

CITY OF RIVER FALLS

EMERALD ASH BORER

COMMUNITY PREPAREDNESS

PLAN



Executive Summary

The Emerald Ash Borer (EAB) is an invasive species from Asia that was first detected in the United States in 2002 and has since spread to nine other states and Canada. In 2008 EAB was confirmed in Eastern Wisconsin and in 2009 was found in Western Wisconsin and as close to River Falls as the Twin Cities. This erratic distribution pattern is caused by the transportation of infected ash material, (principally firewood) and cannot be attributed to natural spread as EAB can only fly ½ mile from the tree where they emerge. It may be up to two years before an infected tree shows signs of distress. EAB kills all species of North American Ash. In Wisconsin the potential damage to the Ash population is huge as there are an estimated 737 million Ash in our forests and another 5 million in our communities.

River Falls like many other communities used Ash as a replacement for the American Elm that has been decimated by Dutch Elm Disease. It was considered a disease free tree with good form and a moderate growth rate, however it was over used and there are streets in River Falls that are almost 100 percent Ash. Since 1990 the City has been diversifying its street and park tree population and Ash continued as part of the mix until 2004.

EAB will eventually make an appearance in our City and it will have an aesthetic effect on our community and a fiscal impact on the City Budget for many years to come. Taking proactive steps to postpone its appearance and early detection to limit its spread will allow the City to extend our time horizon and manage the problem over a reasonable and affordable period.

Introduction

The State of Wisconsin Department of Agriculture Trade and Consumer Protection (DATCP) and the Department of Natural Resources has prepared a response plan for EAB that was adopted in July of 2008. Soon thereafter EAB made its appearance in Wisconsin. The plan identifies the appropriate response to be taken by State and Federal agencies to minimize the destructive effects EAB will have on Wisconsin's Ash resource.

Local units of government such as River Falls are stakeholders in this effort. The plan we develop will make us active partners with the State in responding to this problem. Our best efforts will contribute to slowing down and containing the spread of EAB. Inevitably our plan will need to be amended to reflect improved management and prevention practices as they become available. The goal of this plan is to identify appropriate and effective actions that the City will take in preparation for the appearance of EAB and to manage the effects it will have on our urban forest once it is here.

Element 1. The Tree Inventory

The first step in preparing for EAB is to determine the City's level of risk to our Urban Forest Resource. The last citywide inventory was done in 2000. As of 2000 the Ash tree count within the public right of way was 717. The City also has Ash trees in our public parks and Ash trees are naturally found on City owned wooded properties.

This number is significant. Ash trees were the tree of choice to replace Elms in River Falls during the period when Dutch Elm Disease (DED) was taking its greatest toll in the City. EAB was first discovered in the United States in 2002 in Detroit Michigan and by 2004 it was clear that the destruction it causes would be equal to or greater than Dutch Elm Disease (DED). Since 2004 the City has not planted Ash trees on public property.

A tree inventory is the process of counting; characterizing and recording information about publicly owned trees that make up our urban forest. It documents important information including the total number of trees, their condition, location and species. The following information is collected for each tree as part of the inventory.

1. Species
2. Size
3. Condition
4. Location
5. Accessibility for removal

Methods of Inventory

1. Windshield Survey This is a quick procedure involving a visual inspection and count. A follow-up ground survey may be conducted to detect problems noted on the visual survey.
2. Complete Inventory This is a systematic approach that examines and records detailed information about all trees on public property. This method is labor and time intensive and should be done by trained personnel with a background in forestry or dendrology.
3. Ash Only Inventory This methodology is specific to Ash trees on public property. It can be completed quickly with available staff with a minimal amount of training. This can be done by a complete inventory or by sampling methods.

Recommendation

The focus of the plan is on the management of the Ash tree resource. Therefore an Ash only inventory is recommended. The size of the population can be determined through a complete inventory of our right- of- ways and Parks. Natural areas will not be surveyed due to the difficulty and time factor involved. The inventory will be conducted to determine the following.

1. Size of tree measuring diameter at breast height. (DBH)
2. Condition of tree (branch structure)
3. Location
4. Accessibility for removal

Element 2. Survey and Detection Strategy

The second step in the plan is to implement a local EAB survey and detection strategy. At the present time EAB has not been confirmed in River Falls. Official confirmation will be made by the State of Wisconsin when EAB is found within the area. Quarantine on the movement of Ash tree material will be imposed on the County in which it is found. Until such time all calls from the public regarding suspected infestations shall be referred to the EAB Hotline at 1-800-426-2803. E-mail will be forwarded to eab@datcp.state.wi.us.

