark, which hatch in seven (7) to ten (10) days, to release larvae that feed on the tree's inner bark. Within several weeks, this feeding creates S-shaped tunnels in the tree's inner bark that wind back and forth, becoming progressively wider and disrupting the tree's ability to transport water and nutrients, eventually killing the tree. Adult EABs emerge from trees headfirst, creating very small (1/8" diameter) D-shaped exit holes that leave minimal evidence of infestation until the canopy begins to die back. Affected trees quickly decline in the second growing season and are usually dead by the third season.

## **RESPONSIBILITIES**

The City is responsible only for trees located in right-of-ways, parks, city owned properties, and green spaces. Street trees and trees planted on other developed (mowed) publically owned properties will be the highest priority. Trees on undeveloped

public right-of-ways and properties will be a lower priority. Trees located on private property are the responsibility of the property owner. The City is developing the authority to address and remove any possible safety risk to the public, which may be caused by a tree located on private property.

The WTC recommends the City only address trees on private property which are an immediate danger to the public. The tree commission is encouraging all private homeowners to adopt the same preparedness objectives the city will be following. The objective to be prepared to see diseased and dead ash trees on your property in the upcoming five years. (Science is showing that once a tree becomes diseased it will likely die within 1-3 years); be prepared to remove dead and diseased trees; and begin planting a variety of hardwood trees now. In addition to excluding planting ash trees, the WTC suggest residents use the ISU Forestry and Extension websites in selecting a wide variety of tree replacements.

### **TREE POPULATIONS**

In 2014 the City of Winterset began planning for a street tree inventory. An inventory of trees on city properties, including park areas and other developed properties was completed in the summer of 2015. The tree inventory includes current tree health and condition information. The inventories did not include trees in: wooded areas; along park wood lines; undeveloped right-of-ways; and roadside ditches and alleys. Information from this study will be used to help guide the City as it addresses the EAB issue.

**Other Trees:** The City's woodlands, hills, bluffs, and river bottom fall within the native range of tree species. There is no inventory of these trees; preserving woodland trees is impractical and cost prohibitive at this time.

### **MONITORING/DETECTION**

Given the City's location near Middle River, there will always be the potential for EAB presence. Ash trees that die back to the stump in woodland areas will re-sprout. This sucker growth will develop and eventually be re-infested by the EAB.

All public ash trees should be routinely inspected for possible EAB infestations. Conducting debarking surveys on selected ash trees is recommended. The City will prioritize and remove high risk diseased public ash trees. Appropriate City staff and contracted tree removal companies should be trained in the proper procedure for bark-stripping and identification of EAB larva, pupa, and emerging adults.

Residents, garden clubs and local tree services are encouraged to look for signs of possible EAB infestations, and to notify the Parks and Recreation Department (515-462-3258) or the ISU Insect Diagnostic Clinic at (515) 294-0581 if they suspect that they have discovered EAB within the City.

### **PREVENTION/TREATMENT OPTIONS**

There has been confusion and debate surrounding the question of whether insecticides are an effective management option for EAB. Research and experience has shown that insecticides can protect healthy problem free ash trees from being killed by EAB. In 2011, the Coalition for Urban Ash Tree Conservation released a "consensus document" co-signed by twenty (20) researchers strongly endorsing ash tree conservation.

Current EAB treatment protocols are now available that can preserve ash trees from becoming infested. However treatment must be weight against the environmental risks. Research suggests that the best control can be achieved when insecticide treatments are started prior to or in the earliest stages of infestation before visible symptoms are present or possibly the year before trees are infested. Insecticide treatments for all but one chemical formulation must be repeated each year. Tree-age (emamectin benzoate) gives two (2) years of protection. However, there is no treatment that is 100% guaranteed to prevent EAB infestations.

Any company that offers chemical treatment services must have an Iowa Pesticide Application Business License as well as Certified Pesticide Applicators License, certified in the appropriate categories, through the Iowa Department of Agriculture. Research studies have shown that systemic treatments of tree-age (emamectin benzoate) in early spring can prevent EAB infestation. Trees must be re-injected every two (2) years for the remaining useful life of the tree.

It has been shown that healthy trees have a higher chance of surviving than declining trees. Due to the expense and frequency of these applications it is the recommendation of the WTC that the City does not try to treat all of the trees. Significant, sizable, or otherwise important healthy ash trees may be primary candidates for special management, such as preventative treatment. The City's approach is to continue monitoring the progress made in research studies. The City needs to remove infested trees as they are identified. For the latest information review ISU Forestry website.

