

**City of Lino Lakes  
Environmental Board Meeting**

**April 29, 2015  
6:30 p.m.**

**Pre-Meeting Site Visit at Wollan's Park  
(Go north on Lake Drive to Diane St.; then go west on Diane St.)  
5:30 P.M.**

**AGENDA**

1. Call to Order
2. Approval of Minutes

March 25, 2015

3. Approval of Agenda
4. Open Mike
5. Action Items

No Action Items

6. Discussion/Information Items
  - A. 10,000 Trees for Lino Lakes
  - B. Emerald Ash Borer Management Plan Revisit
  - C. Earth Day
  - D. Recycling Updates and Yearly Recycling Day

7. Adjourn

**CITY OF LINO LAKES  
ENVIRONMENTAL BOARD MINUTES**

<b>DATE</b>	<b>: March 25, 2015</b>
<b>TIME STARTED</b>	<b>: 6:32 P.M.</b>
<b>TIME ENDED</b>	<b>: 8:20 P.M.</b>
<b>MEMBERS PRESENT</b>	<b>: Steve Heiskary, Barbra Bor, Paula Andrzejewski, Nancie Klebba, Kelly Jo McDonnell, Alex Schwartz, John Sullivan</b>
<b>MEMBERS ABSENT</b>	<b>: None</b>
<b>STAFF PRESENT</b>	<b>: Marty Asleson, K.C. Kye</b>

**1. CALL TO ORDER AND ROLL CALL:**

Chair Bor called the Lino Lakes Environmental Board meeting to order at 6:32 p.m. on March 25, 2015.

**2. APPROVAL OF AGENDA**

Mr. Asleson added the following items:

- H. Well Head Update
- J. Heron Update

The Agenda was approved with the added items.

Ms. Klebba made a MOTION to approve the agenda with the above changes. Motion was seconded by Ms. Andrzejewski. Motion carried 7-0.

**3. SWEARING IN OF BOARD MEMBERS**

The Oath of Office was taken by re-appointed board member Paula Andrzejewski and new board members John Sullivan and Alex Schwartz.

**4. ELECTION OF CHAIR AND VICE CHAIR**

Board Members elected Mr. Heiskary as Chair and Barbara Bor as Co/Vice Chair. Motion carried 7-0.

**5. APPROVAL OF MINUTES:**

November 19, 2014

Ms. Andrzejewski made a MOTION to approve the November 19, 2014 Meeting Minutes. Motion was supported by Ms. Bor. Motion carried 7- 0.

**6. OPEN MIKE**

Chair Heiskary declared Open Mike at 6:35 p.m.

New resident Liz Kaufenberg, 6417 Royal Pines Place, came to open mike to talk about organic composting. She just moved here from Bloomington where there was organic composting done with the garbage hauler. She is hoping that the City of Lino Lakes will look into and start to offer organic composting for the residents.

Mr. Heiskary asked Mr. Kye to then discussed organic composting. Maybe the county could get some 4 yard containers at the two recycling sites. Or if the city could look into curb side with a garbage hauler. Also if Mr. Kye could make this a part of the monthly report.

Ms. Andrzejewski asked Ms. Kaufenberg if she would please write an article about organic recycling so that we could make it part of the city newsletter.

Ms. Bor stated that the public needs to be informed and keep the interest going on the organic composting.

**7. ACTION ITEMS (there are no Action Items)**

**8. DISCUSSION ITEMS**

**A. 10,000 Trees for Lino Lakes**

Mr. Asleson discussed the 10,000 Trees for Lino Lakes and said it was the City Council initiative to look into a program for residents to replace their trees. It is estimated that 10-12 thousand trees will be taken out of private property due to emerald ash borer.

Mr. Asleson found a organization called "Tree Trust"- which will take the orders, payment and delivered the trees for resident pick up on May 2. This year there is a limit of 50 trees to be sold. Looking for vounteers to help hand out the Tree Trust purchases.

Anoka County Conservation District also has trees and shrubs for sale posted on their web site.

Mr. Heiskary would like the 10,000 Trees to be added to our goals and also keep it on the agenda to see how it is progressing.

Mr. Sullivan suggested promoting the 10,000 Trees and the Anoka Conservation at Earth Day. Also doing a article and get it in the next newsletter. Keep people inform.

Ms. Bor stated that the 10,000 Trees proposal should be added to our goals as a proactive approach to sustain the tree population in Lino Lakes that are in jeporady due to the Emerarld Ash Borer. And as of now it will be an informal addition and be added to the 2016 goals. Also for Earth Day have a display of a healthy ash tree and a diseased ash tree so residents can see the difference.

Ms. Andrzejewski MOTIONED to propose a formal addendum to the goals and Mr. Schwartz seconded. Motioned carried 7-0.

Mr. Asleson will look into purchasing some trees for Pelitier Island.

**B. Turnberry Crossing Updates**

Mr. Asleson stated that there are slight modifications to the orginal 2004 building footprints on Aqua Lane. Landscape requirements in particular remain the same except he woould like to make a change to the proposed Ash trees

**C. Environmental Initiative Award Application**

Ms. Bor remarked that the application is awarded state wide as an environmental award. They select 10 outstanding projects or outcomes. In discussing this with the board that did the awards Ms. Bor found out that one thing they look for is for it to be collaboration between multiply agencies or partners. They actully ask for 10 such partnerships. If we are to pursure this in the future we should put it on a timeline to organize the material and make the presentation more polished.

Mr. Heiskary said that we should be using some of the people on the board that have expertise in areas to make the presentation more professional.

**D. Earth Day**

Mr. Asleson stated that Earth Day at Wargo Nature Center is April 25. He will gather the material from last year – posters on Rain Gardens, Community Gardens and the Heron project.



Ms. Bor would like to have the seed balls again and Ms. McDonnell will provide some seeds.

Mr. Heiskary will work on the slide show adding recycling updates from Mr. Kye and other activities that the board is involved in.

Mr. Kye will be working on getting volunteers for clean up which has been slow.

Ms. Bor proposed that she and Mr. Kye approach Eagle Brook Stewardship to see if a group can help clean up along 20<sup>th</sup> Ave.

We will have a Earth Day meeting on Tuesday, April 14 at 6:30pm to organize the material.

**E. Recycling Updates**

Mr. Kye mentioned that on Saturday, March 21 the furniture container filled up in less than one hour. John Freimuth, who is the vendor will have additional container at the next monthly recycling day.

Organic recycling has been going well with the city offices and the New Creations Daycare which is at the city complex has also joined in the project. Mr. Kye has also included paper towel recycling at city hall.

Mr. Kye also is involved in business recycling with a push on Energy Smart. Energy Smart is where business sign up and then consultants look through their bills and try to suggest to them where to save money. There are 15-20 businesses in the area that have signed up.

Mr. Kye stated that he is still trying to work with the multi-family units and will be attending a resident meeting at Lakewood Apartments in April. Also the Senior Assisted Living has started with about 55 units and that seems to be going well.

Ms. Andrzejewski suggested that maybe a compost container could be placed at the Community Gardens so that the public can become more aware of what they can do in their own homes.

**F. Wollan's Park /Wetland Bank Update**

Mr. Asleson stated that the conservation easement should be signed by the state soon.

Mr. Asleson mentioned that the Public Works department did a good cleaning up the woodland areas this winter and hopes to be getting a burning permit for the

wettest area out there before it greens up. Also the thatch needs to be scraped off when the ground is frozen.

Ms. Bor and Mr. Heiskary both suggested a site visit to Wollan's Park before the next meeting.

**G. Well Head Update**

Mr. Asleson stated that in having a MS4 permit we are also required to protect our city drinking water supply. A study was done by WSB showing the DWSMA – which stands for drinking water surface management area.

There is a consortium of area cities that are looking for a grant from the Department of Health to help cost share with residents to seal some of the abandoned wells.

Ms. Bor would like an article on the web site or in the city's newsletter for residents who have a well to get their water tested through Anoka County.

**I. Heron Update**

Ms. McDonnell would like to do a segment on the volunteers and the herons.

Mr. Asleson will work on possible dates and stay in contact with Ms. McDonnell.

**J. Approval of Meeting Dates for 2015**

Ms. Bor made a MOTION to approve the meeting dates for 2015 and motion was seconded by Ms. Klebba.

