



Village of Little Chute
2012 Emerald Ash Borer
Readiness and Response Plan

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Table of Contents

Funding Statement.....	3
How to use this plan	3
Emerald Ash Borer (EAB).....	4
EAB Mission Statement.....	6
EAB Readiness Plan Definition	6
State and Federal Regulation	7
Executive Summary	7
Community Readiness Team.....	10
Ordinances	14
Ash Inventory	15
Ash Pruning and Removals	15
Inventory Based Cost Projections.....	16
Treatment of Ash Trees.....	17
Planting	20
Management Strategies	21
When EAB is Found in Little Chute.....	22
Wood Disposal	23
Funding	24
Staff and Equipment	24
Public Education and Awareness.....	25
APPENDIX A: EAB State and Federal Regulations.....	26
APPENDIX B: Village of Little Chute Public Officials	37
APPENDIX C: Key Points regarding EAB Treatment	39
APPENDIX D: Public Education Material	42
APPENDIX E: Other Communities Management Strategies.....	44

Funding Statement

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The Village of Little Chute is located in Outagamie County, Wisconsin.

How to Use This Plan

Management of the Emerald Ash Borer (EAB) within a community can vary year to year, month to month, by location, tree size, neighborhoods, safety factors and budgets along with a host of other components. This readiness and response plan poses questions and the associated options in managing EAB. Management decisions will change based on circumstances but being prepared for these changes and knowing what options are available will allow for the most cost effective management while providing the greatest urban forestry benefits to the community.

The questions in this plan when possible are addressed with several choices or options. The options and their associated outcomes are listed following each question. The Village of Little Chute will need to decide what options, or combinations of options are best suited for their situation. The best case scenario (aside from never having an EAB infestation which is very highly unlikely) is the readiness and response plan has everything in place prior to the infestation. Steps on preparation and planning will be repeated, revisited, and overlap as they connect together.

General questions to address to implement an EAB readiness and response plan:

- What applies to the Village of Little Chute?
- What resources exist?
- What is already in place?
- Who are the Village's main players in EAB management?
- What are the current forestry operations and previous management?
- What equipment and staff are available?
- What is the Ash tree inventory?
- What existing plans or programs exist?
- Who are your support and partners in the community?

The better a community is prepared for the EAB infestation the more it can reduce the impact on the community.

Emerald Ash Borer

The Emerald Ash Borer, *Agrilus planipennis* Fairmaire, is an exotic beetle discovered near Detroit, Michigan in the summer of 2002. The adult beetle causes little damage aside from minor leaf feeding. It is the immature stage (larva) that does the real damage. Larvae feed on the inner bark of the Ash trees preventing water and nutrients to move through the tree resulting in its death. It is believed that the insect arrived on solid wood packing material originating in its native Asia.

It was discovered with an established population in Detroit and Windsor, Ontario in 2002, Ohio in 2003, Northern Indiana in 2004, Northern Illinois and Maryland in 2006, western Pennsylvania, and West Virginia in 2007, Wisconsin, Missouri, Virginia, and Quebec in 2008, Minnesota, New York and Kentucky in 2009, Iowa and Tennessee in 2010.

EAB is confirmed west of Wisconsin in Minneapolis and Saint Paul, Minnesota, to the west and southwest in Vernon, Crawford, Trempealeau and Lacrosse Counties, in southeast Wisconsin in Walworth, Washington, Waukesha, Ozaukee, Milwaukee, Racine and Kenosha Counties, the south central in Rock County and in the Northeast in Brown County. A new infestation was detected in Green Bay and as of June 2012, 31 Ash trees have since been removed. It is expected to eventually be found in the Village of Little Chute. The most recent Village street and park tree inventory indicates 752 Ash trees on Little Chute streets and parks. Ninety-nine of these trees have been removed over the last couple of years resulting in a current total of 653 Village Ash trees. There is an estimated additional 980 Ash trees on private property within the Village.

Since its discovery, EAB has killed tens of millions of trees in the infected states. This has caused regulatory agencies and the USDA to enact quarantines to try to prevent potentially infested Ash trees, logs, or hardwood firewood from moving out of where EAB occurs. This action, which is necessary to slow the spread of this beetle, along with the removal of the dead and dying trees is costing municipalities, property owners, nursery operatives, and forest product industries tens of millions of dollars. When an Ash tree is killed from EAB the tree quickly becomes brittle and dangerous necessitating its immediate removal when it is in a risk location. All street trees are in risk locations.

At the present the following Wisconsin Counties are under EAB quarantine restricting the movement of any hardwood firewood, ash nursery stock or ash logs or timber out of the quarantine area.

- | | | |
|------------|---------------|---------------|
| - Brown | - Crawford | - Fond du Lac |
| - Kenosha | - La Crosse | - Milwaukee |
| - Racine | - Rock | - Sheboygan |
| - Ozaukee | - Trempealeau | - Vernon |
| - Walworth | - Washington | - Waukesha |

Question: What has happened in other states?

What we have learned from other states is that EAB kills trees quickly. Streets are suddenly lined with dozens to thousands of dead and dying trees at risk of causing personal injury and property damage. Appendix E contains information regarding other communities and states EAB management strategies.

- Communities and their residents have spent millions of dollars to remove and replace their trees or treat them. It has overwhelmed local governments and private property owner's budgets. The public and commercial capacity has been inundated in tree removal, handling the wood, and planting new trees
- An increase in fraud, substandard work, non-ash tree removal, damage and injuries from unqualified or incapable fly-by-night operators is occurring.
- An increase in storm water runoff is taking place
- An increase in energy use and cost in heating and cooling is resulting from the loss shade.
- Water use has increased on landscapes from the loss of shade
- An increase in power outages from dead ash trees falling on power lines is occurring
- Air quality is being reduced from the loss of a trees ability to filter pollution and cool the air.

(Cited from: The Wisconsin Emerald Ash Borer Program is a cooperative effort between the Wisconsin Department of Agriculture, Trade and Consumer Protection, the Wisconsin Department of Natural Resources, the University of Wisconsin-Madison, the University of Wisconsin-Extension, the United States Department of Agriculture-Forest Service and the United States Department of Agriculture –Animal and Plant Health Inspection Service – Plant Pest Quarantine v. 8/03/2010)

Dutch Elm Disease decimated the American Elm tree population in Wisconsin communities during the 1960's -1990's. It took 30 years for this fungus to move the American Elm from the most common urban tree species to one that is now barely accounted for in our communities. Emerald Ash Borer infestations in other states are eliminating communities Ash tree populations within 5 years of discovering an infestation.

Fast Info about EAB:

- It attacks only ash trees (*Fraxinus* spp.)
- The Mancana Ash 'Mancana' (*Fraxinus mandshurica* 'Mancana') is considered resistant to EAB. It is a native Asian tree and from the original range of EAB.
- Adult Beetles are metallic green and about 1/2-inch long.
- Adults leave a D-shaped exit hole in the bark when they emerge in spring.

- Woodpeckers like EAB larvae; heavy woodpecker damage on ash trees may be a sign of infestation.
- Firewood cannot be moved in many areas of Michigan, Illinois, Iowa, Indiana, Maryland, Kentucky, Minnesota, Missouri, New York, Ohio, Ontario, Pennsylvania, Tennessee, Virginia, West Virginia, and Wisconsin because of the EAB quarantine.
- It is believed to have come from Asia in wood packing material.
- Over 50 million Ash trees are estimated to have been lost from EAB.

Additional Technical information regarding EAB can be found at:

EAB Federal Web Site: <http://emeraldashborer.info/>

EAB Wisconsin web site: <https://onlineservices.datcp.wi.gov/eab/>

EAB Mission Statement

It is the mission of this readiness and response plan to provide Emerald Ash Borer management to maintain and enhance the maximum long term urban forestry benefits to the community. The goal is to minimize the impact of the Emerald Ash Borer and potential loss of Ash trees in the Village of Little Chute using the best scientific advice and lowest cost to the community.

The mission of the Little Chute Forestry Department is to be a leading provider and facilitator of high quality park, recreation, and forestry services that will improve the quality of life for citizens, user groups, and visitors of Little Chute.

EAB Readiness Plan Definitions

DBH – diameter at breast height; represents the diameter in inches of a trunk cross-section measured at 4½ ft. above ground level; a basis for estimating or identifying tree volume, value, management needs and costs, utilization options, etc. It is a universal forestry measurement

Delimit – to establish geographic limits or boundaries; emerald ash borer quarantine areas are determined after *delimiting* an area of infestation.

EAB – the Emerald Ash Borer insect.

EAB Readiness Team – a group of people responsible for all aspects of preparing for Emerald Ash Borer within a particular jurisdiction/municipality; team members have specific roles and tasks.

EAB Readiness Plan – a document delineating local EAB readiness activities and processes; includes mission and purpose, authority, actions/tasks, technical references and support information, and similar content.

Marshalling Yard – a fenced-in location within a quarantine area where infested or quarantine-area trees are collected and held for further handling.

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

State and Federal EAB Regulations

Appendix A contains a lengthy description of State and Federal regulations involving EAB. This information is included as a reference for this plan. Every one of these regulations may not all apply in every situation within the Village of Little Chute.

Executive Summary

Evident by the current Village forestry operations the Village of Little Chute recognizes the significant economic, functional, and structural benefits of properly maintained urban trees. A maintained city tree population reduces air pollution; increases energy conservation, increases property values, and provides a better quality of life for its citizens. The Village of Little Chute's existing street and park tree inventory data were used as a basis for this EAB Readiness Plan.