## **REMOVAL OF TREES**

**Public Trees:** If EAB is positively identified by the City's Park and Recreation Department staff, the City plans to aggressively remove these trees. Removal is an important strategy in attempting to contain the spread of EAB; because removal and destruction of infested trees kills the larvae and prevents the further spread of adult EABs. Removal limits the area to which the adult EABs can easily spread, which should slow the spread of any infestation. As these trees are removed, they will be disposed of following the specific protocol outline on the city's website.

The City will use the inventory of all public trees to manage the removal of all species of disease or dying ash trees. The inventory will be used to establish a budget and time frame for the removals and reforestation needs. Prioritization will be based on risk abatement, nuisance, and budget. High risk diseased trees will be prioritized and removed first within the City's budget. The trees will be marked and tracked for removal. Trees that need to be removed will be handled in accordance with current Iowa Department of Agriculture and Land Stewardship standards, such as transportation, chipping the tree to the proper chip size recommendations, and ensuring that the logs are properly processed at their final location.

Unless specifically mandated by the State of Iowa, the City does not plan to remove any healthy ash trees. In years to come, parasitic wasps and other predators like wood peckers could significantly slow the spread of the EAB. In the future, new management tools may be developed that will hold EAB populations to less damaging levels, having a reduced economic impact.

**Private Trees:** Residents are urged to call the Parks and Recreation Department to report any suspected infestations or insects believed to be the EAB. Inspections of ash trees on private property will not continue once an initial EAB infestation is confirmed within the City. Rather questions and assessments will be referred to local garden clubs such as ISU Master Gardeners or the ISU Forestry website. As discussed earlier, preventative insecticide treatment of ash trees has been shown, under certain conditions, to be effective in preventing EAB infestations. However, there is no treatment that is 100% guaranteed to prevent EAB infestations.

ISU Forestry, IDNR and ISU Extension websites provide homeowners with literature, resources, and guidance on various steps that they may consider that might help prevent EAB infestations, should they wish to treat their healthy ash trees.

In order to best manage EAB throughout the community, privately owned infested trees will need to be removed in a timely manner in accordance with City Code Ordinances. This requires property owners remove and destroy infested trees within a specified

period of time after notice has been served. Removals on private property will be the responsibility of the property owner. All removals shall be done in a manner compliant with the current regulations provided by the Iowa Department of Agriculture and Land Stewardship. Any deviations from these regulations shall be reported to the proper agencies including the DNR. The goal remains to remove and properly dispose the diseased and dead ash tree to slow further spread.

### **DISPOSAL OF DEBRIS**

In the event that EAB is identified within the City limits, it will be crucial to properly handle infected wood debris. The City should explore partnering with nearby private wood processing centers. The City should look for potential markets to offset the cost of processing tree debris; with biomass energy production and sawmilling being two of the possible markets. Debris of trees infested by EAB shall be taken to locations specified by the City or the IDNR.

### **REFORESTION**

The City's Park and Recreation Department will have oversight of all public tree replacement programs within the city limits. The department will work to obtain additional funds to assist with reforestation. As the budget and planting policy guidelines permit, ash trees will be replaced with species that are appropriate to the planting site; and increase overall species and age diversity of public shade trees. In addition the entire community will be encouraged to replace diseased trees on private property; supporting the city goal to maintain a varied tree canopy of 40 percent or greater.

### **DIVERSIFICATION**

Species diversification is especially important when species-specific pest problems arrive (such as Dutch elm disease or EAB). Without diversification, our community is much more vulnerable to catastrophic losses. In general, no genus should make up more than ten percent (10%) of the City's tree population; and no one type of tree should make up 30% of the City's Population. The City will work toward this goal for its entire street tree inventory. City residents will be encouraged to plant trees to replace any ash tree removed due to EAB. A variety of recommended replacement trees are listed on the ISU Forestry, IDNR, and ISU Extension websites. At this point in time, planting maple trees is discouraged in Winterset due to their high percentage of our tree canopy.

## **TREE REPLACEMENT PROGRAMS**

Public Trees – The City’s Parks and Recreation Department will work to develop and implement a City annual street tree replacement program. The WTC proposes that street trees will be replaced at no cost to adjacent home owners.

Private Trees – The City’s Parks and Recreation Department will encourage private property owners to replace lost ash trees with “site appropriate” shade and evergreen trees. It is to everyone’s benefit that the City maintains an **overall forest canopy of at greater than forty percent (40%)**.