**9. ADJOURNMENT**

Next meeting will be April 29, 2015 at 6:30pm

Ms. Andrzejewski made a MOTION to adjourn the meeting at 8:20 p.m. Motion was supported by Mr. Heiskary. Motion carried 7 – 0

Respectfully submitted,

Mary Fogarty  
Office Specialist

**City of Lino Lakes, MN  
Emerald Ash Borer Management Plan**

**Purpose:**

The provisions of this management plan are intended to provide a cost effective and culturally acceptable method of management for the outbreak of Emerald Ash Borer. The death of all the ash trees in the City of Lino Lakes will have a detrimental effect on home values, quality of life and environmental benefit. The goal of this plan is to mitigate the impact of EAB as much as practical, to residents and City Ash trees.

**Introduction:**

Emerald Ash Borer (EAB) is an invasive, non-native, introduced pest that came into the USA from ports in Detroit Michigan. The insect is indigenous to China and is suspected to come into this country in packing crates. EAB most likely existed in Michigan for at least 5 years before a plant pathologist noticed something wrong with their Ash Trees in 2002. All efforts in Michigan to stop this insect have failed. It is now estimated that EAB can travel up to 4 miles by its self, or an average of 10 miles with human help. Humans help this insect get around to new areas mainly by firewood transport. With only 6 or seven years of study and research, managers at this time are unable to stop this insect. Scientists do know that once established in a City, all of the City's Ash trees will be killed in five to 10 years. It will be perhaps 20 years minimum until effective controls may be available.

Minnesota has a tremendous amount of Ash trees (900 million). This number does not include the trees planted in Cities in parks and along street scapes. The City of Lino lakes has approximately 328 Ash trees in parks and 598 Ash trees on street boulevards. There are also 157 Ash trees on Peltier Island that have supported Great Blue Heron nests in the past. Preliminary remote sensing from the Minnesota Department of Natural Resources estimates 10000 Ash trees overall in the City of Lino Lakes.

There are three options (other than doing nothing), or combination of these options that cities can decide to follow. First, a city can remove all of their Ash trees. If the trees are not removed, unsightly and hazardous trees are left in the landscape. Secondly, a City can remove and replace the dead ash trees with another type of tree, thus mitigating the benefits of the lost trees. Third, a City can chemically treat the trees with an insecticide for an indefinite amount of time. A city can also do a combination of any of these options. The following highlights each option.

1. **Remove all City Ash Trees:** All Trees will die in 5 years so removal costs are associated with the city or a contractor removing all trees in 5 years. This plan has the lowest out of pocket expense. This plan also causes the greatest losses

to aesthetic and ecological value that the Ash trees provided for Lino Lakes. The City will remove all public Ash trees using City Crews

2. **Remove/Replace all City Ash trees.** This option replaces every Ash tree with a new tree that won't get Emerald Ash borer. This plan is the least costly way to manage the Lino Lakes Ash forest and allow it to regain its former size. The City will utilize City crews to remove and replace all City Ash Trees
3. **Treat City Ash trees with insecticide.** This plan has the lowest annual out of pocket costs, but it has the greatest cost over time. It also produces the largest remaining forest over time. Research demonstrates that insecticides can protect small trees < 12" in diameter until they reach a 15 inch diameter. Effective treatment of larger trees would require either a more frequent application, or a higher dose of insecticide. Research as of 3.8.2010 shows one application of insecticide will treat a tree for at least 3 years. The City will utilize City personnel trained and licensed in treatment for EAB, to treat City trees chosen to be treated.
4. **Combination of the first 3 options.** Treating at least the middle range of City tree size also gives the City time to spread our losses over a much greater time period, and possibly eliminate our losses for treated trees. Treated trees should be limited to trees in good vigor with good form. Poor formed trees or trees in declining condition should be removed as soon as possible. Natural controls with parasitic and predatory insects, genetic selection and manipulation, all take time. The estimated time to achieve success in one of these areas is 20 years minimum.

#### **Administration:**

The City Forester shall coordinate efforts with the Public Works Department, the Minnesota Department of Agriculture and/or the Minnesota Department of Natural Resources, Anoka County, and St Paul District Energy to seek assistance for the removal, disposal, replacement, and treatment of City Plan Ash trees. Furthermore the City Forester shall enforce the City Shade Tree Disease Control Ordinance and assist and educate the public in private Ash tree disposal. The disease control ordinance shall be an integral part of this plan.

#### **City Park and Boulevard Tree Management Recommendations:**

Recommended procedure for City Ash Trees is removal of all poorly-formed and/or defective trees first. Chemically treat all trees in the 6 to 12 inch classification, remove and replace all ash trees < 6 inches and trees > 12 inches. Should future chemical labels allow for higher chemical injection rates, than the City may choose to treat the larger trees?

September 28, 2011

**Peltier Island Nest Supported Trees:**

It is recommended that Ash Trees supporting Heron nests on Peltier Island (County Property) be managed in such a way as to support the present and future heron Populations, and that a coordinated effort between Anoka County, and the City of Lino Lakes be arranged to this end. Coordinated efforts may be chemical treatment of existing trees and/or replacement of the Ash trees with Basswood, Hickory Trees, or other species that would afford good habitat for the herons.

**Disposal:**

Since all trees within an infected county will be severely transport limited by quarantine, It is recommended that two diseased tree stock pile sites be designated in the City. These sites would be open to the residents of Lino Lakes to dispose of their dead Ash trees. Trees would be allowed to stay on site until such a time that there would be sufficient volumes for tub grinding by St Paul District Energy, or other party interested in tub ground wood product.

Stock pile sites are the north western corner of the old city hall site, and the athletic complex land on Centerville Road and Birch. The City will maintain an open invitation to better-use utilization of Ash wood.

**Public Information:**

Connect to the public by newsletter articles, web page, kiosk information booth and PSA's on local cable TV.

**Partnerships:**

Share resources with other communities where possible. Investigate the use of marshaling of materials on a common interest basis.

# Shoreview Emerald Ash Borer Management Plan

## PURPOSE

By implementing the provisions of this management plan, the City is attempting to mitigate the disruption to its urban forest caused by the infestation of the Emerald Ash Borer (EAB). Taking a proactive approach to the potential infestation enables the City to address both public and private impacts in an efficient and effective manner.

The City will attempt to distribute costs associated with the EAB over a manageable time period, and lessen the economic and social impact that an extensive loss of ash trees would have on the quality of life in our community.

In establishing this management plan, the City considered the following factors:

- EAB was discovered in St. Paul and Falcon Heights in 2009, and Shoreview in summer of 2011.
- Being proactive will allow the City to have greater control over the situation and minimize and better manage the impact and costs of EAB.
- Removal of diseased or declining ash trees will help prevent the more rapid spread and impacts of EAB in the community.
- There are optional chemical treatments available for both public and private ash trees which may assist in controlling the EAB over time.
- Reforesting the City with native tree species will increase the diversity and sustainability of the forest.

## EMERALD ASH BORER BACKGROUND: THE PROBLEM

*Agilus planipennis*, commonly known as an emerald ash borer (EAB) has a natural range of eastern Russia, northern China, Japan and Korea. In the past decade, the exotic beetle found its way to the United States.

The EAB is a bright green, metallic beetle with an elongated, slender body measuring 1/2 inch long. The adult beetles nibble on ash foliage, but cause little damage to leaves. Trees become infested when adult beetles lay eggs on the bark, which hatch into larvae that bore into the tree. The larvae tunnel in the phloem layer (between bark and wood) and disrupt the movement of water and nutrients, causing eventual death of the tree.

The EAB was first discovered in Michigan in July 2002. It is suspected that the EAB arrived on solid wood packing material shipped from its native Asia. Without any natural predators or controls in North America the insect has spread to 14 states and two Canadian provinces. Millions of ash trees have been killed with some cities reporting complete loss of all ash trees within 5 years of the EAB becoming established. There has been no stopping the devastation to the urban forest, though millions of dollars have been spent on prevention methods. The most current research shows that early sanitation efforts in Minnesota have helped slow the spread of EAB, but new infestation sites are being reported every growing season.

more than 10 percent of Shoreview's urban forest is compiled of ash trees based on recent Minnesota Department of Natural Resources survey.<sup>1</sup>

### MITIGATION POLICIES

Although it is impossible to stop the spread of invasive species like the EAB, the City of Shoreview's EAB Management Plan is created to lessen the impact of the EAB on the City's landscape. The City's mitigation of EAB will be similar to its policy and intent of Dutch Elm and Oak Wilt diseases, which attempt to control and prevent the spread of these diseases.