- The Emerald Ash Borer is an exotic beetle discovered near Detroit, Michigan in the summer of 2002. Larvae feed on the inner bark of the Ash trees preventing water and nutrients to move through the tree resulting in its death.
- It has been found in 17 states (including Wisconsin) and two Canadian provinces.
- EAB is confirmed in 13 Wisconsin counties leading to 15 counties being quarantined. It is confirmed west of Wisconsin in Minneapolis and Saint Paul, Minnesota, to the west and southwest in Vernon, Crawford, Trempealeau and Lacrosse Counties, in southeast Wisconsin in Walworth, Washington, Waukesha, Ozaukee, Milwaukee, Racine and Kenosha Counties, the south central in Rock County and in the northeast in Brown

County. A new infestation was detected in Green Bay and as of June 2012. Fond du Lac and Sheboygan counties have also been quarantined due to their proximity of infestations.

- Over 50 million Ash trees have been lost to EAB throughout the U.S. and Canada. Some estimates that include forest and wild land Ash trees put the estimate near 100 million.
- The insect is typically established in an area for at a minimum of 4-5 years before detection.
- As of the last tree inventory total of 2,438 publicly managed street and park trees exist in the Village of Little Chute, approximately 752 of these are Ash species comprising approximately 30% of the public tree population. Ninety-nine Village Ash trees have been removed since the Little Chute inventory was completed. This results in 653 Village Ash trees, which is 28% of the public Village trees. Total all species 2,339 trees.

Number of Ash per Size Class: 653 Village Ash Trees

- 0-6" DBH – 237 trees, 10% of total population, 36% of Ash pop.
- 6-12" DBH – 242 trees, 10% of total population, 37% of Ash pop.
- 12-18" DBH – 150 trees, 6% of total population, 23% of Ash pop.
- 18 +' DBH – 24 trees, 1% of total population, 4% of Ash pop.

- An estimated 980 Ash are on private property in Little Chute.
- Over 70% of the public Ash trees in Little Chute are less than 12 inches in diameter. This allows for EAB management to be less costly and easier to direct.
- What we have learned from other states is that EAB kills trees quickly. Streets are suddenly lined with dozens to thousands of dead and dying trees at risk of causing personal injury and property damage
- When an Ash tree is killed from EAB the tree quickly becomes brittle and dangerous necessitating its immediate removal when it is in a risk location. All street trees are in risk locations.
- It costs 2-3 times more to remove an Ash tree that has died from EAB than to remove other trees.
- Crisis management costs in urban forestry maintenance cost 2-5 times more than routine maintenance.

- Emerald Ash Borer infestations in other states have been eliminating communities Ash tree populations within 5 years of discovering an infestation.
- A community EAB readiness team should be formed to manage and guide EAB management for the city.
- Tree ordinances addressing EAB management, wood handling and disposal, nuisance trees, and safety need to be updated.
- Early Management Strategies
 - Remove Ash now as part of regular utility line maintenance
 - Remove Ash associated with street construction projects
 - Remove weaker or stressed Ash trees. These are often the larger sized trees
 - Limit maintenance pruning on existing Ash other than safety and clearance reasons
 - Remove Ash when they can be incorporated into regular pruning cycles. This is particularly more cost efficient when they are smaller trees.
 - Commit to increasing planting budgets even if it is not right away.
 - Involve the community, neighborhood associations, civic groups, foundations etc
- The following are not management recommendations but cost estimates for planning
 - Estimated annual cost to annually remove 10% of the public Ash tree population is \$14,316. Removal over 10 years is \$143,160
 - Replanting costs of replacing 10% of the Ash tree population annually is \$10,448 (using bare root stock). Replacement over 10 years is \$104,480
- Success rates in saving individual Ash trees with insecticide applications from EAB infestations are running 95 -98% effective. Effectiveness rates decline when Ash are already infected or are located in a heavy infestation area.
- Trees need to be treated every year or every other year based on the product and type of treatment.
- Soil injection or soil drench insecticide applications use a general use insecticide that can be purchased locally and applied by the homeowner. Other products used are rated as restricted use and need a certified state pesticide applicator to use.
- Insecticide soil injections or drench applications cost approximately \$3.00 - \$4.00 / diameter inch annually for the product. (With labor or contracting costs will increase 25 -

50%). It is recommended that the first year of treatment two applications are made. This must be done for the life of the tree, although studies in areas where Ash have been decimated are indicating that the frequency of treatments may be able to be extended after the initial devastation has concluded.

- Removing 10% of the Ash tree population annually for a period of 10 years will nearly equal the cost of treating all of the Ash trees over a 7-8 year period. It will take approximately 12 years for the cumulative cost of treating all of the Ash to equal the cost of removing and replacing all of the Ash within a ten year period. Replacement costs are based upon using bare root planting stock. Costs using balled and burlapped planting stock are included later in this report.
- Outcomes of Management Strategies
 - Remove all Ash trees: this strategy has the lowest long term expense and the greatest loss of tree value and benefits over the long term (10 + years).
 - Remove all Ash trees and replace them with a different species: this strategy has less cost (as opposed to long term insecticide treatments over the same time frame) to try to maintain your urban forest but will take 15 – 25 years for this to happen. Eventually the value and benefits of the urban forest will be returned to the present situation at the end of the 15-25 year period.
 - Treat all Ash trees: this plan has the lowest annual expense when compare to removals with replacements but the greatest cost over time. It is possible that Ash trees would need to be treated for the life of the tree if they are to be kept. This approach also produces the largest forest over time and the greatest tree benefits.
- No one management strategy is more effective than another. A combination of strategies will be necessary to most efficiently manage EAB
- Involve the community with public education , workshops etc in the management of EAB
- Little Chute Ash trees provide a net annual benefit of \$48,975 to the village each year at an average of \$75.00 per tree and \$4.67 per capita.

Community Readiness Team

A local readiness team is recommended to implement and guide the plan, coordinate and communicate information, and keep abreast of circumstances. The readiness team leader should have good technical background and be well-connected in the community. Suggested readiness team member roles and descriptions follow. (A person can fill more than one role on the

readiness team.) Recruitment of team members is recommended as opposed to accepting volunteers.

Team members should be representative of the community, and also be from a variety of backgrounds and professions. A strong readiness team will be an asset in public relations and support for the forestry program. All of the following positions may not be needed but the responsibilities of each position are. The break down of the Village of Little Chutes' municipal structure will help determine some of the responsibilities.

Question: Who should be on the Village of Little Chute's readiness team and what are their responsibilities?

Readiness Team Leader: Often served by Village Forester or Park Director.

- Oversee these team positions: Communications/Information/Public Relations Officer, Staff Training Expert, Fiscal Manager and Village Forester.
- Village contact for authorizing EAB actions; DATCP liaison for potential EAB finds within Village jurisdiction.
- With Communications/Public Relations Officer, assess training needs of Village staff; approve public awareness messages/projects prior to implementation.
- Help site/locate marshalling yards with Village Forester & DATCP
- Review Village policy or ordinances for EAB appropriateness
- Establish protocol for reporting EAB within the Village.

Communications/Information/Public Relations Officer: Often served by Village employee with media contacts and experience. Media representatives are valuable on this committee.

- Oversee or communicate with these team positions: Media Relations Expert, Neighborhood Relations Expert, and Business Relations Expert
- Publish and distribute the EAB readiness plan to Village council, media and others as specified in the plan
- Oversee public awareness events, arrange for press conferences, write press releases, publish articles in Village newsletter, maintain EAB domain on Village Web site.
- Provide relevant EAB updates to readiness team members

Media Relations Expert: Often served by people in education or media background. Media representatives often serve on this committee. Position sometimes is held by the same person as the Communications Officer.

- Identify media outlets for EAB status and progress reports.
- Identify sites for providing EAB handouts to the public
- Identify EAB speaking opportunities for the Communications/Public Relations Officer, such as service/civic organizations
- Assist the Communications/Information/Public Relations Officer

Staff Training Expert Often served by Village Forester, Park Director, or Urban Forestry Consultant

- Assess relevant expertise and experience among staff
- Provide or facilitate appropriate training for municipal staff, including public-contact staff, department heads and public works employees.
- Provide training updates with changing EAB status, as necessary

Neighborhood Relations Expert(s): This committee usually has several members. Areas with high Ash tree populations can each have their own contact from their neighborhood.

- Serve as neighborhood contact for and liaison between residents and the Communications/Public Relations Officer
- Distribute news releases, information and educational materials as directed by the readiness team; larger neighborhoods may need several neighborhood relations experts

Business Relations Expert: Several Business Relations Experts, with varying professional backgrounds within the community are recommended to be on the team,

- May be a representative of the chamber of commerce or a local business, especially one directly connected with landscaping (e.g., realtor, land developer, nursery grower/retailer, landscaper and landscape maintenance firm); larger communities may want representatives from both the commercial and industrial business sector
- Sounding board for local businesses directly or indirectly affected by EAB
- Possible avenue for developing partnerships or funding

Fiscal Manager (s): Often the Village Forester holds this position in conjunction with a Village Manager or Administrator

- With Village Forester, analyze potential impact on Village budget and assess environmental costs associated with loss of public and private Ash trees.
- Determine reforestation costs for public tree losses
- Communicate cost assessments to the Public Relations Officer and EAB readiness team.
- If infestation occurs, provide recordkeeping and financial oversight on all community functions related to EAB as may be required by FEMA.

Village Forestry Manager: Village Forester, Public Works Director, Park Director. Many of these responsibilities have already been completed by the Village Forester, Public Works, Street Department or private consultant.

