

# TOWN OF GREENVILLE

## Emerald Ash Borer Readiness Plan



**January 2010**

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## EXECUTIVE SUMMARY

The Town of Greenville has recognized the benefits that a properly maintained urban forest provides to the quality of life, air pollution reduction, energy conservation, increased property values and reduced maintenance costs over time. To develop a system to increase these benefits through effective management, the Town contracted with Wachtel Tree Science and Service in 2009 to conduct an urban forest inventory update and from that data, develop a strategic/management plan.

Below is a summary of Greenville's urban forest along with some general observations made by Wachtel.

### **STREET TREES**

- A total of 1,376 stocked sites and 288 potential planting sites have been inventoried along Town of Greenville street right-of-ways, primarily in newer subdivisions where curb and gutter is present.
- 85.8% of inventoried street trees in the 2" to 5" diameter classes have a condition class rating of > 70%.
- The current street tree population is 82.7% of full stocking in the neighborhoods where the street tree inventory was conducted.
- 36 different species and 21 genera make up the street tree population, with Honeylocust (12.1%), hybrid Elm (8.3%), Katsuatree (7.2%), Hackberry (6.5%) and Kentucky Coffeetree (5.8%) occurring most often.
- Total street tree value is estimated at \$69,602.05, with an average individual tree value of \$50.58.
- Town of Greenville street trees are extremely young with 100% in the 2 - 5" diameter range.

### **PARK/MUNICIPAL PROPERTY TREES**

- A total of 1,128 trees have been inventoried at the five major parks and two neighborhood parks that are under Town jurisdiction. Additionally (10) public facility locations have been inventoried including: Town property, well sites, lift stations, stormwater detention areas and the Town Cemetery.
- 65.9% of park/municipal property trees in the 1" to 10" diameter classes have a condition class rating of > 70%, while 17.1% of trees 11" and greater diameter have a condition class rating of > 70%.

- 81 different species and 41 genera make up the park/municipal property tree population, with Silver Maple (15.2%), Northern White-cedar (14.4%), Crabapple (9.5%), Colorado Spruce (5.7%), Norway Maple (4.3%) and Green Ash (3.9%) occurring most often.
- Total park tree value is estimated at \$317,485.05, with an average individual tree value of \$281.46.
- Town of Greenville park trees are fairly young with 81.8% in the 1 - 10" diameter range.

### **GENERAL OBSERVATIONS**

- The Town's streets are slightly over-planted with Honeylocust. Katsuatree should not continue to be on the planting list until it is determined why there has been so much mortality and poor vigor. Also future plantings of English Oak species should be limited because of some of the same issues beginning to arise.
- Any plantings of Ash genus (*Fraxinus*) should be suspended for at least the next five years until the full ramifications of Emerald Ash Borer (EAB) are understood.
- Being a relatively young urban forest, a resource of this magnitude justifies expenditures for early and continuing properly managed care.
- The current level of local funding is not sufficient to manage the existing public trees for the next six year period. This especially becomes evident in 2013 when "Routine Pruning" of Park/Public Property trees kicks in.
- Begin the planning process that within 3 to 5 years, increase the time spent on forestry activities by the Director of Parks and Forestry from his current 20% to 40%.
- It is imperative that the Urban Forestry Board and Town staff begin to draft a comprehensive urban forestry ordinance for submission to the Town Board for action. The "Arboricultural Specifications Manual" is an excellent, concise document. Some language contained within this document should be incorporated into the tree ordinance.
- Policy recommendations, maintenance schedules and budget requirements are outlined in the included management plan to assist the Town of Greenville in both short and long term municipal tree maintenance planning.

## DEFINITIONS

**dbh** – diameter at breast height; represents the diameter in inches of a trunk cross-section measured at 4½' above ground level; a basis for estimating or identifying tree volume, value, management needs and costs, utilization options, etc.

**EAB** – the emerald ash borer insect; as an adult it measures approximately ½" in length by 1/8" wide, is metallic green in color and somewhat bullet shaped. The larvae can reach a length of a little more than 1" in length, are white to cream colored, have a 10 segmented abdomen with a pair of brown, pincer-like appendages on the last segment.

**EAB readiness plan** – a document delineating local EAB readiness activities and processes; includes scope & purpose, authority, responsibility, policies & procedures, actions/tasks, available resources, forms & contracts, technical references & support information (such as surveying and reporting protocols), and similar content.

