



City of Le Sueur

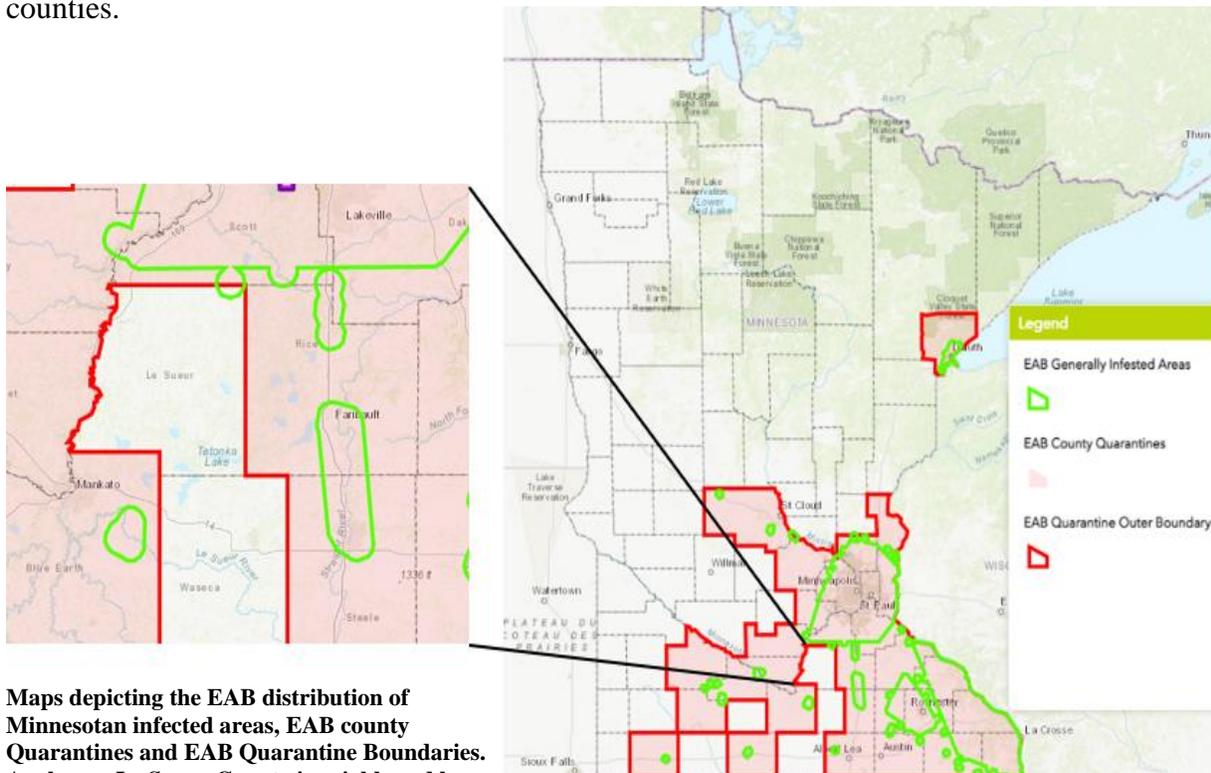
Emerald Ash Borer (EAB)

Management Plan

Introduction:

Emerald Ash Borer (*Agrilus planipennis*) or more commonly known as EAB, is a very destructive invasive pest to all species of ash trees (*Fraxinus spp*). Emerald Ash Borer is an exotic borer native to Asia with its natural range being in China, Japan, Mongolia and Korea. This invasive beetle was first discovered in North America in 2002, and has been confirmed in 35 states, including Minnesota.

Minnesota is the host to roughly one billion ash trees, making it the largest concentration of this shade tree species in the whole country. There is currently no resistance to EAB in our native ash trees. The green ash (*Fraxinus pennsylvanica*), black ash (*Fraxinus nigra*) and white ash (*Fraxinus americana*) are among the ash trees found in this northern state. Emerald Ash Borer was first found in St. Paul, Minnesota in 2009 and has been detected in many surrounding counties.