In an effort to mitigate EAB, the City will take the following actions:

1. **Removal of EAB infested trees:** The City will update its diseased tree ordinance to require the removal of both public and private ash trees infested by the EAB to prevent the spread of the disease. Rules or requirements used for determining infestation will be per the Department of Agriculture or Department of Natural Resources guidelines. This ordinance will allow the City to enter private property for inspection, order the removal of diseased trees, and abate the nuisance upon non-compliance of property owners.
2. **Preemptive removal of declining ash trees:** The City will begin some preemptive removal of declining ash trees on public property, even when EAB has not yet been identified. These ash trees could be located within City parks or in boulevard areas. The reasons for this ash reduction include:
  - a. Removing declining trees before they are infested with EAB;
  - b. Allowing for reforestation with other species of trees; and
  - c. Spreading the cost of tree removal over a longer period of time.

These tree removals will generally be completed by City crews or contractors in late fall and winter months as time and work schedules permit. The most critical period for movement of confirmed EAB ash trees is June and July. This is the period when adult beetles emerge from trees, begin feeding on foliage, and move to more trees to lay their eggs. During this time it is best to leave these trees standing and not chance the spread of EAB by transporting beetle-infested wood to other areas.

3. **Chemical treatment option:** There are currently two methods of tree treatments being offered in the marketplace; drenching the soil with chemicals and injecting the chemical into the tree. The City strongly discourages the use of soil drench insecticides applied by the homeowner due to potential to pollute water and negatively impact wildlife.

The City maintains guidelines for treatment of ash trees to help control the onset of EAB and considers trunk injections a management tool to utilize on significant trees

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<sup>1</sup> Minnesota Department of Natural Resources 2010 Community Tree Survey. Survey of front yard and street trees in residential and commercial sampling areas. Ash trees represented 10.5% of the top ten tree genera for the City of Shoreview.

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**SUMMARY**

EAB will have a significant impact on Shoreview's landscape. The City's plan is designed to inform the public of new infestations, treatment options, removal requirements, and to provide a comprehensive proactive approach to addressing the EAB infestation.





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# EAB Update

What's New with EAB Management

**ARBORJET**  
Revolutionary Plant Health Solutions

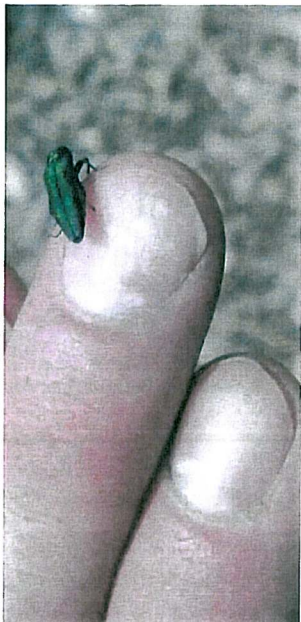


**Minnesota Update**  
**April 20, 2015**



# EAB: The Most Devastating Forest Insect

This tiny insect will change the landscape



**Adult EAB: Rarely seen**

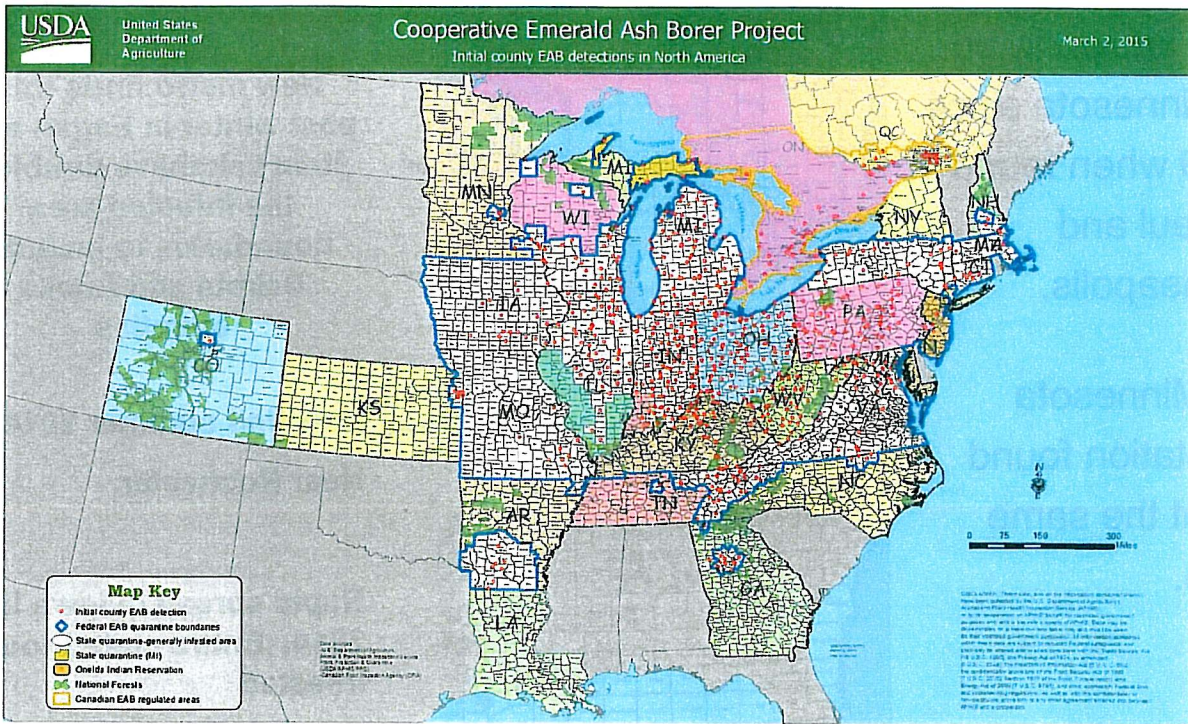


**EAB Larvae: Tree killing stage**





# Where is EAB?

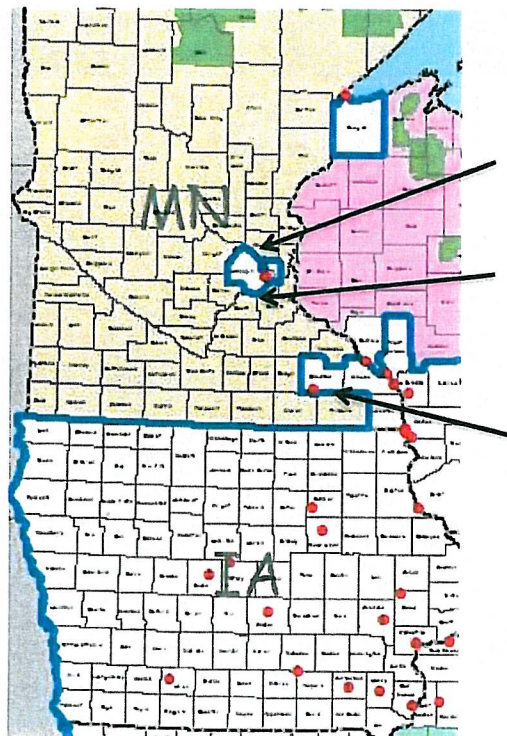




# Minnesota Infestation

EAB known to be  
In Minnesota since  
2009 when found in  
St Paul and  
Minneapolis.

SE Minnesota  
infestation found  
about the same  
Time.