## **POTENTIAL COSTS**

The value of shade trees to City residents (appraised value and benefits) greatly exceeds their costs. Trees provide shade and lower summer temperatures by evaporating water through their leaves. Trees provide value by intercepting storm water, preventing erosion, sequestering carbon, removing air pollutants, and releasing oxygen. Trees also slow the winter winds reducing heating costs. Trees can also have a positive psychological and sentimental value that is difficult to quantify.

## **REMOVALS**

The arrival of the EAB will have a financial impact on the City. It is unlikely all ash trees will have to be removed within one (1) year; however, the City anticipates that removals will increase yearly for a five year period when the EAB has established itself in Winterset. There are approximately 230 ash trees on developed city property. The cost to remove all of these trees depends on the diameter of each tree and other hazards. However the City is encouraged to anticipate the upcoming costs over a five year period.

There will be a yearly cost to the City for removal of trees regardless of if they are done by City employees or private contractors. The consultant (who conducted the tree inventory) identified additional costs for approximately 40 non-ash City trees that need to be removed due to safety and diseased reasons. WTC believes the City should expect increase removal efforts beginning in 2016; with the goal to prevent their dead and dying trees from becoming a hazard to the public. This may require hiring more trees removed by private contractors.

## **PUBLIC EDUCATION**

Public outreach will be a key component for the City in managing an EAB infestation. Current education and communication will enable the City’s the ability to make good decisions and mitigate potential negative reaction. The City will partner with

community garden clubs to provide information campaigns will focus on asking residents to:

- Stay informed and follow directives from the Iowa DNR – Check for periodic updates on these websites: [www.iowadnr.gov/forestry/eab](http://www.iowadnr.gov/forestry/eab)  
[www.emeraldashborer.info](http://www.emeraldashborer.info)  
[www.extension.iastate.edu/pme/emeraldashborer.html](http://www.extension.iastate.edu/pme/emeraldashborer.html)  
[www.iowatreepests.com/eabregulations.html](http://www.iowatreepests.com/eabregulations.html)
- Host and attend public outreach meetings – Attend public meetings that will address the discovery of EAB in Central Iowa and EAB identification and preventative tree treatments will be reviewed.
- Review and distribute EAB information – EAB educational information will be available on-line at the City's website ([www.cityofwinterset.org](http://www.cityofwinterset.org)). Partner with local garden clubs to extend educational options
- Help monitor and report EAB – Learn about EAB and monitor your ash trees for the pest. If you believe you have found either the insect or an infested ash tree, call the City's Parks and Recreation Department; the City will respond promptly to all such calls until an EAB infestation has been positively confirmed within the city of Winterset.
- Care for ash trees – Care for your private trees routinely and stay abreast of treatment information. If EAB is within fifteen (15) miles, consider treatment as a care option. It is recommended that residents use ISA-certified arborists when hiring tree care companies.
- Plant for diversity – Do not plant ash or maple trees on your property. **Plant underutilized tree species** instead. The City's website has a posting of specific species for you to consider ([www.cityofwinterset.org/TreeCommision](http://www.cityofwinterset.org/TreeCommision))
- As of February 2014, all 99 counties in Iowa have been quarantined by the Iowa Department of Agriculture and Land Stewardship to slow the movement of this destructive pest to non-quarantined areas/states. There is no longer a legal restriction moving ash and ash products within the state of Iowa. However **DO NOT TRANSPORT FIRE WOOD OUT OF THE STATE OF IOWA.**

## **NOTIFICATION**

If a notification is received reporting the possible discovery of the EAB within the City limits: The City or designated representative will investigate the complaint as soon as possible. If the City's Parks and Recreation Department or designated representative believes the tree is infested with EAB, the Iowa DNR Urban Forestry Division shall be contacted at (515) 281-5600. A branch debarking sample shall be taken and submitted to: STATE ENTOMOLOGISTS OFFICE 2230 South Ankeny Blvd. Ankeny, IA 50023 (515) 725-1470 •

The City Manager shall notify the City Council about the possibility of the presence of the EAB within the City limits. Upon positive identification: The City's Parks and Recreation designated representative will notify the City Manager about the positive identification. The City Manager shall share the information about the positive identification with the City Council and a press release will be prepared and sent to media contacts and the public. E-News article will be prepared and posted on City website.

The City plans to use door hangers and distribute to neighboring properties if an EAB infestation becomes known. Trees within two (2) miles of positive find will be assessed for EAB activity within a reasonable time frame. If an additional EAB infestation is discovered, an expanded survey will be initiated per the new find. Wood from EAB infested trees must be taken to a pre-approved location for disposal. Regulatory and control activities will be initiated as necessary.

