

Emerald Ash Borer Management Program, Year II

For the City of Saint Paul, Minnesota

September 28, 2010

Emerald Ash Borer's (EAB) first discovery in Minnesota occurred on May 13, 2009 in the city of Saint Paul, and the neighborhood of South Saint Anthony. The discovery was confirmed by the Minnesota Department of Agriculture (MDA) and announced at a press conference the next day in nearby Hampden Park. In June of 2009, the City of Saint Paul drafted the Emerald Ash Borer Management Program and presented it to city officials. This Emerald Ash Borer Management Program, Year II document serves as a refinement to the original plan and includes recommended adjustments for 2011.

In response to the discovery of EAB, a new exotic pest which had already wiped out millions of ash trees in mid-eastern states and Canada, the State of Minnesota set aside \$2 million of the newly created Outdoor Heritage Legacy Fund to combat this threat to our forests—Minnesota has an estimated 932 million ash trees, one of the highest populations of ash trees in the nation. Access to some of this funding was made possible through the Forest Protection Reserve grant that the City of Saint Paul and others applied for. The City of Saint Paul applied for the maximum amount (1M) and was awarded \$722,600 that would go into effect January 15, 2010. The grant period would be for seventeen months and run through May 31, 2011.

Saint Paul was the first municipality in the State to develop an EAB plan and because it was not fully funded, it was not able to be fully implemented. Core goals of the plan are:

- *Removal of identified infested trees* found on public right-of-ways, park lands, and other city-owned lands.
- *Destructive sampling of trees.*
- *Treatment of public trees with insecticides.*
- *Structured removal of ash trees.*

The city then coupled this new grant funding with new city Right-of-Way (ROW) assessment funding dedicated to battle the EAB infestation amounting to approximately \$250,000. In 2010, with the combined funds, Parks and Recreation- Forestry implemented the first full year of Saint Paul's Emerald Ash Borer Management Plan. . With the grant sunseting in May of 2011, the City is now proposing to increase the ROW assessment to replace the State's portion of program funding. If successful, it is hoped that the funding in Year II will allow the same level of response to EAB in 2011.

Thus, with the experience and knowledge gained in 2010, the Forestry unit recommends that we continue the Emerald Ash Borer Management Plan as originally laid out with the following notable refinements in 2011:

Infested Trees

The first priority of Saint Paul's (hereafter referred to as the "City") response plan, is to work closely with the MDA to detect and remove infested trees from the landscape as quickly as possible. It has proven to be the best way to slow the spread to other parts of the city and region. Infested trees that have been removed in Saint Paul are destroyed through tub grinding at the Environmental Wood Supply facility near Pigs Eye Lake and then burned as fuel at the District Energy plant heating downtown Saint Paul.

It has always been predicted that the number of infested trees would grow exponentially based on the experience of others across the nation. It is still expected that will occur, but for the moment, it appears the city has made good progress in keeping the infestation population from the still yet to be realized exponential expansion. Nevertheless, Saint Paul should expect to find and remove a minimum of 200 trees in 2011.

There are challenges anticipated regarding the removal of infested trees that have not yet presented themselves. For one, how to handle infested trees once they are located in hard to access locations such as along river bluffs. The MDA confirmed one find of EAB this summer on a trap located on Minneapolis's East River Road above the banks of the Mississippi River—just north of the border with Saint Paul. This would suggest it is just a matter of time when EAB will become common in these areas. When it does, the infestation will likely grow rapidly, as there seems little that can be practically done.

A second issue is infested private property ash trees. Since the 33 private trees removed in June of 2009 by emergency action and funded by the State of Minnesota, there has only been less than a half dozen private trees removed by order of the City in 2010. Less than one-third of removed infested trees have been on private property. The issue becomes one of access and control. The City has unfettered access and control to sample and remove infested public trees when they are discovered. While an ordinance allows the city access to private property in search of EAB, it is very difficult to detect and confirm, much less order the removal of a private tree. Thus, it is feared that EAB is brewing among private property trees and, unfortunately, may hasten the exponential expansion. It is anticipated that orders for removal of EAB trees will drop and become removal orders for dead or dying trees that pose a public hazard. Until that occurs, however, it is still worth pursuing the effort on private trees to stem the tide.