**New metro finds this  
past winter in Eagan and  
Ham Lake have doubled  
the infested area  
boundaries to include  
Dakota and Anoka  
counties**

**New find summer 2014  
Near Rochester.**

**Rapid spread in Iowa in  
2014. Entire state thought  
infested**





## Minnesota EAB News

### Current Counties Quarantined (known infestation)

- Hennepin
- Ramsey
- Houston
- Winona
- Olmsted
- Dakota
- Anoka



Summer 2014 EAB Detected Near Rochester

Winter 2014 EAB Detected in Eagan

Winter 2015 EAB Detected in Ham Lake



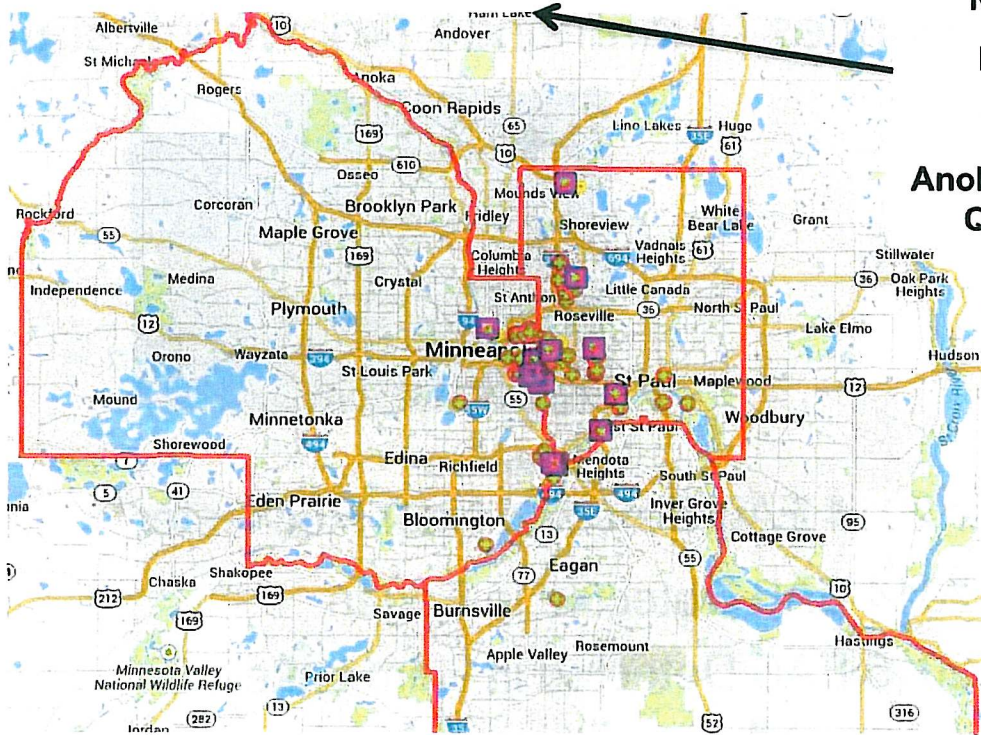
Arboriculture in Motion

# Interactive EAB Map

<http://gis.mda.state.mn.us/eab/>

New Find in  
Ham Lake!

Anoka County now  
Quarantined





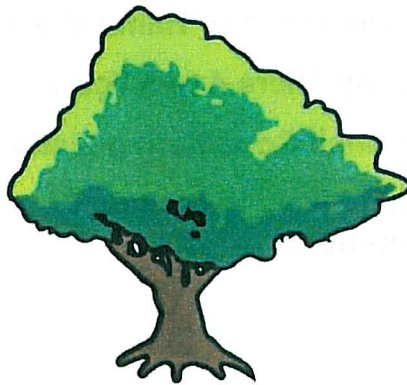
Arboriculture in Motion

# Dakota County Find

**December, 2014**

**Lebanon Hills  
Regional Park**

**Substantial  
Infestation**



# City of Eagan

**Dakota County  
To Join Quarantine  
April, 2015**





## Anoka County Find



- **Transported to Ham Lake by Humans**
- **Likely There 4 to 5 Years**
- **Council Considering Management Plan**
- **Plan Likely to Include Education, Treatment and Removals**





# Minnesota

## A Sampling of Management Plans

<b>St Paul</b>	<b>Managing EAB spread through TREE-age treatments Staging removal on poor condition trees.</b>
<b>Minneapolis</b>	<b>Spending \$1.5 million/yr on remove and planting. Many Homeowners are allowed to treat public trees.</b>
<b>Cottage Grove</b>	<b>Treat most healthy trees on 3 year rotation</b>
<b>Richfield</b>	<b>Treating healthy trees. Save dollars and canopy.</b>
<b>Plymouth</b>	<b>Switched from remove policy to treat with TREE-age to save dollars and canopy.</b>
<b>Columbia Hghts</b>	<b>Treats using a contractor – TREE-age</b>
<b>Shoreview</b>	<b>Offer homeowners treatment at lower cost</b>
<b>New Brighton</b>	<b>Treat most public ash to save canopy and dollars</b>

*Many other examples of integrated management approaches*



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# Milwaukee

## A Case Study

- City Began Treating Parkway Trees 2009
- Treated 27,000 trees for the last 6 years
- 500,000 plus private and county owned trees at risk
- Active Program to Educate Private Tree Owners



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Evolutionary Plant Health Solutions



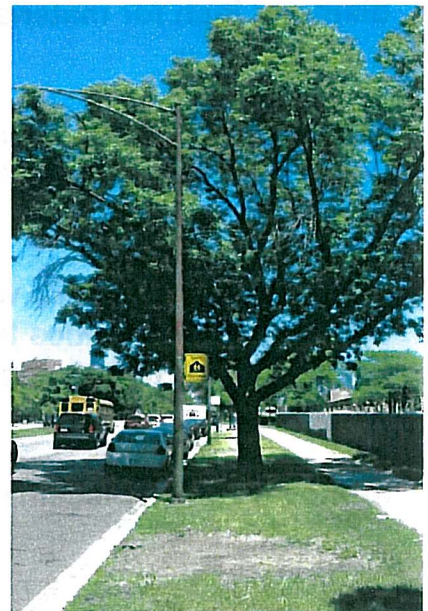
## Chicago

- EAB Discovered 2008 – 93,000 Street Trees
- 2009-2012 Treated 18,000 trees – Underfunded
- 2013-2014 Ramped up and Treated 60,000 Trees

*“The treatment kills 99 percent of Emerald Ash Borers in an affected tree. The cost to inoculate a single tree is \$46.*

*The cost of removing and replacing a dead tree is \$1,000.”*

Source: Chicago Mayor's office, September 18, 2014







## Minnesota EAB Treatment Costs For Municipalities

**Average cost for in house treatment of TREE-age for EAB is \$2.75 per diameter inch for materials and .75 per inch for labor. Total \$3.50/inch**

**Average cost for contractor cost of TREE-age is \$5.75 per diameter inch. Costs derived from St Paul, Columbia Heights and others using contractors.**

**A 17 inch diameter ash would then cost \$60 to treat in house and \$98 using a contractor. Most cities treat every third year. Annual cost to keep trees healthy is \$20 to \$33 depending on labor choice.**

**Removal and Replacement cost average is \$750.**



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# Research Update

**ARBORjet**  
Revolutionary Plant Health Solutions





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# Insecticide Option Paper Revised June 2014



**Updated with additional AIs**

**Colorado State added as a  
contributor**





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# TREE-äge®

- Next generation injection chemistry
- Longest-lasting control: up to two years
- Small doses are very effective
- Labeled for 25 pests

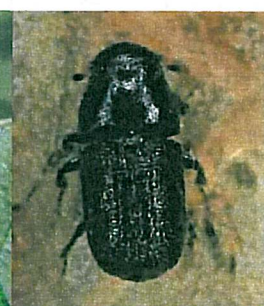


**Flatheaded Borers**

**Pine Coneworm**

**Tent Caterpillar**

**Pine Beetles**



TREE-äge® Insecticide is a Restricted Use Pesticide and may only be sold to and used by a state certified applicator or by persons under their direct supervision. TREE-äge® is a registered trademark of Arborjet, Inc. Alamo® is a registered trademark of Syngenta Group Company.