Maps depicting the EAB distribution of Minnesotan infested areas, EAB county Quarantines and EAB Quarantine Boundaries. As shown, Le Sueur County is neighbored by counties detected with known EAB, making it more susceptible for an EAB spread.



The Emerald Ash Borer adult beetle lives outside of the tree, not causing harm as does the larvae inside the tree disrupting the vascular system. During this immature stage, the larvae feed on the outer one inch of bark, which puts a halt to the flow of nutrients throughout the tree canopy. As the worm-like larvae tunnels around the innards of the ash tree, the slow process of dieback begins. The symptoms are less pronounced once initially infested, so by the time the symptoms are visible it is possible the EAB population has already grown and spread to other trees.

Ash trees are not only abundant within the City of Le Sueur, but they are an important component to our urban landscapes providing essential tree canopy. The question is whether the Emerald Ash beetle has been found within the county from known infestation sites. The potential of losing these trees if the EAB goes undetected within the ash trees could be detrimental to not only the economy but the environment as well. The cost of injecting, removing and even managing the ash trees of an infestation can be severely high.

Definitions:

- Quarantine Zones- Minnesota Department of Agriculture (MDA) regulated areas that restrict the movement of any ash tree material.
- Public Right Away- A piece of land that gives the public works responsibility to maintain roughly 10-15ft back of curb onto parcel of land, which is considered the public right-away.
- Diameter at Breast Height (DBH)- Standard for measuring trees, the diameter (cross-section) is measured in inches from about 4.5ft above the ground.
- Host Species- All tree species of the *Fraxinus* genus, all which are susceptible to the Emerald Ash Borer invasive species.
- Known EAB Infested Sites- Known and designated areas where EAB has been found and documented of the infested ash tree.

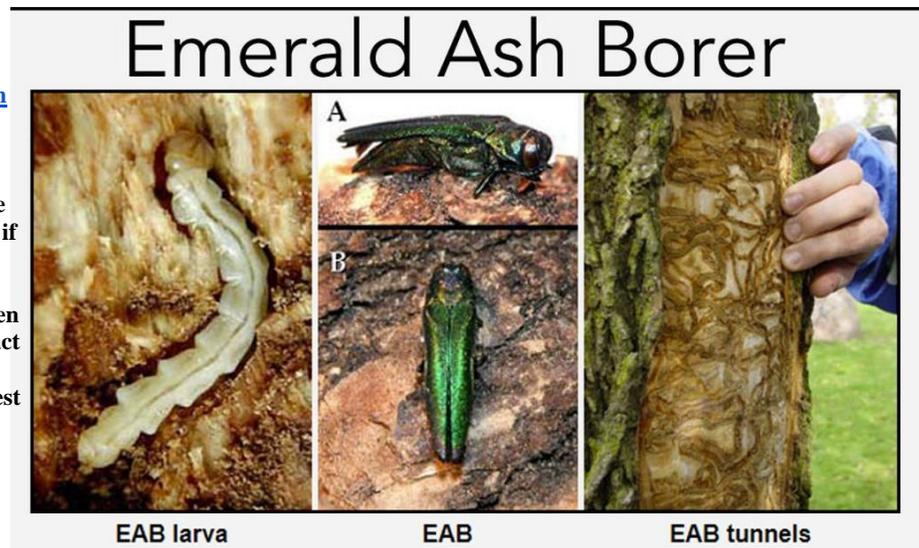
Purpose:

By implementing the provisions of the Emerald Ash Borer Management Plan, the City of Le Sueur is attempting to prepare for the pending disruption that an EAB infestation has on urban forests. This plan helps mitigate specific strategies for the possible occurrence of an Emerald Ash Borer outbreak, along with some proactive approaches that help spread the costs in a manageable time period. The green ash (*Fraxinus pennsylvanica*) has been planted extensively within both private and boulevard trees. To prepare for its arrival, policies and resources help show how tree mortality will impact the social, economic and quality of life in Le Sueur.

What is Emerald Ash Borer?