EAB Signs and Symptoms

It takes several years before the outward symptoms of tree decline begin to appear. Signs and symptoms the public should be aware of and on the look out for are the following:

1. Delayed leaf-out in Spring (symptom)
2. Thinning canopy or crown (symptom)
3. Branch die back from top of tree (symptom)
4. S-shaped galleries –tunneling under the bark (sign)
5. Woodpecker damage (symptom)
6. Epicormic shoots from base of tree or water sprouts on branches (symptoms)
7. Bark splits (symptom)
8. D shaped exit holes first spotted in upper branches (sign)

EAB Surveys and Inspections

EAB adults typically emerge from Ash trees in late May and continue to emerge, mate and lay eggs through late summer. Early detection of an infestation will give the City more time to implement our management plan and limit the spread. Below are methods to employ.

Visual Survey

This technique includes looking for visible outward symptoms. It requires the least amount of resources and a large area can be covered in a short time. The City Ash tree inventory can be used to prioritize areas.

Tree Climbing/ Use of Lift Bucket

This method allows for a closer inspection higher up. The advantage of this method is that inspection occurs in the tree canopy where EAB signs/symptoms appear first. This method would be used sparingly as time and cost are a disadvantage.

Destructive Sampling

The Ash tree inventory will assign a value to each tree. Lower value trees with a diameter at breast height (DBH) of 4-12 inches will be chosen in areas where EAB is suspected. These trees will be removed and examined for EAB larvae and larval

galleries. This method allows for early discovery of EAB. The disadvantage is that the tree will be destroyed.

Detection Trees

Lower value trees will be selected at strategic sites. A band of bark will be removed from the tree effectively girdling it. Artificially wounding the tree to purposely stress it has been proven to attract EAB if it is in the area. The disadvantage is that girdling disrupts the flow of nutrients and will kill the tree. The advantage is that this is currently the most proactive way to survey for the presence of EAB.

Purple Panel Traps

Emerald ash borer panel traps are made of a purple corrugated plastic board. Traps are triangular with an open center. Each panel of the trap measures 14 X 24 inches and is coated with glue on its exterior. Trap hanging is recommended on an open grown or edge ash tree at a height of 33-40 feet above ground. Research suggests that the emerald ash borer is visually attracted to the color of purple used for the traps. To date, researchers still consider the use of detection trees to be the best method for detecting low-density emerald ash borer infestations; however, there are situations in which panel traps may be favored over detection trees in order to prevent the loss of the tree.

Key Areas to Monitor

The artificial movement of EAB through human activity remains the most important risk factor in Establishment of EAB populations. Ash nursery stock saw logs and in particular firewood are the primary means of artificial movement of EAB. Focusing survey and monitoring activities at sites where infected material may be transported to will be for effective control. The following are sites that are of highest risk:

1. Hoffman Park Campground
2. Newly landscaped areas that may have planted Ash trees
3. Nurseries/ Businesses that sell seasonal nursery stock including ash trees.
4. Businesses that may utilize wood pallets in their operation.
5. Businesses that may use Ash saw logs as a raw material.

Recommendation

The following recommendations are made.

1. Tighten control and regulation of firewood citywide.
2. Include the most current information on EAB awareness and control with new single family/duplex building permits so homeowners can make an informed choice when they landscape their property.

3. Compile a citywide list of businesses that may have contact with Ash material and provide educational material to them on a periodic basis.

Element 3. Ash Management Policy

This element of the plan describes how the City will manage its Ash trees and will guide decision making relative to how the City will address the following issues.

1. Proactive Removal
2. Disposal
3. Historic/Significant trees
4. Woodlot management
5. Private Property Trees
6. Tree Replacement
7. Regulations
8. Communications
9. Resources

Proactive Removal

A period of extensive tree mortality will overwhelm the City forestry budget. Proactive removal can help lessen the impact and smooth out the cost curve that will occur. This policy is a preemptive move that will be aimed at reducing the Ash inventory to more manageable number.

An accurate estimate of the long-term costs for removal will take place with the Ash tree inventory. As of the year 2000 approximately 12% of River Falls street trees were classified as Ash. An undetermined number of Ash trees have been added to the inventory between the years 2000 and 2004. The City ceased planting Ash trees on public property in 2004. Additional Ash trees can be found in our Parks and publicly owned woodlots. For purposes of understanding the fiscal impact of this problem a preliminary estimate of 1000 trees will be used. The numbers will be adjusted when the inventory results are available.

