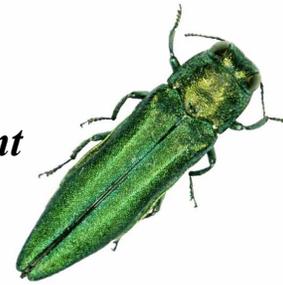


## City of Golden

### *Emerald Ash Borer Management*



#### **What is the Emerald Ash Borer (EAB)?**

Emerald Ash Borer (*Agrilus planipennis* Fairmaire) is a devastating boring beetle that was first detected in Michigan (2002) and has since rapidly spread throughout the eastern half of the U.S. and Canada.

#### **Background of EAB in Colorado**

EAB has currently spread into 35 states, Colorado being the west most. It was first detected in Boulder (2013) due to the careless moving of firewood from a contaminated region. It has since spread north as far as Fort Collins and as far south as Arvada. For the past several years Golden's forestry department has been preparing for the inevitable arrival of EAB by using a variety management techniques to lessen the impact of the beetle on our urban canopy. The extent and spread of the beetle continues to be monitored closely by Colorado State Department of Agriculture, Colorado State Forest Service, CSU extension and surrounding Front Range communities. We additionally have recommendations for treatments and replacement strategies for homeowners with ash trees on their properties.



#### **Ash Trees in Colorado**

Ash trees are a huge part of the urban tree canopy throughout the Front Range. Green Ash (*Fraxinus pennsylvanica*), and White Ash (*Fraxinus americana*) are estimated at 15%-20% of all trees in urban communities on the front range. They had proven to be a very hardy tree selection for harsh urban environments as well as tolerating our typical periods of drought. Ash species have also naturalized here and can sometimes be found growing in open spaces and natural areas.

#### **Ash Inventory**

The city of Golden's Ash population is estimated at around 15,000 trees with the majority of those located on private property or natural areas/ open space. Golden's forestry department maintains approximately 800 ash trees, located in streetscapes, rights of ways, and park areas. By

estimating an overall value of each tree, factoring in: age, health, contribution, location, aesthetics, etc., we've prioritized about 300 ash trees on which to conduct long-term preventative insecticide treatments.

## Detection of the Borer

Golden has been actively monitoring for EAB activity in our community ever since the beetle was found in Boulder (2013). As of September 2020, we have yet to find the pest in Golden though it has now been confirmed in Jefferson County, namely, the city of Arvada. We are expecting to confirm its arrival to our area in the near future. We are responding now as though the borer has already arrived and recommend that you do to! Once a tree starts showing symptoms, it is usually too late to save, therefore proactive planning is paramount in successfully saving one's tree.

(Click link for up to date map of confirmed EAB cases in Colorado: [Map of Emerald Ash Borer in Colorado](#).)

Determining the presence of EAB is often difficult. Symptoms include sparse leaves or branches in the upper canopy, vertical splits in bark with S-shaped galleries (Figure 1) beneath, smaller leaves at branch tips, D-shaped exit holes (Figure 2) on branches, and epicormics shoots growing from the main trunk or near the center of the tree. Exit holes are common in the presence of other boring insects that also attack ash trees. These pests often leave a circle when exiting and are less severe in the ash's overall health.



*Figure 1. EAB larvae create distinct "S-shaped" galleries under the bark of ash trees*



*Figure 2. Adult borers are about ½ inch in length and exit the branches through "D-shaped" exit holes.*

Forestry staff continues to monitor for EAB in Golden through branch sampling of Ash which are showing signs of stress or decline. Golden residents are encouraged to contact the forestry department if a tree at a private residence is thought to be showing symptoms and they will come out to take a branch sample. For helpful hints on knowing the signs of EAB, watch this video: <https://youtu.be/icgGgAfUtQ0>

## Treatment and Management Strategies

While there are effective insecticides available to protect ash trees from EAB, other management strategies exist for dealing with the pest, including monitoring trees for the presence of EAB, removing and replacing ash trees, and actively planting new trees nearby in an effort to get them established before the arrival of EAB. We encourage residents to seek professional advice on whether their ash is a good candidate for treatment and educate themselves on all available options and the costs associated with each to determine which route is the best to take. Decisions about how to manage ash trees will have to be made by every landowner for every ash tree, and should take into account the overall health of each tree and its value to the owner.

Click here for an extensive list of certified arborists:

[https://www.denvergov.org/content/dam/denvergov/Portals/747/documents/forestry/DPR-Forestry\\_current-licensed-contractors.pdf](https://www.denvergov.org/content/dam/denvergov/Portals/747/documents/forestry/DPR-Forestry_current-licensed-contractors.pdf)

**Public Strategy:** Golden has 760 ash trees in their active inventory of park space, public areas, and street trees. Our forestry department has chosen around 300 of these trees as good candidates for either long-term chemical treatments. In anticipating future removal, this number has decreased over the past few years as we have prioritized planting replacement trees nearby. We will see this number decrease further as we continue to monitor the condition of ash trees currently receiving treatments, and continue to assess their value to the community. Depending on trunk diameter, we are using 2 different systemic chemical treatments: a bark spray, and a trunk injection.

We have significantly increased our numbers of new plantings since 2014 in particularly focusing on areas where ash is the dominate species. Species diversity should be a big focus for our community, and all of the Front Range in general, for future tree planting plans. Diversity helps to prevent these devastating impacts to our urban forest that we are experiencing first hand with the emerald ash borer. We try to follow a diversity rule of 20-10-5 which allows for no more than 20% of new plantings in a single family, no more than 10% from the same genus, and no more than 5% of the same species. We encourage property owners to also take this into consideration when planting new trees.

Our forestry department is committed to putting the community in a better, less devastating position for dealing with emerald ash borer once we confirm it in Golden. Maintaining a diverse and increasing urban tree canopy coverage to promote a healthy community is our ultimate goal.

### Private Strategy- What Should You Do?

1. Determine if you have an ash tree ( [ash tree identification](#) )



1. Leaves are compound and composed of 5 to 11 leaflets.



2. Seeds on female trees are paddle shaped.



3. Branches and buds are in pairs directly across from each other (opposite branching).



4. Mature bark has diamond-shaped ridges.

Iowa State University - University Extension, SUJ21, Jan 2011

## 2. Decide if your ash tree is worth saving

Protecting your ash tree is an ongoing commitment. Trees provide shade, soil stability, runoff control, clean air, wildlife diversity, and general beauty. We prioritize saving trees, but given the current state of the pest, you must view your ash as an investment. **If you leave your ash tree untreated, it will die.**

## 3. Hire a certified arborist to create a treatment plan

Find a credited company to treat your ash tree. They will know the proper methods as well as the ideal time for chemical application. This type of treatment is not homeowner friendly. Proper chemical requires a license to purchase and apply.

OR

## 4. Remove tree and replace it!

Prioritize a licensed and insured tree company to remove your tree. It is safer and easier, thus more affordable, for an arborist to remove a tree prior to it being stone dead. Replace your tree with a new species. Tend to it and watch it grow and know that you have had an impact in diversifying Golden's canopy.

\*We have resources on our website for reliable contract services here in the Front Range as well as a recommended planting list.

\*\*Please visit [www.colorado.gov](http://www.colorado.gov) for more information, including the up to date status of EAB in Colorado.

[http://www.emeraldashborer.info/documents/Multistate\\_EAB\\_Insecticide\\_Fact\\_Sheet.pdf](http://www.emeraldashborer.info/documents/Multistate_EAB_Insecticide_Fact_Sheet.pdf)