Pre-EAB Tasks:

- Coordinate with other municipal departments to secure resources for ground operations
- Oversee these team positions: Village Forestry/ Public Works Department, Debris Removal and Marshalling Yard Manager, Reforestation Advisor; (several of these roles may be handled by the Village Forester)
- Inventory/assess public and private ash tree resource, including number, size, and condition
- Estimate potential removal costs of public and private trees

- With Reforestation Advisor, produce tree replacement plan, to include species, sizes and root stock; planting timeline; priorities, etc.
- Supervise field operations, surveys and site visits
- Identify tree service contractors meeting minimum qualifications and municipal standards (e.g., required equipment, safety standards, expertise, insurance, bonding, experience, etc.)
- Establish tree service contracts
- Create mutual aid agreements with other units of government, as appropriate
- Arrange with electric utility for potential removal of conflicting ash trees

Tasks Following Infestation:

- With DATCP direction, oversee eradication activity and personnel on municipal parcels
- With the Debris Removal and Marshalling Yard Manager, secure debris disposal site and staging areas for marketable wood waste, as appropriate
- Determine equipment needs for removals and transportation to marshalling yards.
- With Debris Removal/Marshalling Yard manager, determine marshalling yard security needs
- With Fiscal Manager, determine funding sources for replacement planting
- With Neighborhood Relations Expert(s), coordinate tree removal and meet with residents about reforestation

Village Forestry Department: Forestry/ Park / Street Department staff

Reports to the Village Forestry Manager

- Perform day-to-day field operations with staff or contractors as directed by the Village Forestry Manager
- Determine equipment available for tree removal, clean-up and transportation to marshalling yards
- Assess staff and their technical qualifications/skills
- Determine staffing levels and make work assignments for crews

Debris Removal and Marshalling Yard Manager: Forestry or Public works staff

Reports to the Village Forestry Manager

Pre-EAB Tasks:

- Recommend sites for marshalling yards, debris disposal or staging areas; secure chosen sites
- Determine capacity, equipment needs and availability
- Pre-arrange lease agreements if necessary
- Make arrangements with neighboring communities and leases for use of the marshalling yard.

Tasks Following Infestation:

- Oversee movement of infested wood
- Determine best transportation routes to marshalling yard in accordance with DATCP rules

Reforestation Advisor: Village Forester or Forestry Department staff.

Reports to the Village Forestry Manager

Tasks:

- Assess planting needs; develop list of suitable species
- With Fiscal Manager, secure funding for reforestation efforts
- With Neighborhood Relations Expert, coordinate reforestation meetings and conduct tree plantings with neighborhood groups

Potential Resources for Readiness Team

- Municipal staff
- Parks/ forestry
- Public Works / Street Department
- Village officials
- Tree boards
- Civil and community leaders
- Garden clubs
- Nature centers
- Private Arborists, landscapers, garden centers
- Anyone showing interest

Appendix B contains a listing of Public Officials for the Village of Little Chute.

Ordinances

To effectively meet the challenge of EAB Village tree ordinances were reviewed with recommendations to include EAB language. EAB ordinances need to be in place prior to an infestation. Many existing ordinances originally written for Dutch Elm Disease or Oak Wilt can be re-worded for EAB language. The initial re- write has been performed by Ranger Services Inc. addressing the following:

Question: What do EAB ordinances need to address?

- Public Safety/ Risk Trees
 - Removal of dead Ash trees on private property
 - Nuisance trees, condemnation, time frame for removal
 - Authority of Village forester to enter private property
 - Interference with the Village forester prohibited
- Control of EAB Spread
 - Transporting Ash wood in the Village
 - Contractors and compliance agreements for removing, hauling storing wood
 - Wood disposal, storage

- Inspections of wood or trees
- Private tree wood disposal
- Ordinances have to be written so they are enforceable.
- Penalties for violation

Ash Inventory

Seven hundred fifty two (752) Ash (*Fraxinus spp.*) trees were accounted for in the public tree inventory. Approximately 99 of these trees have been removed since this inventory resulting in 653 remaining Village Ash trees on public property

- 0-6” DBH – 237 trees, 10% of total population, 36% of the Ash population
 - 6-12” DBH - 242 trees, 10% of total population, 37% of the Ash population
 - 12-18” DBH –150 trees, 6% of total population, 23% of the Ash population
 - 18 +’ DBH – 24 trees, 1% of total population, 4% of the Ash population
- An estimated 980 Ash are on private property in Little Chute
 - The majority of public Ash trees (+70%) are under 12 inches DBH and in good to condition. The majority of trees in fair to poor condition are in the larger size classes over 18” DBH.

Ash Tree Pruning and Removals

Twenty-eight percent (28%) of the public trees are a species of Ash. Natural attrition with street trees is typically 1-2% per year. An EAB infestation could increase that number to 8-10%. It is recommended that removal of Ash trees increase. It costs two to three times as much to remove an Ash that has died from EAB. A program of reducing the Ash population and replanting with other species will reduce the impact of EAB.

Question: What can be done prior to an EAB infestation that lessens costs and reduces the impact of EAB?

As Ash trees are encountered during regular forestry operations, pruning cycles, street projects, service requests, and utility line clearance a number of management options exist. These options will lessen the impact of EAB and reduce costs in the long run when they can be implemented as part of regular forestry operations.

- Begin removing all Ash trees in poor health. Stressed trees attract EAB to a greater degree. The vast majority of Ash Street trees in poor to fair condition are in the larger size classes (over 18” DBH). These trees are more labor intensive to remove and also cause the biggest safety risk when infected with EAB. Preemptive removal on poor

conditioned trees will lessen costs now rather than waiting for an outbreak. These trees are already in poor to fair condition and very unlikely to improve over time.

- If the tree is in good health ask the homeowner if it can be removed; if not, only minimal safety pruning should occur.
- Ash tree pruning should be limited to only safety pruning on trees greater than 6” inch diameter. Create a working partnership with the local utility company and the utility line clearance contractors. Ash trees, particularly over 15 inches in diameter located beneath power lines can be removed as they are encountered in either the Village pruning cycle or the utility line clearance pruning cycle. Clean up of the removals may be able to be coordinated with the utility contractors. This allows the utility line clearance contractor to be more productive doing tree removal.
- Removing smaller Ash trees as they are encountered in daily operations is a lesser cost. Little Chute has over 70% of its Ash tree population in smaller size classes (under 12” DBH). This makes management of the Ash population easier. Smaller trees take less time and cost to remove. Their cost of removal will increase as they become larger. Up to 75% of removal costs can be in wood hauling and disposal; smaller tree = smaller wood= smaller costs.
- Street re -construction projects should remove all Ash street trees, especially if the project is jeopardizing to the health of the tree. Street re-construction can be damaging to trees in the first place. Allowing Ash to remain increases their risk to decline and stressed trees attract EAB to a greater degree. This allows for new species to also be planted as part of the project.
- Coordination with the property owner prior to an Ash removal is recommended. Offering a replacement tree can help in accepting the removal.

Question: What happens if a property owner does not want their Ash tree removed?

- The Village can decide if this option will exist for the resident.
- A replacement tree can be offered
- Adopt a Tree Program can begin where the property owner contributes, has or pays each year to have the tree treated against EAB. As long as the tree is treated against EAB it can remain.
- When the tree becomes infested with EAB the property owner financially contributes for the cost of removal.

Inventory Based Cost Projections

It is not feasible to believe that a community would remove all of its Ash trees prior to an EAB infestation. It is not advisable to halt all other forestry operations for a total emphasis toward EAB management. Reducing the Ash tree population and continuing to maintain the other existing forestry operations is recommended. **By not addressing routine forestry operations in**

maintenance pruning, planting and non- EAB tree removals costs in the long run, storm damage, and crisis management will increase, while the benefits and values public trees provide will decrease.

Question: how much does it cost to remove Ash trees?

Little Chutes' current Ash tree population was entered into the Purdue University EAB Cost Calculator to determine costs of different management options. These cost estimates are prepared to assist in management decisions. Although a number of management strategies and options exist in removing Ash trees; for comparison sake a 10% removal of Ash trees per year is calculated. The chart is based on removing or replacing 10% of the Ash population annually over 10 years using bare root planting stock.

Annual Management Option	Annual Cost	Cumulative Cost over 10 Years
Remove all (10% / yr)	\$14,316	\$143,160
Replace all (10% / yr)	\$10,448	\$104,480
Remove < 6 dbh (10% / yr)	\$5,154	\$51,540
Replace < 6 dbh (10% / yr)	\$3,792	\$37,920
Remove 7 -12 dbh (10% / yr)	\$5,297	\$52,970
Replace 7– 12”dbh (10% / yr)	\$3,872	\$38,720
Remove > 12”dbh (10% / yr)	\$9,591	\$95,914

Cumulative removal costs increase when performing removals only by size class by about 40% due to inefficiency of operating this way. This is particularly emphasized in the larger trees.

Individual tree removal costs on trees less than 12 “dbh are approximately \$22.00 / diameter inch .

Treatment of Ash Trees

Question: Can Ash trees be treated to prevent or stop an EAB attack?

Insecticidal treatments are proving to be more effective than even a few years ago for individual Ash trees. Success rates in saving individual Ash trees before an EAB infestation are running at 95 -98% effective. Effectiveness rates decline when Ash are already infected or are located in a heavy infestation area. Often the symptoms of EAB do not appear until the insect has been in the tree for 2 years delaying an initial treatment. Communities that are treating some or all of their Ash trees to prevent EAB are having success when they start treatments prior to a major outbreak. Depending upon the type of treatment they need to be applied on a 1-2 year cycle to remain effective. Some communities in states that have been treating for several years are beginning to believe that after an initial EAB infestation has passed and Ash trees are far less common treatments may be able to be done less frequently than the 1-2 year cycle. Effective treatment of this insect is still too new to this prove this method.