Thus, the following are recommendations regarding infested trees in 2011:

- **Prepare to remove ~200 EAB infested trees, or as required to meet the spread**
- **Push the envelope on inspecting private trees and ordering the removal (or pesticide treatment option) of those confirmed with EAB, as long as feasible**

Removals and Replanting

In 2010, a goal was to begin the removal and replanting of the maximum number of ash trees with the limited resources available. These ash trees were removed through a number of programs with the overarching goal to transform a city with approximately 25% of its urban

forest made up of ash (a percentage considered too high for any species) to a city with a more diverse and balanced tree population. Because it is estimated that approximately 35,000 of the boulevard trees in Saint Paul are ash, and probably a similar number in parks and open spaces—all susceptible to EAB, removing and replanting for this many trees prior to total infestation is most likely impossible. Thus, it is a necessity to make a significant dent in the population each year if we are to meet our goal of transforming the forest. No doubt the program for removal and replanting may not be the only tool we have to battle EAB, but it is certainly the most significant tool in the tool box.

For 2010, the City chose to start this battle by identifying and removing “declining” ash trees. Declining ash trees are defined as though with more than 30% dieback in their canopy or have other health or structural issues that affect their health. Saint Paul (as well as many other cities across the nation) has thousands of declining ash trees. And when ash trees decline in health they become very brittle, susceptible to dropping limbs, and become quite hazardous to people and property. As a start to implementing the EAB Management Plan, the removal of declining public ash trees (besides infested trees) has been the focus, i.e., removing the worst of the worst.

Programs that contribute to tree removals are Structured Removal, the Residential Street Vitalization Program (RSVP)--administered by Public Works, and Regular Removals through the normal course of Forestry work around the city, e.g., storm damage. Using all of these programs, the City is on pace to remove over **1500** ash trees in 2010, exceeding our goal in the Forest Protection Reserve grant of 1100 for the grant period. Also, the City will have replanted for the majority of these trees either yet this year or next spring. Tree planting goals focus on diversity, avoiding monocultures, more frequent switching of species, and planting a new tree for everyone removed.

Following is a breakdown of ash removals in 2010 so far:

| <u>ITEM</u> | <u>Public</u> | <u>Private</u> | <u>Total</u> |
|-------------------------------------------------|---------------|----------------|--------------|
| EAB Infested ash trees removed | 82 | 8 | 90 |
| Destructive Sampling & Girdled ash removed | 10 | 0 | 10 |
| Structured Removal ash trees | 810 | 0 | 810 |
| Regular Service ash (*with ~250 more scheduled) | 239 | 0 | 0 |
| RSVP ash trees removed | 177 | 0 | 0 |
| Total | 1318 | 8 | *1326 |

Best known of these programs is Structured Removal. The term Structured Removal (SR) refers to the proactive systematic removal and replacement of non-infested trees in a planned, or “structured”, approach. Structured Removal, by its very nature, provides efficiencies in that an entire group of ash trees in an area are pegged for removal and replanting in a mass production that allows for economies of scale. This approach has not been without challenges.

When SR was first designed, one goal for 2010 was to make it more acceptable by spreading the pain of removing declining ash trees equally to each Council Ward. The distribution of ash trees,

especially those of declining condition, is not equally distributed across the city. Thus, we feel it is now wise to abandon the automatic removal of ash trees in each Council Ward in favor of concentrating efforts more in the areas where most declining ash trees exist.