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Evolutionary Plant Health Solutions



## Suggested Treatment Guideline for EAB

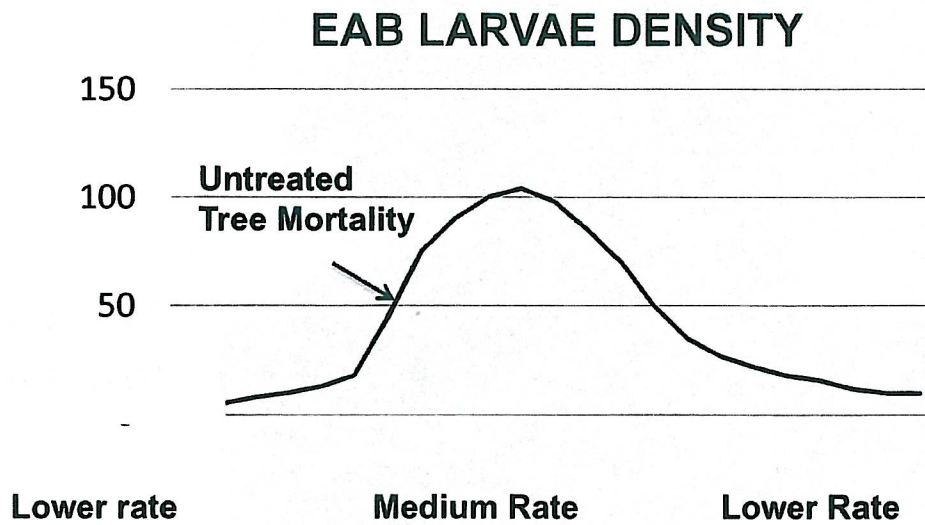
TREE IV			Air Hydraulic/QUIK-jet Set to Three (3) Milliliters			
Tree Diameter (DBH) in	Total Milliliters per Tree	Injection Sites per Tree	Diameter (DBH) in Inches	Milliliters of TREE-age per Injection Site	Total Milliliters per Tree	Injection Sites per Tree
4	15	4	4	6	18	3
5	15	4	5	6	18	3
6	20	4	6	6	18	3
7	20	4	7	6	24	4
8	25	4	8	6	24	4
9	30	4	9	6	30	5
10	30	4	10	6	30	5
11	40	4	11	6	36	6
12	40	4	12	6	36	6
13	45	4	13	6	42	7
14	50	4	14	6	48	8
15	60	8	15	9	63	7
16	65	8	16	9	72	8





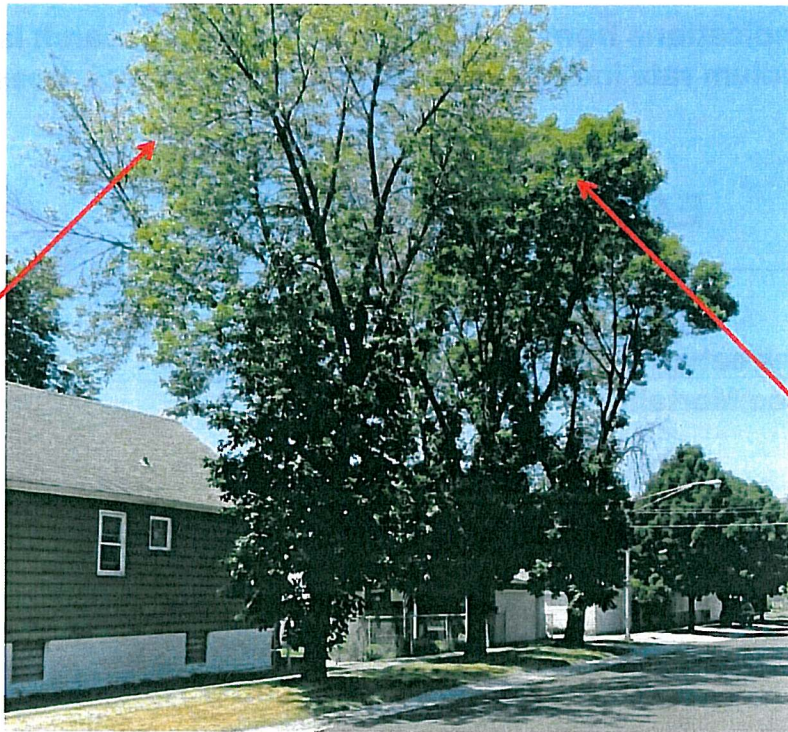
# Large Tree Research

Early indications from Dr. Sadoff's Large tree research is that medium rate indicating good control on 40 inch trees