There are several types of treatments available. All insecticides applications applied by the Village or contractor need to be performed by a Wisconsin Certified Pesticide Applicator.

A few smaller communities are treating all of their Ash trees. This is an annual cost that is far lower than removing and replacing Ash trees. It is however a higher cost over time and after 7-8 years of treating all of the public Ash trees in Little Chute, the cost of removing all of the trees will approximately equal the cost of treatment. These numbers are provided for comparison reasons. Treatment of all of the Village Ash trees should not ever be considered. There are some trees that frankly should be removed sooner than later just based on their general condition or location regardless of EAB management.

Beyond 8 years the cumulative cost of treating all of the Ash trees will exceed the removal costs of annually removing 10% of the Ash. It will take approximately 11 years for the cumulative cost of treating all of the Ash to equal the cost of removing and replacing all of the Ash over a ten year period. It must be noted that every tree that is removed should not be replaced, and this is shown only for a comparison. It will take approximately 15 -25 years to achieve the benefits and values that the Village trees provide if removal and replanting occur.

Question: What are the criteria for Ash tree treatment against EAB?

- Treatment should only be done to healthy, high value specimen Ash trees
- The White Ash varieties are more desirable than the Green Ash varieties
- Soil injection or soil drench treatment is recommended for ease in application and lower costs
- Use the insecticide Imidicloprid
- Allow homeowners to treat with Village permission
 - Tree should be deemed healthy
 - Treated by Certified Arborist is recommended
 - Keep record of the treatment
- All treatments are a yearly process when done as a soil injection or soil drench. It must be done 2 xs in the initial year of treatment.
- Using Imidicloprid as a soil injection or drench will cost on average \$3.00 - \$3.50/ diameter inch of tree each year. A contractor cost may be 15 -40% higher than in-house costs. It is the easiest insecticide of the EAB products to apply and is a general use insecticide
- Some communities are treating a portion of their Ash tree population to spread out their removal cycle. They are concentrating on removing some Ash trees and treating others to extend the time frame needed for removal.
- The State of Wisconsin DATCP recommends that any treatments that are going to be done begin when the EAB has been identified within a 10-12 mile radius of a location.
- Additional information on EAB treatment is located in Appendix C.

Note: To date, EAB infestations found in Wisconsin were detected at a minimum of 4-5 years after the infestation actually began.

Question: What are the costs and types of EAB treatments?

Imidicloprid

- Soil Injection or Drench
 - Nu-Arbor Soil Injector: \$500.00
 - Soil drench tools: \$50.00
 - Imidicloprid cost \$3.00/ diameter inch (may be 15-40% greater in labor costs over in-house costs if contracted)
 - Need to do every year.
 - Can be purchased locally and applied by the resident.
- Trunk Injections
 - Arborjet System & Drill: \$750.00
 - Imajet & Labor: \$13.00/ diameter inch
 - Need to stay on site until product is taken up.
 - Need to treat every year.
 - Wound tree every year (although initial studies show this may be insignificant).
- Mauget
 - Drill: \$150.00
 - Imicide & Labor: \$13.00/ diameter inch
 - Need to stay on site until product is taken up.
 - Need to treat every year.
 - Wound tree every year (although initial studies show this may be insignificant).

Emamectin Benzoate (Tree- Äge)

- Trunk Injection
 - Arborjet System & Drill: \$750.00
 - Tree- Äge & Labor: \$15.50/ diameter inch
 - Restricted use pesticide.
 - Need to be state certified.
 - Need to stay on site until product is taken up.
 - Treat every two years.
 - Wound tree every two years (although initial studies show this may be insignificant).

Azadrachtina (Tree Azin)

- Trunk Injection
 - Arborjet System & Drill: \$750.00
 - Tree Azin & Labor: \$15.50/ diameter inch
 - Need to stay on site until product is taken up.

- Need to treat every year.
- Wound tree every year (although initial studies show this may be insignificant).

Projected costs using Imidicloprid soil injection or drench are listed below. This method is the easiest to apply, can be purchased locally and can be applied by the resident. These costs reflect treating every Ash tree annually. It is not sensible to treat every tree. These cost estimates are prepared to assist in management decisions

Annual Ash Treatment Costs				
Year	Cost Per Year: Material and In-house Labor Costs	Estimated Total Cost Cumulative: In – house labor	Cost Per Year: Material and Estimated Contractor Costs	Estimated Total Cost Cumulative Contracted Labor
1	\$34,392	\$34,392	\$39,500	\$39,500
2	\$18,087	\$ 52,479	\$20,800	\$60,300
3	\$18,979	\$71,458	\$21,850	\$82,150
4	\$19,879	\$91,337	\$22,862	\$105,012
5	\$20,761	\$112,098	\$23,920	\$128,932
6	\$21,653	\$133,751	\$24,900	\$153,832
7	\$22,544	\$156,295	\$25,926	\$179,758
8	\$23,435	\$179,730	\$26,950	\$206,708
9	\$24,327	\$204,057	\$27,970	\$234,678
10	\$25,218	\$229,275	\$29,000	\$263,678

Appendix C contains additional information regarding treatment of EAB

Planting

Replacement trees are an important part of Ash tree removal to maintain the benefits and value of the urban forest. A variety of planting plans can be implemented to help offset the loss of Ash trees. The key is to not ignore re-planting but timing may have to be adjusted if an infestation is found in the Village. A tree for a tree replacement is not recommended. Many Ash trees that will be removed may no longer be located in prime planting sites due to street changes, terrace width etc. Each removal site should be evaluated if it can be re-planted.

Question: What are some of the planting options and programs?

- Continue existing Village planting programs. Instigate planting rebates.
- Install smaller trees than previously used to reduce planting costs
- Increase Village planting programs. Possibly an Ash replacement can receive a double rebate.

- Make planting a required component of every street project. This also applies to Ash removals
- Collect subdivision development impact fees and use the funds for replanting. Produce a developer's planting requirement for all new developments. This can be applied as an ordinance, requiring all new developments to include tree planting.
- Utility company small tree program
- Recruit civic groups, community foundations, neighborhood associations and garden clubs to sponsor, promote and implement planting campaigns. Use catchy titles to the campaigns: May the Forest Be With You, Rising From the Ashes, Plant a Tree for Every Baby Born etc.
- Community donations, ceremonial trees, arbor day celebrations
- Be creative, people like tree planting and want to participate.

Question: What are the estimated planting costs?

There are many variables that can reduce costs; tree size, root stock, species, nursery contracts etc. this estimate is based upon a 1-1.5" diameter installed B+B tree including handling and after care is \$260.00/ tree. Larger trees at 2" diameter are projected at \$400 / tree. Bare root stock which is less costly to plant, easier to handle and less expensive is approximately \$160.00 / tree installed. Costs will also vary by specific species

All removed Ash trees do not need replacement. These cost estimates are prepared to assist in management decisions.

Replacement of the annually removed Ash (10% of the population)

Actions	Annual Cost: Bare Root / B+B	10 Year cost: Bare Root / B+B
Replace all Ash trees (10% / yr)	\$10,448 / \$16,978	\$104,480 / \$169,780
Replace < 6" dbh (10% / yr)	\$3,792 / \$6,162	\$37,920 / \$61,620
Replace 7" – 12" dbh (10% / yr)	\$3,872 / \$6,292	\$38,720 / \$62,920

Management Strategies

Question: What are the consequences of different management strategies?

A cost / benefit analysis research project on EAB management options was conducted by Dr. Richard Hauer of the University of Wisconsin- Stevens Point. Three distinct management strategies were compared against a control scenario of doing nothing. This study provided an economic analysis of the management options.

Management strategies were:

1. Preemptive removal of all ash trees.
2. Preemptive removal of all ash trees and replacement with a different species.
3. Treating an entire population of Ash with insecticides.

The economic benefits of trees have greater returns with the retention of the Ash trees by using insecticide applications, than doing nothing, which was better than preemptive removal or preemptive replacement. The analysis found that preemptive removals and replacements although seemingly logical provided less value to the urban forest over the 20 year- model time period of the study. By prolonging the life of large mature Ash trees you receive exponentially greater benefits through aesthetics, energy saving, and ecological improvement than from smaller newly planted trees. Were this study extended over a longer period of time replanted trees would likely narrow the gap between costs/ benefit ratios of treatment and replace and remove management actions (Hauer, 2010). It is estimated that the benefits for Little Chute would return in 15 -25 years with the remove and replace strategy.

Possible Management Strategies

- Remove all Ash trees: this strategy has the lowest long term expense and the greatest loss of tree value over the long term (10 + years).
- Remove all Ash trees and replace them with a different species: this strategy is the least costly (as opposed to long term treatments over the same time frame) to try to maintain your urban forest but will take 15 – 25 years for this to happen. Eventually the value and benefits of the urban forest will be returned to the present situation.
- Treat all Ash trees: this plan has the lowest annual expense but the greatest cost over time. It is possible that Ash trees will need to be treated for the life of the tree if they are to remain. This approach also produces the largest forest over time and the greatest tree benefits. Remember, all of the Ash trees are not good candidates for treatment and only those of sound structure and health would be considered in this strategy.

There is not one best management practice to use. It is a combination of these practices that will provide the best scenario for the Village of Little Chute's EAB management. Appendix E contains information on what other communities are doing in their EAB with management strategies.