Secondly, to get maximum value by creating economies of scale, a decision was made for 2010 to remove all ash trees in the identified declining ash tree area. As a result, the City received occasional complaints as being too aggressive in removing all trees (however, the vast majority of the program was complaint free). It is recommended here that for 2011 we better balance the need for maximum value with a flexible approach, i.e., for allowing some trees in reasonable condition to remain, as decided by professional staff. This refinement of the 2010 approach will help preserve the City's tree canopy as long as possible

Forestry partnered with the Department of Public Works on the Residential Street Vitalization Program (RSVP) as a vehicle to remove even more ash trees and replant them using RSVP project funds. Because these streets and boulevards were being tore up through construction anyway, it made sense to use the opportunity to replace ash trees now rather than wait for EAB to spread into the area. This worked really well for the most part in 2010 except that the same concern came forth about taking fair condition trees from a neighborhood . Neighborhoods are now able to "opt out" of this program for a specified area. Nevertheless, RSVP is an excellent vehicle to remove ash and replant with new and diverse tree species. It is recommended here that Forestry continue to partner on RSVP in 2011 but again, to allow flexibility to allow some trees to remain.

Thus, the following are recommendations regarding removals and replanting for 2011:

- **Refine the current approach to SR in favor of concentrating more in areas of actual declining ash (this will create an unbalance that will have to be understood and accepted)**
- **Remove only the worst declining ash in a designated location (as determined by professional staff) and leave some ash trees of more reasonable condition to preserve tree canopy as long as possible**
- **Allow opt out for residents in RSVP areas where ash trees are in reasonable condition or are not in conflict with construction**

Pesticide Use

The original Forest Protection Reserve grant proposal submitted by the City called for a limited use of pesticides for control of EAB. However, with the reduced amount of funding received, pesticide use was removed. The decision for this was based on several reasons, including:

- Re prioritize funding and determine how much funding should be dedicated towards pesticides versus removal and reforestation, especially in light of the large number of declining ash trees
- Overall concerns and uncertainty in introducing more pesticides into the environment

- Time was needed to study which pesticides, if any, would be best for Saint Paul and to what degree should they be used
- Determining the right time to implement and the optimum scale of pesticide use for EAB response in Saint Paul

Forestry, from the beginning, has acknowledged the use of pesticides as a tool in the battle against EAB. With the concerns above mostly satisfied, we now believes that it is appropriate to strategically increase the use of pesticides in conjunction with the other tools, namely removals and replanting for the long term transformation of the urban forest. Forestry would look to begin in the infested area and work outward. One of the reasons for doing so, in spite of possible yet unknown environmental concerns, is to counter the environmental impact of losing all established ash trees, i.e., the many benefits of large canopied trees. By treating at least some of these trees rather than removing them, we maintain some of the benefits that these trees provide and that we would lose if the trees are removed.

Forestry also acknowledges the ongoing work, expense, and introduction of more pesticides to the environment as these chemicals need to be reapplied occasionally for the life time of the tree(s). We believe that pesticide use over the long term is not the answer but rather a bridge to assist in the transformation effort. This action also contributes to reaching the goals of smoothing out the removal schedule for funding purposes and preserving our tree canopy as long as possible. It is recommended that we proceed with caution as follows:

- **Limit pesticide use to injection only of Emamectin Benzoate, currently the most effective pesticide for EAB, according to public university research studies. While more research needs to be done on this product, it appears to have a track record of minimal environmental concerns according to reports available.**
- **Limit pesticide application to public trees in good condition and between 15-20 inches diameter at breast height (dbh) in size. These trees have the best chance to live many more years, provide the benefits of a large and growing canopy and is the best value for the City's investment for this approach.**
- **Initiate pesticide application in the infested area and work gradually outward in concentric circles.**
- **Limit pesticide use to easily accessible boulevard and park trees and avoid wild, harder to access natural areas.**

Summary

In summary, the lessons learned in 2010 should be used to refine and improve the Emerald Ash Borer Management Program for Year II, 2011. The program, as initially developed, has been a great start and should be reviewed and refined on an annual basis. Making the refinements, as laid out above, in removals and pesticide use, the program can continue to succeed. , EAB is not going away and will only grow in size and complication. We need to use all tools available to transform our urban forest away from an overabundance of ash trees to a new diverse and balanced forest of varying species.