[Emerald Ash Borer](#), (*Agrilus planipennis*), is a quarantined non-native invasive wood bearing beetle that inconspicuously kills ash trees. Adult EAB are small, bright iridescent green beetles with a slender body of about 1/3"-1/2". Underneath their wings is a purple magenta color and their eggs are laid on a tree's bark. The larvae then bore into the tree and feed on the new wood, impacting the ash tree's ability to grow, suppressing the supply of nutrients. The larvae have white flat bodies and are roughly 1" long when fully grown. They feed until late fall and transform into pupae in late spring.

[Does My Tree Have Emerald Ash Borer \(EAB\)?](#) Many insect's Native to Minnesota have been Confused for the [EAB pest](#). So, Correctly identifying whether the beetle is Emerald Ash Borer and if the tree is an [Fraxinus](#) is quite critical. If you do concur or suspect that your ash tree has been infected with this nuisance, contact the Minnesota Department of Agriculture (MDA) on their Arrest the Pest phone, [1-888-545-6684](tel:1-888-545-6684)



[Symptoms of Emerald Ash Borer](#)

The first signs of an outbreak are non-noticeable, but the pest quickly kills, and the ash tree will usually die within four years of initial contact. Early detection is difficult, so noticing increased woodpecker activity and die-back of the upper canopy is one of the tall tale signs. The city is working towards a tree inventory of existing ash trees in boulevard and public land limits to help implement the impacts that a EAB infestation will have on Le Sueur.

- Increased woodpecker activity- they peck out outer bark while foraging to feed on EAB larva
- D-shaped exit holes 1/8" as adult beetles emerge from late May to August
- Bark splitting
- Canopy dieback- begins in the one-third top of canopy
- Serpentine (S-shaped) galleries situated under the bark- galleries in which larvae feed
- Epicormic Shoots growing from ash tree



Slow the Spread

Emerald Ash Borer naturally spreads within one to two miles annually. The beetle is spread through short distance natural flight and infested firewood through long distance. Without care, movement of infested material results in a wider and faster spread of EAB. [Proper management](#) and planning practices will help slow the spread and provide protection for the uninfected Minnesotan forests.

- Don't import infested ash material such as firewood into Minnesota
- Don't transport ash firewood unless [MDA certified](#)
- Remember that it is illegal to move non-coniferous firewood outside EAB quarantine zones
- Remain diligent on monitoring your ash tree to recognize the possible infestation of EAB

Action Plan Development

- **Education-** The City of Le Sueur is willing to strive and educate its residents on EAB management through public meetings, the city website, mailings, literature, community meetings, public meetings and local newsletters. The City and County members will keep in touch and stay in contact with the [Minnesota Department of Agriculture \(MDA\)](#) and other institutions concerned with the Emerald Ash Borer pest. The members will all maintain good communication and ensure the residents know the awareness of EAB and the management plan strategies they'll implement when there is an outbreak.

Tree Inventory

During the Fall of 2021, the city has been performing a tree inventory of all boulevard and public trees. The first process of initiating an EAB management plan is constructing a proper tree inventory. [Tree inventory](#) consists of attributes of the *Fraxinus* tree, including the location, size (DBH) and current condition of the tree. At minimum, there should be a tree inventory of all ash trees within the maintained park/boulevard areas to get a rough estimate of the cost of an Emerald Ash Borer infestation. The objective of the tree inventory will assess the current liabilities and values of the public ash trees to set forth preparation and action strategies.

- **Boulevard Trees-** The City will initiate a new policy that prohibits the planting of any *Fraxinus* species, to help diversify the tree canopy of Le Sueur and to eliminate the chance of a future EAB infestation. Ash trees that are in a poor condition will be marked for removal. Once EAB is discovered, the tree will be removed and disposed of properly. Replanting will be done after removal, with a certified Boulevard Tree List. Tree plantings will be done the following spring/fall. Pesticide control will be done to trees considered "Legacy Trees". These trees are defined to be trees of historical significance



or excellent condition. This method is more cost efficient, performing pesticide injection than tree removal/disposal.