When EAB is Found in

Question: After EAB has been found in Little Chute (or very near by) what should occur?

- Contract out Ash tree removals if needed for safety reasons. Priority on removal of the infested trees is important for safety and to slow the spread of the insect. Smaller trees will be less costly to have contractors remove.
- Have a list already prepared of acceptable contractors and their required specifications.
- Do not eliminate the regular street tree pruning rotation. Stopping the regular pruning rotation will increase costs, requests and crisis management, storm damage and removal of other tree species. By not addressing the typical tree maintenance it may increase other types of tree risks or safety issues.
- Keep the Village crews doing regular maintenance whenever possible. The Village staff's talent goes far beyond that of just tree removal. Tree removal is the easiest tree maintenance to contract out if necessary and is the most labor intensive for Village staff.
- Increase full time staff or use people from other departments to help, even if it is just doing clean up.
- Have ordinances in place to allow the Village to have private property dead and dying Ash trees be removed
- Dead Ash in woodlots, as long as they are not a hazard, can be left standing when time and labor do not allow their removal.
- Begin operation of the marshalling yard
- Know the delimitation boundaries of the quarantine zone.

Wood Disposal

Question: What happens with the waste produced from Ash tree removals?

The Village has a waste site as well as land available if needed for additional wood disposal. When EAB is found in the Village the following procedures should be followed:

- Have already determined who is allowed to use the marshalling yard and what will happen to the waste
- All wood needs to be chipped to less than 1" square
- Increase the days/ time it is open based on demand
- Encourage surrounding communities to use it through a lease. This can help produce funding for EAB management.
- Use tipping fees for private contractors. Tipping fees for residents may discourage the sites use and promote wood ending up in undesirable locations
- Use woodchip grindings in parks
- Sell/ or give woodchip grindings to the public
- Sell chips to bio-fuel companies
- Make sure private companies have compliance agreements in place with USDA. Ask to see them if they are using the Village site.

- Contact portable saw mill operators or de-barkers. If the bark is removed from the Ash tree it can be used for firewood. Portable sawmill operators can produce useable wood from the waste.

Funding

Question: What other ways can be used to help offset EAB management costs?

New ways to increase funding for Urban Forestry will need to be creative.

- Proceeds from tipping fees, lease agreements from other communities
- Proceeds from woodchip sales
 - Homeowner
 - Bio-fuel companies
- Village logging sales, debarked firewood, or wood products
- Portable saw mill sales
- Community development block grants, neighborhood associations.
- DNR Urban Forestry grants
- Local utility company funding or support
- Trust funds and community foundations, donations.
- Subdivision development impact fees
- Reallocations of existing budgets
- Sharing costs with other communities with equipment, disposal, and dump sites.
- Promote donations to “help the trees”.

Staff and Equipment

Question: what personnel and equipment is available or the most beneficial to manage an EAB outbreak?

- Village Forester
- Two Full-time staff
- One chip truck with dump box
- Loader with basket
- Vermeer 1400 Chipper
- Tractor with basket
- Equipment may be able to be shared with neighboring communities
- Knowing where additional equipment can be rented from before an infestation is helpful

Public Education and Awareness

It is very important to effectively and continually provide information to the citizens of Little Chute and the Village staff. An educated community about the EAB will be a strong ally for the forestry program, be more effective at combating an infestation and overall be more supportive and understanding of the entire operation.

Question: What type of public information is good to provide and what are the sources?

- General information on EAB (some is already available through state sources , newsletter, brochure)
- Identification of EAB
- Signs and symptoms of EAB
- Who to contact if EAB is suspected
- Treatment options for individual residents trees
- Hold public workshops on EAB. This can be done community wide or for garden clubs, neighborhood associates, civic groups etc.
- Mailers, door hanger, and flyers
- Websites
- Local cable access
- Use the Communication/ Information/ Public Relation Officer to manage this.

Appendix D contains additional information on EAB public education.

Appendix A

EAB State and Federal Regulations

Federal and State Regulations Providing Authority to Control EAB

Federal Laws and Regulations:

- **Plant Pest Act 2000 – Prevent spread of plant pests**
<http://www.aphis.usda.gov/ppq/weeds/PPAText.PDF>
- **7CFR 301.53 – 301.53-9 - EAB regulations**
http://www.access.gpo.gov/nara/cfr/waisidx_05/7cfr301_05.html
- **7CFR 319.40 - Solid wood packing material.**
http://www.access.gpo.gov/nara/cfr/waisidx_01/7cfr319_01.html

Wisconsin State Statutes Providing State Authority:

- **26.30 - Forest insects and diseases, department jurisdiction and procedure.**
<http://www.legis.state.wi.us/statutes/Stat0026.pdf>

(1) PURPOSE. It is the public policy of the state to control forest pests on or threatening forests of the state in order to protect the forest resources, promote good forest management, enhance the growth and maintenance of forests, promote stability of forest-using industries, aid in fire control by reducing the menace created by dying and dead trees, conserve forest cover on watersheds and protect wildlife, recreational values and other values of the forest.

(2) POWERS. The department is vested with authority and jurisdiction in all matters relating to the prevention, detection and control of forest pests on the forest lands of the state, and to do all things necessary in the exercise of such authority and jurisdiction, except that this shall not be construed to grant any powers or authority to the department for the silvicultural control of forest pests on any land. This section shall apply only to the detection and control of forest pests on forest lands and does not affect the authority of the department of agriculture, trade and consumer protection under chs. 93 and 94. The action of the department under sub. (4) shall be coordinated with the department of agriculture, trade and consumer protection in accordance with s. 20.901. The secretaries of natural resources and agriculture, trade and consumer protection shall execute annually a memorandum of agreement to enable the coordination of pest control work of their departments.

- **94.01 - Plant inspection and pest control authority.**
<http://www.legis.state.wi.us/statutes/Stat0094.pdf>

(1) In the conduct of survey and inspectional programs for the detection, prevention and control of pests, the department may impose quarantines or such other restrictions on the importation into or movement of plants or other material within this state as necessary to prevent or control the dissemination or spread of injurious pests.

(2) In accordance with [sub. \(1\)](#), the department, by summary order, may prohibit the removal of any plant, host plant, or other pest-harboring material from any private or public property, or any area of the state which in its judgment contains or is exposed to injurious pests, except under such conditions as in its judgment are necessary to prevent the dissemination or spread of pests, giving written notice thereof to the owner or person in charge of the property. While such order is in effect no person with knowledge thereof shall cause or permit the removal of any such plant, host plant or other pest-harboring material from such property or area, unless it is in compliance with the conditions of such order. Orders issued under this subsection shall be in writing, have the force and effect of an order issued under [s. 93.18](#), and are subject to right of hearing before the department, if requested within 10 days after date of service. Any party affected by the order may request a preliminary or informal hearing pending the scheduling and conduct of a full hearing.

(3) No person may obstruct or interfere with the examination or testing, by authorized inspectors and agents of the department, of any plants or other material suspected of being infested or infected with any injurious pests; nor may any person move any plants, plant parts, pests or pest-harboring materials contrary to the terms of any quarantine, rule, notice or order under this section.

(4) The department, through its authorized agents or inspectors, may enter at all reasonable times any property for purposes of inspection, investigation and control of suspected pest infestations or infections and may intercept, stop and detain for official inspection any person, truck, vessel, aircraft or other conveyance believed to be carrying plants or other materials infested or infected with pests, and may seize and destroy any such plants or other materials moved, shipped or transported in violation of any law, rule, quarantine notice or order.

- **94.02 - Abatement of pests.**

(1) If the department finds any premises, or any plants, plant parts, or pest-harboring materials located thereon are so infested or infected with injurious pests as to constitute a hazard to plant or animal life in the state, or any area thereof, it may notify the owner or person having charge of such premises to that effect, and the owner or person in charge shall, within 10 days after such notice, cause the treatment of the premises or the treatment or removal and destruction of infested or infected plants, host plants or other pest-harboring material as directed in the notice. No person may violate the terms of any

notice received under this subsection, nor may any damages be awarded to the owner for such treatment, removal or destruction. Any person affected by a notice or order may appeal to the department and request a hearing under [s. 94.01 \(2\)](#).

(2) If the owner or person in charge fails to comply with the terms of the notice, within 10 days after receiving it, the department or any cooperating local unit of government may proceed to treat the premises or to treat or destroy the infested or infected plants or other material. The expense of such abatement shall be certified to the town, city or village clerk and assessed, collected and enforced against the premises upon which such expense was incurred as taxes are assessed, collected, and enforced, and shall be paid to the cooperating unit of government incurring the expense, or into the general fund if the control work was conducted by the department.

(3) If a serious pest outbreak constituting a significant threat to agricultural production or plant life occurs, and cannot be adequately controlled by individual property owners or local units of government in any area of this state, the department may petition the joint committee on finance for emergency funds with which to conduct needed control work independently or on a cooperative basis with the federal or local units of government.

(4) This section pertains to the abatement of pests on agricultural lands and on agricultural business premises. This section does not affect the authority of the department of natural resources under [ch. 26](#).

- **94.03 - Shipment of pests and biological control agents permits.**

1) No person may sell or offer for sale, or move, transport, deliver, ship or offer for shipment, any pest, as defined in [s. 93.01 \(10\)](#) or any biological control agent as defined in [sub. \(2\)](#), without a permit as prescribed by rules of the department. Such rules may provide for reasonable exemptions from permit requirements. Permits may be issued only after the department determines that the proposed shipment or use will not create sufficient hazard to warrant refusal of a permit. Permits shall be affixed to the outside of every shipping container or accompany the shipment as the department directs.