**Infestation** – refers to an area where the ash trees have been positively identified as having a sustained population of EAB.

**Preemptive removal** - in the case of EAB it refers to removing trees prior to them becoming infested with EAB.

**Quarantine area** – a defined geographic area from which goods may not be transported; **quarantines** will be established by federal and state agencies to restrict ash wood movement out of infested areas to avoid emerald ash borer infestation of new areas; **quarantines** are usually applied to a county or an entire state.

## 1.0 PURPOSE AND SCOPE

This Emerald Ash Borer (EAB) Readiness Plan has been drafted to outline the impacts of an EAB infestation in the Town of Greenville and identify the essential personnel, procedures and resources, both human and fiscal, needed to combat the Emerald Ash Borer.

The Town of Greenville is a rapidly growing community with a population of approximately 10,000 and is located just west of the City of Appleton in Outagamie County. Greenville has been designated as a Tree City USA by the National Arbor Day Foundation for 8 years, 6 of which the Growth Award has also been achieved. Greenville takes great pride in its urban forestry program and like its water, sewer and road systems, Greenville's urban forest is an asset that must be carefully managed both in its lifespan and its economic and ecological benefit to the community. Unlike other capital infrastructure, however, the urban forest appreciates over time.

The main goal of this EAB Readiness Plan is to minimize the economic, ecological and aesthetic impacts of the Emerald Ash Borer on the Town of Greenville and the surrounding communities when it is discovered in the area.

## 2.0 EAB BACKGROUND

Emerald Ash Borer (*Agrilus planipennis*) is an invasive wood boring beetle that feeds on the tissues under the bark of ash trees (*Fraxinus spp*) and kills them. The metallic green beetle is native to East Asia and was accidentally imported to the United States within the wood of shipping crates from China. EAB was first discovered in North America near Detroit, Michigan in 2002. Since then the beetle has spread to several eastern and midwestern states as well as Canada. In 2008, EAB was discovered in Wisconsin in the village of Newburg, located in Ozaukee County. Since then it has been discovered in several other locations across the state, resulting in several counties being quarantined.

EAB is 100 percent fatal to our native ash trees of any size, any age, healthy or unhealthy, and typically kills the host tree within 2-4 years. The larva (the immature stage of EAB) spends its life inside ash trees, feeding on the inner bark where we cannot see it. This feeding disrupts the trees' ability to transport water and nutrients, causing the tree to starve and eventually die. The adult beetle is metallic green in color and emerges through the bark of the tree in early summer, leaving a D-shaped exit hole.

On its own, the beetle will only fly a few miles. However, it is easily and quickly transported to new areas when people inadvertently move emerald ash borer larvae inside of infested firewood, ash nursery stock, and other ash items. It is estimated that more than 50 million ash trees are dead or dying in the Midwest because of this insect.

### 3.0 MUNICIPAL AUTHORITY TO CONTROL EAB AND DESIGNATION OF RESPONSIBILITY

All authority which the Town of Greenville has currently to control EAB is granted through federal regulations and state statutes. The Town does not currently have a comprehensive urban forestry ordinance that can be used to control and prevent the spread of tree pests and diseases. It is recommended that when an urban forestry ordinance is developed that it addresses these problems.

It will be the responsibility of the Town Forester or his/her designee to carry out the provisions of applicable ordinances and the administration of this plan.

### 4.0 PUBLIC TREE ASSESSMENT

#### 4.1 Public Trees

In 2009, with the financial assistance of an Urban Forestry Grant from the Wisconsin Department of Natural Resources, the Town of Greenville completed an inventory of all publically managed trees, including street trees, parks, cemeteries and all other Town owned properties. This inventory found that there are a total of 2,476 trees on publically owned lands. Of the current tree inventory, there are 72 ash trees which represent 2.9% of the total tree population. 57 (79.2%) of these ash trees are located on park land with the remainder being located on other town owned properties. Fortunately, Greenville's street tree program was started after the discovery of EAB and there are no ash trees located along the streets. The average diameter of the ash population is only 4.9" with the largest tree being 22" in diameter. The average condition rating of the ash population is 58.1, which equates to a Fair to Good rating. Given this data, it is calculated that Greenville's total ash population is worth approximately \$17,569 with the average tree being valued at \$244.