# Canopy Thinning

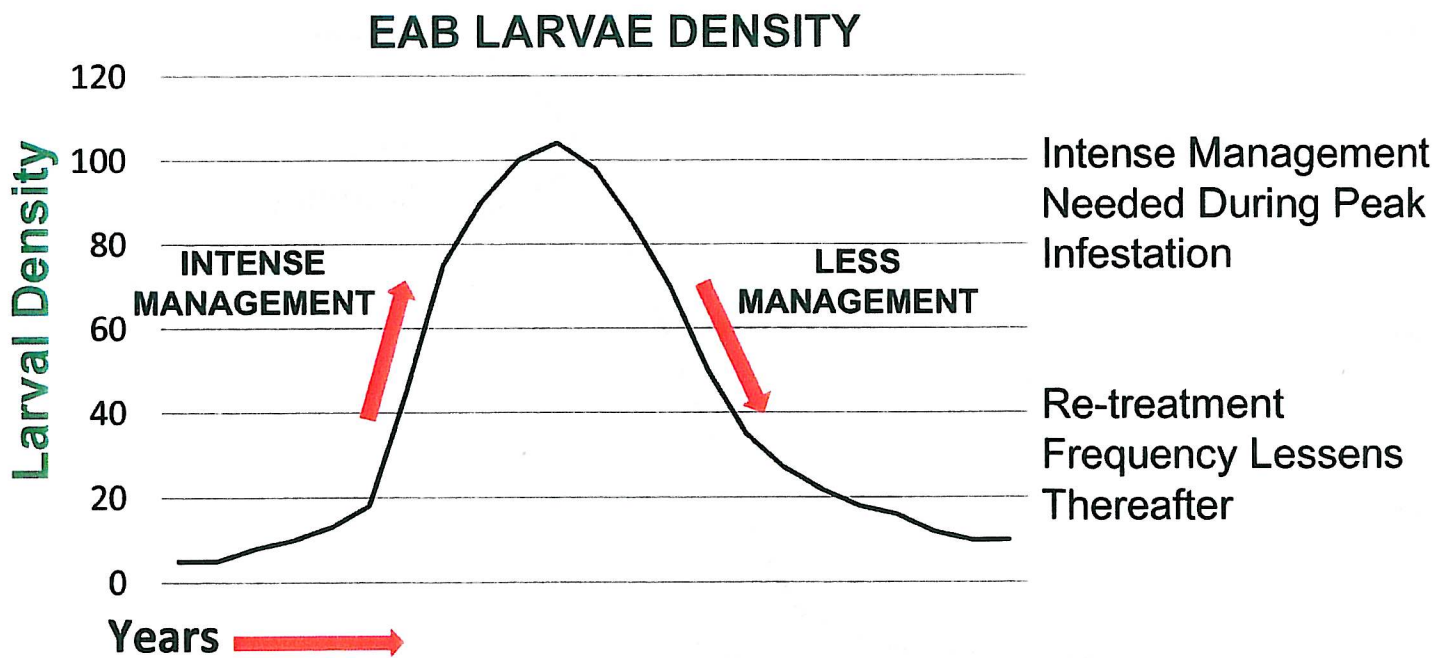


**60% Thinning  
Removal  
Likely**

**30% Thinning  
Treatable**



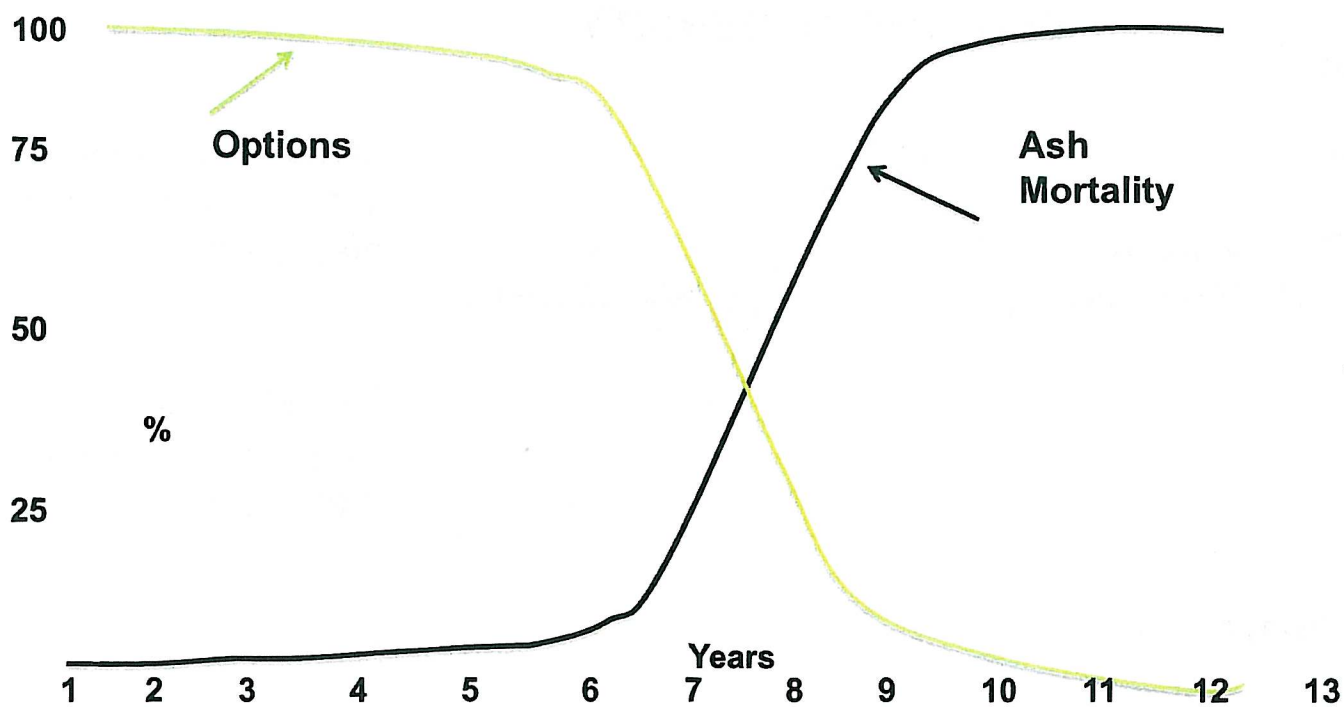
# EAB Population Management





# An Inverse Relationship

## EAB Density versus Management Options







Arboriculture in Motion

## Researchers and Industry Professionals Agree

Coalition for Urban Ash Tree Conservation  
Emerald Ash Borer Management Statement  
[www.emeraldashborer.info/files/conserve\\_ash.pdf](http://www.emeraldashborer.info/files/conserve_ash.pdf)  
*signed 06 Jan 2011*


***“We the undersigned strongly endorse ash tree conservation as a fundamental component of integrated programs to manage emerald ash borer (EAB) in residential and municipal landscapes.***

***Cost-effective, environmentally sound EAB treatment protocols are now available that can preserve ash trees through peak EAB outbreaks with healthy canopy intact.***





# Use The Tools Available




**EAB Toolbox**  
Ways to Manage Emerald Ash Borer in Your Community

**W**ithin the last few years several new tools have been added to the Emerald Ash Borer (EAB) management 'toolbox.' This has resulted in support for ash canopy conservation as an ecologically and economically superior management option to sustain the ash canopy in communities.

The tools in our toolbox have helped make conservation of ash canopy a viable EAB management strategy. Each community will arrive at its own unique management plan for EAB. Ash tree conservation is a flexible approach that represents a middle ground between planned ash removal and long-term ash preservation, and has science-based applications to support and implement it.

For more information on combating EAB in your community, visit SMA at [www.sma-arborists.com](http://www.sma-arborists.com) and check out the SMA EAB Position Paper and our page of EAB-related web links.

Join SMA for member benefits like City Trees Magazine, our professional listserv and other chances to find the help you need or to share with other professionals like yourself!




**EAB Toolbox**  
9 Ways to Manage Emerald Ash Borer in Your Community

**4 NEW TOOLS**

- Green Leaf Volatile Trap Method**  
Can provide reliable, cost-effective detection within a community and should be considered a necessary complement to trapping surveys conducted by other agencies.
- Branch Sampling**  
Can detect EAB in low populations with high accuracy. It can be used as an early warning system. Can be combined with GIS mapping to show EAB "hotspots". No need to wait for late-stage (3) infested indicators to confirm an infestation.
- Treatment**  
Based upon Strategic EAB Management planning and identification of crucial zones, treatment with pesticides shown to be effective can limit EAB spread, especially into and within targeted areas to conserve ash canopy.
- Hyperspectral Imagery**  
Can generate mapping to indicate overall ash canopy within a community, greatly enhancing the ability to plan strategically and to assist in public outreach, especially for ash populations on private property.

**5 EXISTING TOOLS**

- 1-Tree Analysis**  
Provides a baseline of existing forest canopy cover and assists in quantifying the threat of EAB to a community.
- EAB Strategic Management Plan**  
Provides a major means of setting long-term goals, setting biological and EAB control strategies.
- Communications Plan**  
Critical to engaging the community and keeping the public informed of progress and activities.
- GIS Inventory**  
Inventory of street, park & woodland trees to map where Future Ash Treatment, Ash Removal, and Replacement Plans will be scheduled.
- 5-Year Operating Plans**  
Needed to develop short-term objectives and to establish goals of Strategic Management Plan.



## Society of Municipal Arborists Position Paper and Toolbox

## Cost Analysis Study

- 4 Management Options
  - No Action Taken
  - Preemptive Removal and Replacement (Before EAB arrives)
  - Preemptive Removal No replacement
  - Treatment of all Ash with Insecticide
- Treatment provides the best total value
- Both preemptive removal and preemptive remove & replace provide less value (than treatment) over 20-years.
- Prolonging the life of large mature ash trees, means exponentially greater benefits through home values, energy savings and ecological improvements.





# Integrated Management Approach

The combination of removing poor condition ash and treating good quality trees accomplish the desired results in an urban forest environment

**Slower Diversification – Tree removals will be spread over 20 plus years**

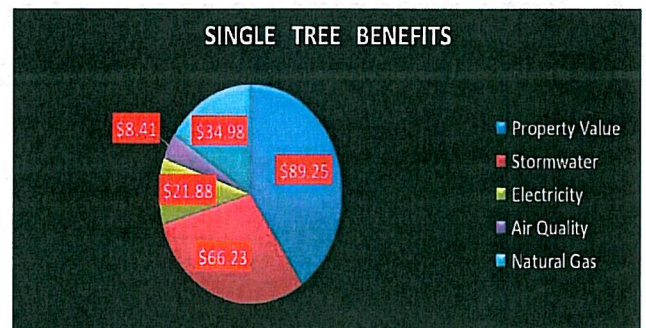
**Canopy Retention – Studies prove this is the approach to maintain value of canopy**

**Cost is Spread Out – Cities can't afford removal and replacements now**

**Property Values Maintained**

**Less Risk of Storm water overflowing sewers**

*Graph illustrates value of a single ash tree on the parkway of Lino Lakes. Multiply this value times ? Ash in your city.*







## **Memo**

To: Lino Lakes Environmental Board  
From: KC Kye  
Date: April 29, 2015  
Re: Annual Recycling Update & Earth Day Events

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The Recycling PowerPoint slides were a part of the slideshow presented at the Earth Day Celebration at Wargo Nature Center on Saturday (4/25). Please take a look at the tonnages from 2014, as well as, upcoming spring/summer events.

As part of Earth Day, 30 CHS National Honor Society students and several staff planted ~800 Red and White Oaks on the north side Molitor Dr. Photos are uploaded on our Facebook page.

Also on our Facebook page, we have uploaded photos from our Earth Day Celebration at Wargo Nature Center.

KC Kye

CC. Mike Grochala

## Woolan's Park Wetland Bank Credit Allocation Schedule

The following is a proposed credit allocation schedule for the Woolan's Park Exceptional Natural Resource Value (ENRV) wetland mitigation banking project (16.46 acres total easement area) located in Lino Lakes, Minnesota. This credit allocation schedule was developed in order to satisfy the requirement referenced in MN Rule 8420.0705 Subpart 3 and at the request of RCWD. For purposes of this ENRV wetland banking project, credit allocation was determined for the RCWD, WCA, and USACOE. The following sections detail each of the different credit allocation scenarios. See **Figure 1** for a map of the proposed Woolan's Park ENRV wetland bank and each of its different management areas. For purposes of measuring "Vegetative Integrity" in determining vegetative quality of the proposed ENRV wetland bank, the Minnesota Routine Assessment Methodology (MnRAM) will be utilized to assess both the pre-restoration wetland condition and the post restoration conditions.