(2) The department may by rule regulate and control the sale and use of biological control agents to assure their safety and effectiveness in the control of injurious pests and to prevent the introduction or use of biological control agents which may be injurious to persons or property or useful plant or animal life. The term "biological control agent" as used in this section means any living organism which because of its parasitic, predatory or other biological characteristics may be effective for use in the suppression or control of pests by biological rather than chemical means.

- **94.10 - Nursery stock, inspection and licensing** (*only relevant sections included here*)

(2) Nursery dealer; annual license.

(a) *License required.* Except as provided in [par. \(f\)](#), no person may operate as a nursery dealer without an annual license from the department. A nursery dealer license expires on February 20. A nursery dealer license may not be transferred to another person.

(3)Nursery grower; annual license.

(a) *License required.* Except as provided in [par. \(f\)](#), no person may operate as a nursery grower without an annual license from the department. A nursery grower license expires on February 20. A nursery grower license may not be transferred to another person.

(3g)Christmas tree grower; annual license.

(a) *License required.* Except as provided in [par. \(e\)](#), no person may operate as a Christmas tree grower without an annual license from the department. A Christmas tree grower license expires on February 20. A Christmas tree grower license may not be transferred to another person.

(4)Nursery growers and dealers; records.

(a) *Nursery dealers; records of nursery stock received.* A nursery dealer shall keep a record of every shipment of nursery stock received by the nursery dealer. The nursery dealer shall include all of the following in the record:

1. A description of the types of nursery stock, and the quantity of nursery stock of each type, included in the shipment.
2. The name and address of the source from which the nursery dealer received the shipment.

(b) *Nursery growers and dealers; records of shipments to other nursery growers and dealers.* Each nursery grower and nursery dealer shall record every shipment of nursery stock that the nursery grower or nursery dealer sells or distributes to another nursery grower or nursery dealer. The nursery grower or nursery dealer shall include all of the following in the record:

1. A description of the types of nursery stock, and the quantity of nursery stock of each type, included in the shipment.
2. The name and address of the nursery grower or nursery dealer receiving the shipment.

(c) *Records retained and made available.* A nursery grower or nursery dealer who is required to keep records under [par. \(a\)](#) or [\(b\)](#) shall retain those records for at least 3 years and shall make those records available to the department for inspection and copying upon request.

(5)Labeling nursery stock.

(a) *Nursery stock shipped to grower or dealer.* No person may sell or distribute any shipment of nursery stock to a nursery grower or nursery dealer, and no nursery grower or nursery dealer may accept a shipment of nursery stock, unless that shipment is labeled with all of the following:

1. The name and address of the person selling or distributing the shipment to the nursery grower or nursery dealer.
2. A certification, by the person under [subd. 1.](#), that all of the nursery stock included in the shipment is from officially inspected sources.

(b) *Growers and dealers to report unlabeled shipments.* Whenever any person tenders to a nursery grower or nursery dealer any shipment of nursery stock that is not fully labeled according to [par. \(a\)](#), the nursery grower or nursery dealer shall promptly report that unlabeled shipment to the department.

(c) *Nursery stock sold at retail.* A person selling nursery stock at retail shall ensure that the nursery stock is labeled with the common or botanical name of the nursery stock.

(6) Care of nursery stock.

(a) *Adequate facilities.* A nursery grower or nursery dealer shall maintain facilities that are reasonably adequate for the care and keeping of nursery stock held for sale, so that the nursery grower or nursery dealer can keep the nursery stock in healthy condition pending sale.

(b) *Reasonable examinations.* Nursery growers and nursery dealers shall make reasonable examinations of nursery stock held for sale to determine whether that nursery stock is capable of reasonable growth, is infested with injurious pests or is infected with disease.

(7) Prohibitions.

(a) *Nursery dealers.* No nursery dealer may do any of the following:

1. Obtain, hold, sell, offer to sell or distribute nursery stock from any source other than an officially inspected source.
2. Misrepresent that the nursery dealer is a nursery grower.

(b) *Nursery growers and dealers.* No nursery grower or nursery dealer may do any of the following:

1. Sell, offer to sell or distribute any nursery stock that the nursery grower or nursery dealer knows, or has reason to know, is infested with plant pests or infected with plant diseases that may be spread by the sale or distribution of that nursery stock.
2. Sell, offer to sell or distribute any nursery stock that the nursery grower or nursery dealer knows, or has reason to know, will not survive or grow.
3. Misrepresent the name, origin, grade, variety, quality or hardiness of any nursery stock offered for sale or make any other false or misleading representation in the advertising or sale of nursery stock.
4. Conceal nursery stock to avoid inspection by the department, falsify any record required under this section or make any false or misleading statement to the department.

(8) Department inspection. The department may inspect nurseries and premises at which nursery stock is held for sale or distribution. The department may inspect premises at which evergreen trees are grown for eventual sale as Christmas trees and premises at which Christmas trees are held for sale or distribution.

(9) Department orders.

(a) *Holding orders and remedial orders.* An authorized employee or agent of the department may, by written notice, order a nursery grower or nursery dealer to do any of the following:

1. Temporarily hold nursery stock pending inspection by the department.
2. Remedy violations of this section.
3. Refrain from importing weeds or pests that threaten agricultural production or the environment in this state.
4. Permanently withhold nursery stock from sale or distribution, if the sale or distribution would violate this section or an order issued under this section and the violation cannot be adequately remedied in another manner.
5. Destroy or return, without compensation from the department, nursery stock that is sold or distributed in violation of this section, or an order issued under this section, if the violation cannot be adequately remedied in another manner.

(10) Reciprocal agreements with other states.

(a) *General.* The department may enter into reciprocal agreements with other states to facilitate interstate shipments of nursery stock.

(b) *Officially inspected sources.* As part of an agreement under [par. \(a\)](#), the department may recognize sources of nursery stock in another state as officially inspected sources.

(c) *Inspection and certification standards.* An agreement under [par. \(a\)](#) may specify standards and procedures for all of the following:

1. Inspecting officially inspected sources of nursery stock.
2. Inspecting and certifying interstate shipments of nursery stock.

- **94.46 - Stop sale, penalties, enforcement.**

(1) The department may issue a written or printed "stop sale" order to the owner or custodian of any lot of agricultural or vegetable seed not conforming with [ss. 94.38](#) to [94.46](#), or rules there under. The order shall specify the sections of the law or rules violated and shall prohibit the sale or other disposition of the seed except as the department authorizes or directs. Unless the seed is brought into compliance with the law or rules and is released from the "stop sale" order, or other disposition is agreed upon in writing within 30 days after service of the order, the seed shall be disposed of as the department by notice in writing may direct. This shall not preclude the voluntary signing of a disposal agreement without the issuance of a "stop sale" order. Any notice or order hereunder may be served personally or by mail and shall have the effect of a special order under [s. 93.18](#) subject to review under [ch. 227](#) if within 10 days after service of any notice or order, the owner or custodian files with the department a written request for a hearing. Final disposition of the seed shall be stayed during pendency of the hearing but the "stop sale" order shall remain in effect.

(2) Any lot of agricultural or vegetable seed not in compliance with [ss. 94.38](#) to [94.46](#), or rules thereunder, or not disposed of in accordance with any disposal agreement or order under [sub. \(1\)](#), shall be subject to seizure on complaint of the department to a court of

competent jurisdiction. If the court finds the seed to be in violation of law and orders the condemnation of said seed, it shall be denatured, processed, destroyed, relabeled or otherwise disposed of as the court directs.

(3) In addition to or in lieu of other remedies provided for enforcement of [ss. 94.38](#) to [94.46](#), the department may apply to the circuit court for a temporary or permanent injunction to prevent, restrain, or enjoin any person from violating [ss. 94.38](#) to [94.46](#) or any rules or orders issued there under.

(4) (a) Any person violating [ss. 94.38](#) to [94.46](#) or rules promulgated there under shall forfeit not less than \$100 nor more than \$500 for the first offense. For any subsequent offense occurring within 5 years of a previous offense, the person shall forfeit, for each offense, not less than \$200 nor more than \$1,000. The 5-year period shall be measured from the dates of the violations which resulted in convictions.

(b) Any person who knowingly violates [ss. 94.38](#) to [94.46](#) or rules promulgated there under may be fined not more than \$500 or imprisoned not more than 6 months or both.

Wisconsin Administrative Rules Providing State Authority:

- **ATCP 21.17 - Emerald ash borer; import controls and quarantine**

(1) Importing or Moving Regulated Items From Infested Areas; Prohibition. Except as provided in sub. (3), no person may do any of the following:

(a) Import a regulated item under sub. (2) into this state if that item originates from an emerald ash borer regulated area identified in 7 CFR 301.53–3.

(b) Move any regulated item under sub. (2) out of an emerald ash borer regulated area that is identified in 7 CFR 301.53–3 and located in this state.

Note: The United States department of agriculture, animal and plant health inspection service (USDA–APHIS) periodically updates the list of regulated areas in 7 CFR 301.53–3. Subsection (1) applies to new regulated areas as those areas are identified in the CFR.