Areas not included in this inventory include three wooded natural areas located in the parks which comprise a total of approximately 16.2 acres. While these areas were not completely inventoried, they were inspected to get a general idea of the ash population contained within them. All three natural areas contained ash as part of the stand, some areas more prevalent than others. The best estimate is that these areas could contain somewhere in the neighborhood of 500 additional ash trees.

#### 4.2 Private Trees

Greenville is a community that has seen massive residential growth in the last 10-20 years, particularly the last five. Prior to this rapid development Greenville was primarily an agricultural community. Given this development history along with the fact that ash has been a popular tree in residential landscaping, there is likely a significant ash population located on private residential properties, though they are likely small in size

for the most part. This is the area that would result in the highest impact on the community in the event of an EAB infestation.

There are two large wooded wetland areas located within the Towns boundaries along with some smaller pockets of woodlands located on private property. Though these areas potentially contain a significant amount of ash trees, they likely would not contribute much to wood disposal needs as these trees would likely be left standing in the event of an EAB infestation.

## 5.0 ASSESSMENT OF EXISTING RESOURCES

### 5.1 Existing Staff Resources

Greenville's urban forestry program is operated through the Park, Recreation and Forestry Department with assistance from the Public Works Department. The Director of Parks and Forestry serves as the Town Forester, managing all urban forestry activities. The majority of the planting operations are done by private contractors along with some of the larger pruning and removal operations. The Parks, Recreation and Forestry Department has two fulltime labor positions that perform minor pruning and removals along with occasional planting. This small staff has little forestry training and is usually busy with park maintenance duties.

The Public Works Department is comprised of four full time employees including the supervisor and is responsible for operating the yard waste site and monthly brush chipping. They are also available to assist in other areas when needed.

### 5.2 Equipment Resources

The following list of equipment is available for forestry operations through the Parks and Public Works combined fleet:

- 1998 Ford F-150 pickup truck
- 2006 Chevy 3500 dump
- 2004 GMC Topkick dump
- 1999 Sterling single axel dump truck
- 2006 Vermeer Chipper
- 2007 Bobcat Toolcat

There are also other pieces of larger equipment that is available if needed. The Town does not own a lift truck and will occasionally rent lift equipment for forestry operations if needed.

## 6.0 MANAGEMENT RECOMMENDATIONS

### 6.1 Monitoring and Detection

The State of Wisconsin has been conducting targeted surveys of high-risk areas since 2004. Surveys have included destructive sampling of girdled ash trees and deployment of the purple prism traps throughout the state. Keeping up to date on the results of the state's surveying efforts will be Greenville's main method for monitoring the spread of EAB in Wisconsin and its proximity to the area.

The Town 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.

### 6.2 Removal

Removal of ash trees may be conducted as an infestation is discovered or in a systematic fashion prior to the know presence of the borer. Given Greenville's low public ash tree population and size, preemptive removal is not necessary. While this means that healthy ash will not be systematically removed, trees that are showing any signs of decline before an infestation is discovered will be given priority for removal.

Once EAB is discovered in the immediate area, any public ash trees that do not qualify for chemical treatment will be scheduled for removal. Natural woodland areas will be addressed as an infestation is discovered and only trees that pose a safety hazard will be removed. The remainder will be left standing. The total cost of removing Greenville's managed ash population (excluding natural areas) is estimated at approximately \$4,200. Removal of EAB infested trees will be manageable with the current staff and will be done in house.

The removal of infested ash trees on private property will be the responsibility of the landowner. The Town will not force removal except in the instance where public safety is concerned. While Greenville does not currently have a hazard tree ordinance, the public nuisance ordinance will be applied in this case. It is important that a hazard tree ordinance is developed in the near future.

### 6.3 Chemical Treatment

Chemical treatment of ash trees with a systemic insecticide has been shown to be effective in both research and field studies. The trunk injection method applies the product directly into the tree's vascular system and provides the best and longest

treatment. Research has shown that Emamectin Benzoate (Treeage) can be effective for two and possibly three years in northern climates. Trees must be treated perpetually in order to be safe from EAB.