### **Comprehensive Wetland Protection and Management Plan (CWPMP) Area Credit Allocation**

The wetland complex located within Woolan's Park is located within the Lino Lakes CWPMP boundary and within the Final WMC. Credit allocation described within this document for RCWD is based on the updated RCWD rules that were adopted in June of 2013 and that went into effect on July 1<sup>st</sup>, 2013. Under these updated rules the proposed restoration and/or protection of the wetland complex located within Woolan's Park will be considered as an action eligible for credit for CWPMP areas.

Calculations for determining potential CWPMP wetland banking credit are based on the assumption that up to 100% credit will be issued for successful implementation of the ENRV wetland restoration component of the wetland mitigation banking plan and up to 100% credit will be issued for the upland buffer component of the wetland mitigation banking plan. Full credit for upland buffer will be available for release if the upland habitat area is contiguous with the final WMC wetland, is a minimum of 2 acres in size, and is ecologically ranked as "C" quality or better.

The City of Lino Lakes may in the future construct a trail within the Woolan's Park wetland bank as described in the Part B application for this wetland bank. If trails are constructed within any area of the wetland bank, it would result in a direct 1:1 reduction of credit being released.

### ***Credit allocation calculation within CWPMP Area***

Calculations are based on meeting all minimum performance standards, which may result in a total of up to 12.28 acres (up to 100% of 12.28 acres) of credit for management areas to be restored or protected under the ENRV rule and up to 4.18 acres (up to 100% of 4.18 acres) of credit for management areas to be restored for upland buffer that is contiguous with the final WPC, is a minimum of 2 acres in size, and is ecologically ranked as "C" quality or better.

A total of up to **16.46** acres should be eligible for RCWD credit allocation for wetland and upland restoration under the actions eligible for ENRV projects.

## **WCA Credit Allocation**

Under WCA the eligible actions for the Woolan's Park ENRV project will involve 1) the restoration of an exceptional natural resource value wetland by reestablishing permanent, native non-invasive vegetation and 2) restoration of upland that is adjacent to an exceptional resource when the restoration activity significantly improves the water quality or habitat functions or the exceptional resource. ENRV credit for both of these actions should result in a range of 25-50% credit of the 16.46 total acres of wetland and upland buffer that is proposed to be restored within Woolan's Park.

Calculations of determining potential WCA credit are based on the assumption that a range of 25-50% credit will be issued for successful implementation of the wetland restoration component of the ENRV wetland mitigation banking plan and a range of 25-50% credit will be issued for the upland buffer component of the ENRV wetland mitigation banking plan.

### ***Credit allocation calculations for WCA***

#### **Wetland Restoration**

The calculations are also based on meeting all minimum performance standards, which may result in a total that ranges from 3.07 acres to 6.14 acres (25-50% of 12.28 acres of wetland) of credit for restoration of an ENRV wetland by reestablishing permanent native, non-native vegetation.

#### **Upland Restoration**

Resulting WCA credit allocation for upland buffer that is located adjacent to an ENRV resource will range from 1.05 acres to 2.10 acres (25-50% of 4.18 acres of upland) of credit.

#### **Total WCA Credit**

A total ranging between **4.12 acres (25%)** to **8.24 acres (50%)** should be eligible for WCA credit allocation for wetland and upland restoration under the actions eligible for ENRV projects.

## **USACOE Credit Allocation**

Calculations of determining potential USACOE credit are based on the assumption that up to 50% credit may be issued for successful implementation of the wetland restoration component of the ENRV wetland mitigation banking plan and up to 25% credit may be issued for the upland buffer component of the ENRV wetland mitigation banking plan.

### ***Credit allocation calculations for USACOE***

The calculations are also based on meeting all minimum performance standards, which may result in a total of up to 6.14 acres (50% of 12.28 acres of wetland) of credit for wetland restoration and 1.04 acres (25% of 4.18 acres of upland) of credit for upland buffer.

#### **Total USACOE Credit**

A total of up to **7.18 acres** may be eligible for USACOE credit allocation. A final determination on the acres of compensatory wetland mitigation credit will be issued by the USACOE.

### **Credit Release Schedule**

#### **1. End of Year 1 (December 2014, 15% of Total Possible Acres)**

Criteria are implementation based:

- A. First year of prescribed restoration, management, and monitoring completed, and
- B. Demonstrated establishment of permanent conservation easement and signage over all of the mitigation bank area.
- C. Credit allocation will be released following completion of 1A. and 1B.

#### **2. End of Year 2 (December 2015, Additional 10% of Total Possible Acres)**

Criteria are implementation based:

- A. Second year of prescribed restoration, management, and monitoring completed, and,
- B. A positive shift toward a higher quality plant community should be demonstrated and no complicating setbacks identified.
- C. Credit allocation will be based on the findings and results of TEP/Consultant site visit.

#### **3. End of Year 3 (December 2016, Additional 25% of Total Possible Acres)**

Criteria are implementation and performance based:

- A. Third year of prescribed restoration, management, and monitoring completed, and,
- B. A positive shift toward a higher quality plant community should be demonstrated and no complicating setbacks identified, and,
- C. Vegetation quality across all restored vegetative communities demonstrates a positive shift in MnRAM assessment score for "Vegetative Integrity" from "Low" to "Medium" or "High" or "Medium" to "High", and,
- D. Rare plant populations increase in population size and in spatial distribution.
- E. Credit allocation will be based on the findings and results of TEP/Consultant site visit as well as the Year 3 MnRAM and rare plant species survey results.

**4. End of Year 4 (December 2017, Additional 25% of Total Possible Acres)**

Criteria are implementation based:

- A. Fourth year of prescribed restoration, management, and monitoring completed, and,
- B. A positive shift toward a higher quality plant community should continue to be demonstrated with no complicating setbacks identified.
- C. Credit allocation will be based on the findings and results of TEP/Consultant site visit.

**5. End of Year 5 (December 2018, Additional 25% of Total Possible Acres)**

Criteria and implementation and performance based:

- A. Fifth year of prescribed restoration, management, and monitoring completed, and,
- B. A final MnRAM assessment of "Vegetative Integrity" will be assessed and reported by the Consultant for each of the four restored communities (Figure 1) within the mitigation banking site. Vegetation quality across all restored vegetative communities demonstrates a positive shift in MnRAM assessment score for "Vegetative Integrity" from "Low" to "Medium" or "High" and "Medium" to "High" or "Exceptional". Within the wetland and upland buffer plant communities, if a shift in vegetative integrity is from "Low" to "Medium", then 75% of available credit will be released. If the shift in vegetative integrity is from either "Low" to "High" or "Medium" to "High" or "Exceptional", then 100% of available credit will be released, and,
- C. Rare plant populations should increase in size and in spatial distribution.
- D. The final credit allocation will be based on meeting all performance standards set forth for this ENRV eligible wetland bank and a final determination by the LGU and TEP.