Each year, as a service, the Wisconsin department of agriculture, trade and consumer protection distributes an updated federal CFR listing to nursery license holders and other affected persons in this state. More frequent updates, if any, are available on the department’s website at www.datcp.state.wi.us. Subsection (1) applies to new regulated areas as those areas are identified in the CFR, regardless of whether affected persons receive update notices from the department. Persons may request update notices by calling (608) 224–4573, by visiting the department’s website, or by writing to the following address:

Wisconsin Department of Agriculture, Trade and Consumer Protection
 Division of Agricultural Resource Management
 P.O. Box 8911
 Madison, WI 53708–8911

(2) Regulated Items. The following are regulated items for purposes of sub. (1):

- (a) The emerald ash borer, *Agrilus planipennis* Fairmaire, in any living stage.
- (b) Ash trees.
- (c) Ash limbs, branches and roots.
- (d) Ash logs, slabs or untreated lumber with bark attached.
- (e) Cut firewood of all non-coniferous species.
- (f) Ash chips and ash bark fragments (both composted and uncomposted) larger than one inch in diameter.
- (g) Any other item or substance not listed in sub. (2) that may be designated as a regulated item if a pest control official determines that it presents a risk of spreading emerald ash borer and notifies the person in possession of the item or substance that it is subject to the restrictions of the regulations.

(3) Inspected and Certified Items; Exemption. Subsection (1) does not prohibit the shipment of a regulated item if a pest control official in the state or province of origin does all of the following:

- (a) Inspects the regulated item.
- (b) Certifies any of the following in a certificate that accompanies the shipment:
 1. The regulated item originates from non-infested premises and has not been exposed to emerald ash borer.
 2. The regulated item was found, at the time of inspection, to be free of emerald ash borer.
 3. The regulated item has been effectively treated to destroy emerald ash borer. The certificate shall specify the date and method of treatment.
 4. The regulated item is produced, processed, stored, handled or used under conditions, described in the certificate, that effectively preclude the transmission of emerald ash borer.

History: CR 06-008: cr. Register October 2006 No. 610, eff. 11-1-06.

- **NR 45.04(1)(g) – Firewood – restrictions on state property**

No person may possess firewood that originates from greater than 50 miles from the campground on that property where the wood will be used, or the property itself if there is no campground, or from outside the borders of the state. Firewood from sources approved by the department of agriculture, trade and consumer protection is allowable. Firewood includes all wood, processed or unprocessed, intended for use in a campfire. The department may seize and dispose of firewood possessed in violation of this paragraph.

Note: A list of firewood sources approved by the department of agriculture, trade and consumer protection can be obtained by contacting Robert Dahl, WI DATCP, PO Box 8911, Madison, WI 53708, 608-224-4573, Robert.Dahl@datcp.state.wi.us.

Wisconsin State Statutes Providing Local Government Authority:

- **27.09 City forester, duties; tree planting.**

<http://www.legis.state.wi.us/statutes/Stat0027.pdf>

(1) The board of park commissioners of every city may employ a city forester to take charge of and direct, subject to its supervision and control, all of the work authorized to be done under this section. It may also designate a municipal employee to perform the duties of city forester.

(2) The common council shall include in its annual budget such sum as it deems necessary, if any, to meet all expenses of doing said work during the following fiscal year, including the salary of the city forester and the compensation of employees assisting the city forester, but not including amounts assessable to abutting property; and the taxes levied to provide for such expense shall be in addition to all other taxes for park and boulevard purposes.

(3) The board may plant, transplant, remove, trim, spray and otherwise care for and protect all trees and shrubs on or in that part of every street, the grade of which has been established, lying between the lot line and the curb, or in the center or side plots in all boulevards and parkways, and in all public parks or grounds belonging to the city and control all such planting and transplanting by others. The board may guard all trees within the city so as to prevent the spread of disease or pests and to eliminate dangerous conditions, and may proceed pursuant to subs. (4) to (7).

(4) Whenever the board proposes the setting out, planting or removing of any such living shade tree, it shall give 2 weeks' written notice to the owner of the lot or parcel of land on which such tree stands or will stand, or the owner's agent, or, if neither is known and there be a tenant occupying said property, then to such tenant, of a time and place at which said contemplated work will be considered by the city forester, specifying in detail the street, avenue or boulevard and portion thereof, upon or from which trees are proposed to be planted or removed, and the general nature and character of the changes and improvements contemplated. After such hearing, the city forester, subject to the direction of the board shall abandon said work or proceed with it as the city forester believes the best interest of the public requires.

(5) The entire or any part of the cost of protecting, trimming, spraying, planting, renewing and removal of trees and shrubs between the lot line and the curb in front of any lot or parcel of land abutting on a street, avenue or boulevard may be chargeable to and assessed upon such lot or parcels of land. The governing body shall hold a public

hearing on the proposed assessment, and shall give notice thereof in such city or village, by publishing a class 2 notice, under ch. 985.

(6) The board shall keep a strict account of the cost of planting, protecting, renewing, removing, trimming, spraying and caring for trees and shrubs in front of each lot or parcel of land abutting on any street, avenue, or boulevard, and prior to November 10 in each year, shall make a report to the comptroller in cities having such an officer, and in other cities to the common council, of all work done for which assessments have been made as hereinbefore provided stating and certifying the description of land, lots, parts of lots or parcels of land abutting on a street, avenue or boulevard in which any such work shall have been done, and the amount chargeable to each such piece of property; and the comptroller at the time of making the comptroller's annual report to the common council of the lots or parcels of land subject to special assessments shall include therein the lots or parcels of land so reported to the comptroller by the board of park commissioners with the amount chargeable thereto for work done during the preceding year.

(7) The amounts so reported directly or through a comptroller to the council shall be levied on said lots or parcels of land, respectively, to which they are chargeable and shall constitute a lien thereon and shall be collected as other special taxes are levied and collected in the city. The board shall advance out of the park or other proper fund sufficient money for doing said work and said special assessments shall be credited to said fund of said city and shall not be diverted or used for any other purpose.

- **27.13 Town and village parks.**

Every town and village may provide and maintain parks, parkways, boulevards or pleasure drives pursuant to the provisions of this chapter which are applicable to cities.

- **823.01 Jurisdiction over nuisances.**

<http://www.legis.state.wi.us/statutes/Stat0823.pdf>

Any person, county, city, village or town may maintain an action to recover damages or to abate a public nuisance from which injuries peculiar to the complainant are suffered, so far as necessary to protect the complainant's rights and to obtain an injunction to prevent the same.

Appendix B

Village of Little Chute Public Officials

PUBLIC OFFICIAL CONTACTS

This information is included as a reference for this plan. A variety of people may be using these plans that are unaware of who holds these positions.

Michael Vanden Berg / **Village President**
427 Sanitorium Rd.
Kaukauna, WI 54130
920-851-498

Tom Flick / **Director of parks, Recreation, & Forestry**
1940 Buchanan St.
Little Chute WI 54140
920-788-7390 ext. 205

Donna Koebe / **Program Supervisor**
1940 Buchanan St.
Little Chute WI 54140
920-788-7390 ext. 202

Vince Lamers / **Foreman**
1940 Buchanon St.
Little Chute WI 54140
920-788-7390 ext. 207

Public Works Dept.

Roy Van Gheem, / **P.E., Director of Public Works**
Jeff Elrick / **Assistant Director of Public Works**
Marty Janssen / **Streets Foreman**
1940 Buchanon St.
Little Chute WI 54140
920-788-7395
920 -788-7820

Appendix C

Key Points Regarding EAB Treatment

Key Points and Summary Recommendations on EAB Treatment

- Insecticides can effectively protect ash trees from EAB.
- Unnecessary insecticide applications waste money.
- If EAB has not been detected within 10-12 miles, your trees are at a lower risk.
- Typically an infestation is discovered at a minimum of 4/5 years after it is established
- Be aware of the status of EAB in your location.
- Current maps of known EAB populations can be found at www.emeraldashborer.info.
- Remember, however, that once a county is quarantined, maps for that county are no longer updated.
- Trees that are already infested and showing signs of canopy decline when treatments are initiated may continue to decline in the first year after treatment, and then begin to show improvement in the second year due to time lag associated with vascular recovery.
- Trees exhibiting more than 50 percent canopy decline are unlikely to recover even if treated.
- Emamectin benzoate is the only product tested to date that controls EAB for more than one year with a single application. It also provided a higher level of control than other products in side-by-side studies. **This is a restricted use insecticide**
- Soil drenches and injections are most effective when made at the base of the trunk. Imidacloprid applications made in the spring or the fall has been shown to be equally effective.
- Soil injections or drenches should be no more than 2-4 inches deep, to avoid placing the insecticide beneath feeder roots.
- To facilitate uptake, systemic trunk and soil insecticides should be applied when the soil is moist but not saturated or excessively dry.

- Research and experience suggest that effectiveness of insecticides has been less consistent on larger trees.