The following estimate is made:

- Total number of Ash trees (public)	1000
- Removal cost per tree including grinding of stump	\$245.00
- Site restoration cost per tree removed (labor and materials)	\$50.00
- Per unit cost for replacement	\$100.00
- Estimated Citywide cost for removal and replacement	\$395,000

It should be noted that the estimate assumes 100 percent loss. Experience has shown us that after 30 plus years of removal of diseased Elms the City still has a few Elms on our right of ways and the cost of removal was spread out over many years. The most likely scenario will probably see the City having a spike of activity early on followed by a lower but steady number of infected trees in subsequent years.

Once a tree is infected with EAB it will begin to decline over a period of 2-3 years. The burden of removing a large number of trees in a short period of time can put a heavy strain on the City's budget, personnel and resources. The City can lessen this impact now by preemptively removing a portion of non-infested trees each year. The Ash inventory will prioritize the removal of non-infested Ash and priority within the tree removal budget will be given to those trees. In general Ash will be prioritized as follows:

1. Hazardous trees: Any tree dead or alive that has the potential to entirely or partially fail and impact a target can be considered a hazard.
2. Dead or dying tree.
3. Trees with poor structure
4. Trees causing infrastructure damage.
5. Trees planted or growing in undesirable locations.
6. All other trees.

River Falls Municipal Utility will be encouraged to remove Ash trees within their easements or the public right of way as part of regular line clearance activities.

Disposal

One of the largest challenges in EAB management will be the disposal of Ash material. The number of trees removed in any one year will be significant with a volume of material not seen since the heyday of Dutch Elm Disease. Ash is a hardwood and has many potential uses and as markets develop disposal issues will become less of a problem.

The State of Wisconsin EAB Task Force is currently gathering information on the utilization of Ash material and is seeking funding to create an EAB wood utilization specialist. Utilization would be done by identifying potential users of the material and developing connections between the suppliers and these markets. Potential products include lumber, railroad ties, wood pellets for residential use, wood chips for use in biomass generating plants or as a bulk agent for sludge composting, mulch for landscaping and wood pulp.

The City's tree contractor currently removes between 50 and 75 trees per year on public property as well as materials that are pruned for utility clearance or structural problems. This material is transported to the City compost yard where it is stored with other woody plant materials bought in from the general public. The City works with an independent contractor that periodically grinds the material into chips and transports it to a biomass electricity generating plant in the Twin Cities metro. Currently the demand is greater than supply and the contractor takes as much material as the City can supply. However as the market becomes flooded with Ash material, supply will at some point exceed demand. As alternative markets develop the City will seek to diversify its disposal options available in the open market.

Historic /Significant Trees

Treatment by means of chemical drench or injection is an effective way to protect Ash trees. Not all Ash trees are created equal. The volume of trees on public property will make it cost

prohibitive treat all public trees. Special consideration should be given to Ash trees that may have significance or have added value to the community as a whole. Treatment of significant Ash trees will buy valuable time until long-term protection methods are available or a solution to the EAB problem is found. Examples of significant Ash trees within the City are the sixteen center median trees in the middle of downtown and specimen quality Ash trees that are found in our parks. The City Council with advice of the City Forester shall determine which trees will be treated contingent upon available funding. Educational information on the costs and benefits of treatment will be made available to the general public so that they may make an informed decision with regards to their own Ash trees.

Woodlot Management

The City has numerous properties under public ownership that are wooded. Ash is a native species and will be found growing naturally in these areas. Typically these trees are not easily accessible and therefore removal would be costly and difficult.

Therefore the plan is to mitigate the adverse impacts associated with the potential loss of these trees. In areas where Ash may be a minor component or where Ash trees are small to sapling size the impact may be unnoticeable and no management will be necessary. There will be a visible impact in areas where Ash trees are larger and make up a noticeable percentage of the woodlot composition. Ash trees that pose a hazard to public safety would be dropped in place and reduced to eliminate any danger to the general public. If the quantity of salvageable trees is sufficient and a market exists for the wood then trees will be tagged, treated like surplus goods and sold to the highest bidder for harvest. Replanting non-Ash saplings available for purchase in bulk quantities would mitigate aesthetic impacts.

Private Property Ash Trees

The majority of Ash trees within the City will be found on private property. The responsibility for tree removal on private property will be that of the property owner. Currently the City extends the contract price for removal of diseased trees to private property owners if the tree is marked for removal by the City Forester. The plan is to continue this practice. Removed trees will be transported to the Compost Facility for disposal and processing.