**Woolan's Park Wetland Bank Credit Allocation Schedule**

Based on Credit received for being an ENRV wetland bank

		Woolan's Park Management Zones				Woolan's Park (acres)
		Canarygrass Zone	Sedge/Canarygrass Zone	Sedge/Cattail Zone	Upland Woodland/Forest Zones	
		5.95 acres	1.80 acres	4.53 acres	4.18 acres	16.46
<b>CWPMP Area Credit Allocation</b>						
<b>Wetland Protection &amp; Preservation</b>	up to 100% credit for restoration or protection of wetland of exceptional natural resource value consistent with MN Rule 8420.0526, subpart 8 determined by LGU and TEP	5.95	1.80	4.53	0.00	12.28
<b>Buffers</b>	100% credit for upland buffer determined by LGU and TEP (2 acre minimum and must be contiguous with final WMC wetland)	0.00	0.00	0.00	4.18	4.18
						<b>16.46</b>
<b>WCA Credit Allocation</b>						
25-50% credit for restoring wetland	25-50% credit for restoration of an exceptional wetland by reestablishing permanent native, non-invasive vegetation	1.49 to 2.97	.45 to 0.9	1.13 to 2.265	0.00	3.07 to 6.14
25-50% credit for upland buffer	25-50% credit for restoration of upland adjacent to an exceptional resource when the restoration activity significantly improves the water quality or habitat functions of the exceptional resource	0.00	0.00	0.00	1.05 to 2.10	1.05 to 2.10
						<b>4.12 to 8.28</b>
<b>USACOE Credit Allocation</b>						
50% credit for restoring wetland		2.98	0.90	2.27	0.00	6.14
25% credit for upland buffer		0.00	0.00	0.00	1.04	1.04
						<b>7.18</b>

**Canarygrass Zone****Credit Release Schedule over 5 Years****Release of Credit over 5 Years**

	Total Credit Available	Year 1 15%	Year 2 10%	Year 3 25%	Year 4 25%	Year 5 25%	Total (Acres)
<b>RCWD CMPMP Credit Allocation</b>	<b>Credit = (1.0)(5.95) acres</b>						
up to 100% credit	5.95	0.89	0.59	1.49	1.49	1.49	5.95
<b>WCA Credit Allocation</b>	<b>Credit = (.25) to (.5)(5.95) acres</b>						
25-50% credit	1.49 to 2.98	.22 to .44	.15 to .30	.37 to .74	.37 to .74	.37 to .74	1.49 to 2.98
<b>USACOE Credit Allocation</b>	<b>Credit = (.5)(5.95) acres</b>						
up to 50% credit	2.975	0.45	0.3	0.74	0.74	0.74	2.97

**Sedge-Canarygrass Zone****Credit Release Schedule over 5 Years****Release of Credit over 5 Years**

	Total Credit Available	Year 1 15%	Year 2 10%	Year 3 25%	Year 4 25%	Year 5 25%	Total (Acres)
<b>RCWD CMPMP Credit Allocation</b>	<b>Credit = (1.0)(1.80) acres</b>						
up to 100% credit	1.8	0.27	0.18	0.45	0.45	0.45	1.8
<b>WCA Credit Allocation</b>	<b>Credit = (.25) to (.5)(1.80) acres</b>						
25-50% credit	0.45 to 0.9	.07 to .14	0.05 to 0.09	.11 to .22	.11 to .22	.11 to .22	0.45 to 0.9
<b>USACOE Credit Allocation</b>	<b>Credit = (.5)(1.80) acres</b>						
up to 50% credit	0.9	0.13	0.09	0.23	0.23	0.23	0.91

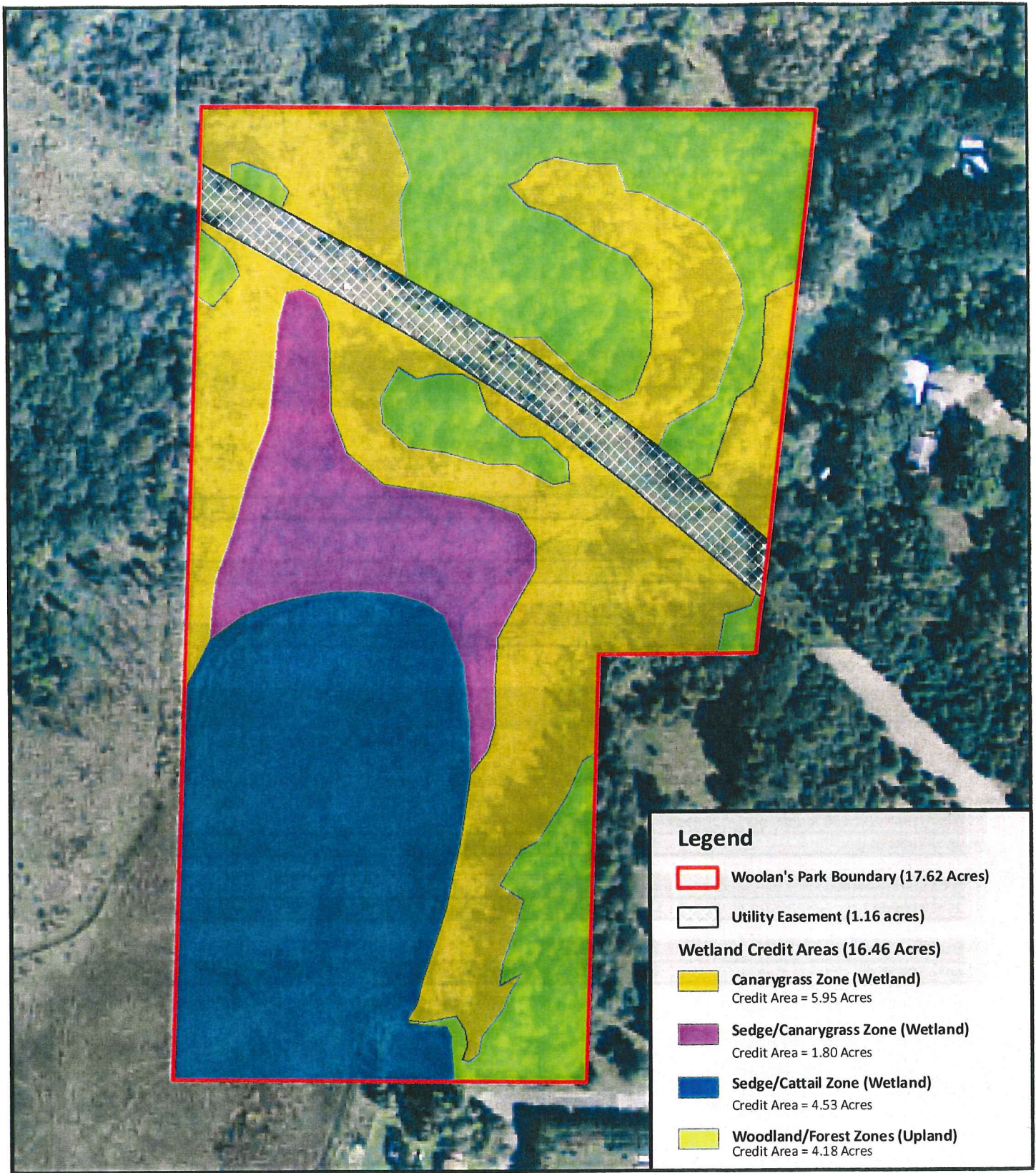
**Sedge-Cattail Zone****Credit Release Schedule over 5 Years**

	Total Credit Available	Release of Credit over 5 Years					Total (Acres)
		Year 1 15%	Year 2 10%	Year 3 25%	Year 4 25%	Year 5 25%	
<b>RCWD CMPMP Credit Allocation</b>	<b>Credit = (1.0)(4.53) acres</b>						
up to 100% credit	4.53	0.68	0.45	1.13	1.13	1.13	4.52
<b>WCA Credit Allocation</b>	<b>Credit = (.25) to (.5)(4.53) acres</b>						
25-50% credit	1.13 to 2.27	.17 to .34	.11 to .23	.29 to .57	.29 to .57	.29 to .57	1.13 to 2.27
<b>USACOE Credit Allocation</b>	<b>Credit = (.5)(4.53) acres</b>						
up to 50% credit	2.27	0.34	0.23	0.57	0.57	0.57	2.28

**Upland Woodland-Forest Zone****Credit Release Schedule over 5 Years**

	Total Credit Available	Release of Credit over 5 Years					Total (Acres)
		Year 1 15%	Year 2 10%	Year 3 25%	Year 4 25%	Year 5 25%	
<b>RCWD CMPMP Credit Allocation</b>	<b>Credit = (1.0)(4.18) acres</b>						
up to 100% credit	4.18	0.63	0.42	1.04	1.04	1.04	4.17
<b>WCA Credit Allocation</b>	<b>Credit = (.25) to (.5)(4.18) acres</b>						
25-50% credit	1.05 to 2.09	.16 to .32	.11 to .21	.26 to .52	.26 to .52	.26 to .52	1.05 to 2.09
<b>USACOE Credit Allocation</b>	<b>Credit = (.25)(4.18) acres</b>						
up to 50% credit	1.05	0.16	0.11	0.26	0.26	0.26	1.05





**Woolan's Park Wetland Bank  
Wetland Credit Areas Map  
City of Lino Lakes, Minnesota**