The Cooperative Emerald Ash Borer Program

For more information and to order additional copies of this bulletin: www.emeraldashborer.info/

Appendix D

Public Education Material

Emerald Ash Borer Public Information Materials

- 1) Report Emerald Ash Borer Identification Card; Wis. DNR publication PUB-FR-290 2005.
- 2) Frequently asked Questions about the Emerald Ash Borer (geared for campers); Wis. DNR and DATCP publication PUB-FR-344a 2006.
- 3) Frequently Asked Questions about the Emerald Ash Borer (geared for landowners); Wis. DNR and DATCP publication PUB-FR-344b 2006.
- 4) EAB Identification Posters, variable sizes; Wis. DNR publication; order by contacting renee.pinski@dnr.state.wi.us
- 5) Emerald Ash Borer Pest Alert, 8.5" X 11". USDA Forest Service S&PF publication NA-PR-02-04; http://na.fs.fed.us/spfo/pubs/pest_al/eab/eab.pdf
- 6) <http://www.emeraldashborer.info>; excellent site for a variety of information and publications on EAB. Also links to many other helpful sites.
- 7) Native borers and EAB look a likes; MSU Extension Bulletin E-2939; order from MSU 517-353-6740; <http://www.emeraldashborer.info/files/E2944.pdf>
- 8) Ash tree identification; MSU Extension Bulletin E-2942; order from MSU 517-353-6740; <http://www.emeraldashborer.info/files/E2942.pdf>
- 9) Distinguishing ash from other common trees; MSU Extension Bulletin E-2892; order from MSU 517-353-6740; <http://www.ipm.msu.edu/pdf/E2892Ash.pdf>
- 10) Emerald Ash Borer; MSU Extension Master Gardener Publication; order from MSU 517-353-6740, ext. 1409.
- 11) The Green Menace - DVD. Order toll free: 1-866-EAB-4512.
- 12) The Green Menace – Color pamphlet. Signs and symptoms, color photos. Order toll Free: 1-866-EAB-4512.

Note: For a current list of publications, contact Jane H. Larson, 608-224-5005; jane.larson@datcp.state.wi.us.

APPENDIX E

Other Communities Management Strategies

Community EAB Response Survey

April 2010

Area EAB Detections

Date Discovered	Location
August 2008	Village of Newburg, Wisconsin
April 2009	Victory, Wisconsin
May 2009	St. Paul, Minnesota
July 2009	Green Bay, Wisconsin
August 2009	Kenosha, Wisconsin
August 2009	Franklin, Wisconsin
November 2009	Oak Creek, Wisconsin
June 2010	West Bend, Wisconsin
July 2010	Cudahy, Wisconsin

City	Population	Response	Remarks
Has EAB			
Chicago, IL		Injections and removals.	
Franklin, WI	29,494		Have 10,000 ash trees.
Green Bay, WI	102,767	Removing some ash trees that are declining and ash along streets with construction projects. We will also be removing trees as they are infested, also looking to do some girdling of trees for detection purposes with DATCP this summer.	We are considering the treatment of select white ash, numbers dependent on budget, not to exceed 5% of tree population. We are considering soil injection of Imidiclopid.
Kenosha, WI	90,352		
Oak Creek, WI	28,456	Chemical treatments (with eventual replacement).	Soil drench (270 trees 6" and under)

		Lethal trap trees constellations in wooded areas.	In-house Treeage injections (75 white ash 7 - 15").
		Pre-emptive removals; this after culling for 3 years.	Treeage.
		Rural right-of-way (ditch) removals (beginning in hot zone; 6 USGS Sections).	Follow-up spring replacements on winter removals; next removals ash under power lines.
		Remove as infested and hazard management removals.	Eventually, all rural right-of-way ash trees will be removed.
St. Paul, MN		Pre-emptive removals.	Immediate planting follow up.

City	Population	Response	Remarks
EAB Has Not Been Discovered			
Amherst, WI	1,058	Nothing, remove infested trees as they die.	Our remark is further research to determine best course of action for our villages. Currently, educating the public is a high emphasis.
Antigo, WI	7,917	Will begin to remove trees that are in state of decline or could pose a serious safety hazard to our citizens (large trees on boulevards or near parking lots).	We will also possibly consider chemical treatment for trees our board approves if funds are available. We will also replant where appropriate and when funds allow.
Appleton, WI	70,087	Pre-emptive removals.	
Ashland, WI	8,509	We will be taking down some ash that are in poor health already. At this time other than the ash in poor health we will be removing trees as they die. We may treat some specimen trees but this has not been determined yet.	The City of Ashland recently adopted an EAB Readiness Plan.
Beloit, WI	35,775	Pre-emptive removals.	In decline and under power lines.
Bloomington, WI	701	Remove trees as they die.	Replace with different species.

Chenequa, WI	583	Pre-emptive removals when doing roadside thinning.	
DeForest, WI	7,368	Pre-emptive removals: 8 - 10% per year. Treatment: 20" and greater in good condition will be treated.	Year 1: dead and dying – 2009 Year 2: fair condition – 2010 Then small trees first.
Fitchburg, WI	20,501	Pre-emptive removals: 1 st priority: declining or diseased trees starting this summer. 2 nd priority: over a longer undetermined period starting with <6" dbh trees in terraces and <8" dbh trees in parks to reduce the impact. 3 rd priority: terrace trees >6" dbh and all other park trees that are not specimen or heritage trees.	Injection treat on specimen or heritage trees (15" dbh and larger; 40" dbh and larger – we only have one).
Fort Atkinson, WI	11,621	Pre-emptive removals on declining ash and trees damaging sidewalks or curbs.	Thinking of chemical treatment, but not making decision until there is an infestation near the community.
Fox Point, WI	7,012	Analyzing and working with residents and are allowing more ash to be removed on the bluffs.	2,300 ash (20-25%)
Janesville, WI	60,200	Nothing, or very limited pre-emptive removals.	Replanting removal site with new trees.
Lake Delton, WI	1,982	Remove as infested.	
Little Chute, WI	10,476	Pre-emptive removals.	Removing trees in decline and under power lines.
McFarland, WI	7,359	Very limited chemical treatment, trunk injection only. (Committee) felt this was not a good long term decision because of cost effectiveness. Pre-emptive removal, hazard and trees in decline first, then a combination of small and large trees, with total removal of all ash trees in the public the ROW.	550 ash trees in the right of way and parks plus conservancy areas. Details of removal have not been totally decided, but we are looking at a 5 to 10 year plan with no more than 20% removed on any given street per year provided we have that much time.

Milwaukee, WI	596,974	Chemical treatment – Arbor Jet injections.	33,000 ash (17%)
New London, WI	7,085	Combination approach: Chemically treat trees in good condition. Remove poor trees as they become infested or die.	They have 332 public ash trees or 10% of inventory.
Oak Creek, WI	28,456	Chemical treatment: soil drench 425 trees 6” and under (white and blue ash). Pre-emptive removals: low condition class trees with public input.	1,000 ash (13%)
Oconomowoc, WI	12,382		420 ash (16%)
Onalaska, WI	16,690	Pre-emptive removal: beginning to remove ash in poor condition (125) based on 2009 survey results.	# ash trees: 1,821 (26%)
Portage, WI	10,100	We have been removing declining ash trees for over 3 years and will continue to do so. Any ash that has decline by 25% or more.	We have also continued with our ban on ash planting anywhere within the city limits. We have stopped some new housing and business from planting ash on their property and suggested alternative trees to plant.
Racine, WI	81,855		2,100 ash (5%)
Saukville, WI	4,068	Remove infested trees.	Replace with other species.
Shawano, WI	8,298	Chemical treatment – selected trees. Removals as needed – depending on condition, preventative or reactive.	Currently conduction inventory – expect low ash %.
Shorewood Hills Village, WI	1,732	Pre-emptive removals – ash under power lines, smaller dbh ash, declining ash, and ash with structural defects.	Chemical treatment – yet to be determined (will most likely treat healthy, middle aged ash).

Shorewood, WI	13,763	Chemical treatment: Arbor Jet injections – 175 8"+ trees rated at 70% condition or better.	1,900 ash (29%)
Sparta, WI	8,823	<p>Last winter (2009) we removed about 100 boulevard trees that were in poor or very poor condition and another 100 in parks/ gold course. Over the past two months, we removed about 125 trees that were small (6" dbh or less), and another 75 that were under power lines (Xcel provided the labor to clear them around the lines). Next year, we'll remove the rest of our small trees (about another 125). We're not sure what we're doing after that (it depends on how close the infestation is), but we'll likely continue with pre-emptive removals of mature, healthy trees.</p> <p>We are not planning to treat any of our public ash trees, but are offering to leave boulevard trees if the property owner expresses an interest in paying to have them treated. If the DNR is successful in procuring funding for communities like ours to treat trees, we may try to get some of that to treat some of our mature ash trees.</p>	2008 Bluestem Forestry EAB plan. About half of our 5,000 boulevard trees are ash.
Stevens Pont, WI	24,551	Chemical treatment and pre-emptive removals.	Soil drench: trees along major thoroughfares.
Stoughton, WI	12,354	<p>Pre-emptive removals on trees that need extensive pruning or are in poor condition.</p> <p>Chemical treatment – looking for one or two specimen trees for consideration.</p>	First step is community awareness. Starting program to allow homeowner treatment with verification.
Sun Prairie, WI	26,100	Remove as infested.	Will remove declining trees as they see fit.

Waukesha, WI	64,825	<p>Chemical treatment: 10% high quality trees</p> <ul style="list-style-type: none"> - Trunk injection 8-18" trees - Soil drench 4-8" trees <p>Pre-emptive removals: looking to remove large (>20") ash first, with those in the 30-40% condition class on watch list to be removed as possible.</p>	5,700 ash (23%).
Waunakee, WI	8,995	The Village of Waunakee will selectively remove ash trees under 50% condition ratings.	Condition ratings are from our Public Tree Inventory and Management Plan prepared by Wachtel in 2009. We plan to remove 7 ash trees in the entire village in 2010.
Wausau, WI	40,700	<p>Pre-emptive removal. Those ash that are impacted are impacted by construction projects (loosening up criteria for removal) also get more aggressive on removing ash under high voltage wires (we have always worked on this, just step it up).</p>	<p>Chemical treatment: no funding at this point but would like to treat high profile trees and several blocks of the oldest, largest ash.</p> <p>We will obviously need to remove those that become infested when the outbreak occurs.</p>
West Allis, WI	61,254	Chemical treatment.	

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