Tree Replacement

Ash trees that are removed will be replaced with non-Ash species. However not all Ash trees removed will be replaced. The goal will be to enhance diversity of the City's urban forest and a variety of species will be used. Locations will be reviewed by the City Forester to assure proper tree placement within the City right of way and public parks. Factors determining proper location will be adequate lawn area between property line and sidewalk, adequate spacing between trees, and proximity to driveways, above and below ground utilities, traffic signage and the vision triangle area.

The City will also be replacing trees that were removed for reasons other than EAB. Replacement funds are set by the budget on a yearly basis. A balance in the tree replacement program will be necessary to provide a fair distribution of replanting between EAB sites and

sites where trees were lost to other causes. The recommendation would be that Ash replacements be no less than 25 percent and no more than 50 percent of the total replacements available in any one year. The inventory will provide a basis for setting this number.

Regulations

The State has a number of regulations that are already in place to deal with the macro scale issues controlling the movement of EAB infected materials across quarantined areas and the importation across state lines.

River Falls currently has an ordinance that was put into place many years ago to control and manage the effects of Dutch Elm Disease. It is important that the City amend its ordinances to manage EAB activities. A comprehensive review of forestry related issues and appropriate updates to the Municipal Ordinance to reflect the best management practices available should be undertaken.

Communications

EAB is a topic that has been in the news recently. It is important that the general public remain aware and up to date on this issue. An informed public will be an asset that will provide support and aid in management of this problem. Internal communication is also vital in order for the logistics of EAB management to flow smoothly. The following actions are recommended to strengthen communications.

Local Media

Coordinate press releases, current fact sheets and other materials for release to local media through one central contact point.

Public Officials

Prepare presentations and periodic status reports to Public Officials (Mayor, Council, and Plan Commission).

City Staff

Coordinate internally with Public Works Department and others on logistical issues including but not limited to removal, disposal, clean up and restoration of public areas and replanting. Coordinate training opportunities for key staff members and develop a list of topics and provide the associated information to raise the internal level of education and awareness.

General Public

Post contact information along with education and awareness topics on the City Web Site. Also timely informational updates that are provided by the Department of Natural Resources and others will be frequently posted.

Resources

The City maintains a forestry budget. Part of the budget supports the cost of professional services. It is out of this fund that the City pays for the removal of dead and dying trees on public property. The current budget (2010) for professional services is \$22,700. The City usually removes between 50 and 75 trees a year. Clean up of major storm events have been paid for by separate appropriation.

The current budget cannot support the expected increase in activity that will come with the onset of EAB. Additional or other sources of funding will be needed to pay for proactive removal before EAB arrives and reactive removal after EAB arrives. The Ash inventory will provide the numbers to determine what a reasonable cost estimate may be to our goals.

Several financing options should be considered:

1. Increase in the City forestry budget with funding specifically dedicated to EAB abatement activities.
2. Create a City Tree Utility. This would be set up similar to the City Stormwater Utility. A predetermined monthly charge would be assessed to all property owners and collected with their utility bill. Funds would be used for EAB abatement activities.
3. Assess adjacent property owners for removal of infected trees.
4. Use Public works Personnel in situations where EAB abatement activities can be conducted in safe manner, (removal of trees with a diameter of less than 4 inches or less than 25 feet in height).
5. Apply for any available grant funds that may be available.
6. A combination of all of the above.

Conclusions

The urban forest is an important resource for the citizens of River Falls. It has positive impacts on the aesthetics of our community, contributes to stormwater mitigation and helps cool our City on hot summer days. We cannot prevent EAB from entering our community, but we can prepare for it and manage it to mitigate its effects. Based on the plan the following actions are recommended.

In 2010 complete the following:

1. Adopt an EAB control plan.
2. Complete the Ash tree inventory.

3. Based on inventory prepare analysis of what the yearly costs will be when EAB appears in River Falls.
4. Prepare communications materials for interested parties (on going).

In 2011 complete the following:

1. Based on the inventory prepare a survey and detection strategy.
2. Analyze financing options listed under resources section of plan and propose budget to cover costs of removal and replacement directly related to EAB. (on going).

In 2012 complete the following:

1. Implement a removal program that is based on budget provided and other financing options available. Repeat this step each year until EAB is a minor problem.
2. Begin replacing trees as part of City's tree replacement program. Adjust Ash vs. non-Ash replacement ratio each year to insure fair distribution.
3. Prepare a detailed disposal plan that considers a range of options to handle expected volume of Ash material.
4. Prepare a woodlot management plan.