In many cases communities that have elected to treat their ash trees have done so in order to buy time and stretch out the cost of removing all the ash at once. Because Greenville has a small population of ash trees the decision to treat rather than remove would be in order to preserve a quality ash tree because of its value. The cost of treating a tree for its lifetime would be a significant investment and should be considered closely because if treatment is stopped the tree will become susceptible to EAB again. Treatment should only be considered for ash trees of a substantial size and in good condition. Given the small size of Greenville's ash population, in most cases removal and replacement would be the more cost effective option for Greenville. Treatment may be considered for trees with a DBH of 8" or higher and a condition rating of 50% and higher. By using these criteria, Greenville has 14 trees that would be considered for possible treatment. If all 14 trees were to be treated it would cost approximately \$2,000 every two years. The decision to treat trees will be done on an individual basis and will be determined when EAB is discovered in the area.

#### 6.4 Disposal and Utilization

The Greenville Public Works Department operates a yard waste site that accepts brush from Greenville residents. The brush is run through a chipper that can handle material of 15" in diameter or smaller. The Town does not accept any material that cannot be run through the chipper. The Public Works Department also collects and chips brush roadside once per month. The yard waste site and brush collection are available to Greenville residents only; businesses may not use these services. For Town owned trees, all wood waste smaller than 15" is chipped. Wood that is chipped is made available to Greenville residents as mulch for free. There has not been a problem getting rid of this material.

Given Greenville's low public ash population and the small size of the trees, current wood waste disposal methods should continue to work effectively. Waste from private tree removals will likely increase the amount of brush at the yard waste site and curbside pick-up. Even with an increase it should not be more than the current equipment can handle. The current staff would likely also be able to handle the increased workload. The current annual budget for brush chipping in Greenville is about \$12,000. If there is a 25% increase in workload because of EAB infested material there would be an increase of \$3,000 needed in this budget. The disposal of large wood waste will still be the responsibility of the landowner or the tree care businesses. Greenville does not have the resources to handle large wood waste.

Wood utilization will be explored for ash removed from any publicly owned natural areas. The trees located in these areas are larger in size and are likely to contain more value for lumber. The managed public ash tree population is not of enough size or quality to consider for lumber utilization.

## 6.5 Replanting

Given the low population of ash trees and zero ash trees along the streets, a tree replacement program for removed ash trees is not needed. Greenville will follow its typical replanting policy of replacing a removed tree if the site conditions warrant. If all removed ash were to be replaced it would cost the Town approximately \$14,400, though it is unlikely all locations would be replanted. Species will be selected based on the site conditions and in order to improve the diversity of the total tree population.

## 7.0 PUBLIC EDUCATION AND COMMUNICATION

### 7.1 Communication

When the Emerald Ash Borer is discovered in Greenville or the immediate area the first line of communication will be done internally. The Town Board and all departments will be notified of the situation and meetings will be scheduled to discuss how the discovery will affect Town operations. The highest initial impact will likely be phone calls from concerned citizens. A frequently asked questions list will be developed and distributed to employees to inform them on how questions will be handled. Most EAB questions will be forwarded to the Town Forester.

Communication to the public will likely be done via state officials. Information specific to Greenville will be distributed to the public via the town website, town newsletter and possibly a press release to the local newspaper.

### 7.2 Public Education

Public education will be a large part of Greenville's response to Emerald Ash Borer both before and after an infestation is discovered. Some educational materials that have been used already include posters and yard signs. The town newsletter and website will also be used to keep the public informed on the most up to date information available. Pre-infestation information will be focused on informing the public on the existence of the problem and how spreading EAB can be prevented (i.e. moving firewood).

Once an infestation is discovered in the area additional educational materials will be made available to the public. These will focus on how the Town will handle the infestation and policies related to wood disposal, hazardous trees and preventing further spread. The dissemination of this material will be done via the website, newsletter, press releases and signage at the yard waste site.

## 8.0 CONCLUSION

Greenville's public ash tree population is quite low and relatively small in size. The impact of an EAB infestation in Greenville should be minor and not have much of an effect on daily operations. The total cost of managing an EAB infestation in Greenville would be approximately \$27,600. If this cost is spread over a period of three years there would be an increase of \$9,200 in the annual budget. This is a very manageable number, especially considering what most other communities are facing. There may be a higher impact on private property though Greenville's recent rapid growth means that most trees in developed areas are small in size and will not generate an overabundance of wood waste. The most important aspect of this plan is the public education component. It is important for the community to realize that even though an infestation may not have a devastating effect on Greenville, they can play a part in preventing and slowing the spread through properly handling infested material.