### **COMMUNICATION PLAN**

If the EAB is positively identified within City residents, landowners, and businesses, the immediate area will have a need for pertinent, current information. The public will be notified only after the presence of EAB has been confirmed by the proper authorities. Communications will take place via the following:

- Press Release: The City will prepare an initial press release within two (2) days of confirmation of the EAB that will include:
  - Announcement of find, summary of events leading to find etc.
  - The latest education, any regulatory issue, and what happens now
  - Partners in response (relevant agency officials )
  - Winterset Newsletter and website: Information about the finding will be posted on the City's website.
- Door Hangers: Information about the finding will also be included in a handout/door hanger to distribute to properties near the infested tree.

## **Appendix A**

### **Preparing for EAB infestations\CHECKLIST:**

**Determine and communicate to residents the City's comprehensive ash tree plan.** The city's comprehensive plan describes how the City intends to manage ash trees in a variety of scenarios and directs the decision making process with regards to the following issues:

- Public Ash Trees
- Private Ash Trees
- Treatment Options
- Woodlot Management
- Monitoring
- Wood Debris and Disposal
- Replanting Plan
- Public Education and Communication

### **Update and revise appropriate public ordinances.**

Review current ordinance, address both public and private trees. The City will need to establish its authority in the removal of all dead, dying, or diseased ash trees on private property. The ordinance will include:

- Declare ash trees, whether living infected or dead, a public nuisance.
- Prohibit the planting of ash trees.
- Establish authority to inspect ash nursery stock and ash products. o Establish authority to inspect private ash trees.
- Establish authority to require removal of public ash tree.
- Affirm authority of the City Forester for maintenance and management decisions regarding ash trees.
- Define a penalty for the violation of above provisions.
- Define provisions by which public ash trees can be treated and preserved at the expense of the private property owner, as opposed to possible removal.
- License those engaged in the business of caring for trees. Require proof of adequate liability and workman's compensation insurance.
- Create an electronic and comprehensive public tree inventory, which includes street trees, park trees, green spaces, and trees on all other publically owned properties.
- A computerized inventory is a priority. It is critical that the inventory be kept up to date.

- Locate all public ash trees with GPS coordinates, measure diameter at breast height (DBH), and record species.
- Establish a condition rating, planting lawn width, and proximity to overhead power lines.

**Train in house forestry personnel, tree contractors, and parks & recreation department staff.**

Conduct surveys to look for EAB. Identify and educate the core internal team. Provide staff training to Forestry, Parks, Public Works, and other local tree authorities. Explore opportunities for professional service work/contract with a Certified Arborist. Educate Mayor, City Council, and other City officials; advise them on the potential for tree loss in the community and the potential cost of tree loss and replacement programs.

**Locate a possible processing facility for large quantities of wood and develop procedures for dealing with infested material:**

Explore opportunities and partnerships with other local business, governments, and communities; Explore wood utilization and marketing opportunities; Fire wood restrictions; Cut and burn locally and purchase properly labeled firewood; Determine costs associated with processing and shipping of infested material.

**Establish replanting program:** Review current tree planting program; Update recommended street tree species planting guide; Research a private tree removal/replacement hardship program; Explore new planting program opportunities; Explore program funding sources; Development of a replanting program budget.

**Develop and strengthen community education and outreach:** Develop a local outreach program to inform citizens of local protocols; Develop and add EAB informational web page on City website; Network by attending meetings and workshops for ongoing education and information; Include public officials and decision makers in public awareness and training events when appropriate.

**Tree Removals:** Review in-house equipment needs; Review in-house labor and training needs; Evaluate insurance rate associated with mass tree removal operations; Review current tree removal contracts; Develop contract specifications; Develop a Request for Proposal/bid document; Development of a tree removal budget; Research tree service permit requirement process; Tree injections; Determine how many and which trees are good candidates for possible treatment; Explore in-house vs. contractual treatment options; License companies providing tree removal and health

care services; Explore and adopt a public ash tree program; Create a public ash tree treatment permit.

**Budgeting:** Identify possible funding sources and start budgeting for those early anticipated costs: In the fifth year of an infestation trees will die rapidly and removal costs will sky rocket according to cities that have been affected already; The cost of dealing with an emerald ash borer management plan can be spread out over time by identifying unhealthy trees and removing them early, treating the healthier ash trees, and doing some of the work in house.