- **Park Trees-** The number of ash trees within the maintained park areas will be targeted for removal if EAB is discovered. The City will establish detection trees and traps as needed, to help detect early EAB infestation. If an ash tree in a wooded area is found to be infested, proper removal may be initiated to help slow the spread of EAB. Ash trees that are removed in a maintained area will be replaced on the City's budget.
- **Private Trees-** Through proper educational efforts that the City offers, private property owners are encouraged to diligently monitor their ash tree for any signs of EAB. They can either contact a certified tree contractor or [MDA to arrest the pest](#). The City encourages property owners to diversify the tree canopy of Le Sueur and help try to buffer future infestation of EAB. Future tree planting suggestions are on the City's website, called the [Approved Boulevard Tree List](#).

Treatment

Using information gathered from the Tree Inventory will help estimate the damages that a possible outbreak/infestation of EAB can do to a city. Tree assessment software will be initiated for tree management process and removal costs.

- **Insecticide-** The City will properly determine which trees will be chemically treated in order to prevent the further spread of EAB. The city will monitor the effectiveness of this treatment process and the injections will be done by trained professionals. Trees of high priority will be up to the city inspectors, determining the importance and which loss of tree would be detrimental to the landscape. The city will not perform chemical treatment unless EAB is identified within 15-mile radius of Le Sueur. Chemical treatment applications will be implemented by the guidelines issued by the Minnesota Department of Agriculture. If done properly and at the optimum time of year, the in-jectcal/spray treatments done will keep EAB away from healthy trees for a certain period. Various options for chemical treatment:
 - Trunk Injection
 - Soil Spray Application
 - Bark Spray Application

For more information about the different chemical treatment applications, please visit <https://chemjettreeinjector.com/emerald-ash-borer/>



- **Tree Removal-** Public ash tree removal will be based upon the risk to people and property of the City. Higher risked diseased trees will be removed first and prioritized, followed by those who have no beneficial value to the community. Qualified contractors issued by the City will properly remove the public tree, which will be replaced and replanted.
- **Waste Disposal Sites-** Le Sueur County currently has sites for the disposal of infected trees. Residents can dispose of their infected tree and yard waste at these surrounding facilities, which will help slow the spread of EAB.

Financial Considerations

The arrival of Emerald Ash Borer will increase the number of ash trees that will undoubtedly die and need to be removed within a short period of time. The creation of an EAB fund is recommended to be financially prepared for the possible outbreak of an EAB infestation. An EAB infestation in Le Sueur will result in hundreds of ash trees that will need to be removed for public health and safety reasons. The Minnesota Department of Agriculture and other federal agencies may award grants to communities that are currently facing issues with Emerald Ash Borer. Demand for grants may be affected by State and Federal budget cuts. The following estimation of costs is based on contracted services, as the total costs for professional services to properly dispose and remove the infected ash tree will be determined.

- **Removal-** \$700/per tree
- **Stump Grinding-** \$250/per tree
- **Re-Planting-** \$500/per tree

Conclusion

By implementing a proactive approach towards a possible Emerald Ash Borer infestation, the City of Le Sueur will implement this management plan as budgets permit. The City can position itself to manage the financial implications that EAB possesses, and the steps outlined above are based on current information of EAB. As new information arises, proper management practices will be initiated. Proper planning and preparing can mitigate the prevention of a possible EAB infestation/spread. This plan is subject to revisions, as the tree inventory is still underway. Revisions to this EAB Management Plan would be subject to City Council approval.

Approved by Le Sueur City Council

February 14, 2022



Tree Resource Assessment

Our boulevard and parks inventory shows the following:

<u>Genera</u>	<u>Total</u>	<u>Percentage</u>
• Ash	418	24 %
• Maple	325	19 %
• Spruce	95	5 %
• Hackberry	74	4 %
• Cedar	68	4 %
• Other Species	773	44 %
• Total	1753	

With a total boulevard tree count in our city of 1753, 56% of the trees consist of only five genera. Therefore, approximately 56% of our urban forest consists of a monoculture of these five genera. Currently, the City's urban forest boulevards consists of ~15 genera representing all street trees and more than 50 tree species. The average condition of the trees on a scale of 1-4 (1=worst, 4 = excellent) is 57%, with 1253 trees ≤ 3 or good condition, 500 trees ≤ 2 making it 29% of the current City's trees to be in fair or poor condition.