

EMERALD ASH BORER BRIEFING

WHAT IS EMERALD ASH BORER, OR EAB?

EAB is a destructive beetle native of China. It only feeds on true ash trees. It appeared first in Detroit ten years ago and has spread to most Midwestern and many Eastern States. To date it has cost billions of dollars in damage (treatment, tree removal, tree replacement) in a number of cities. It is active in SE Wisconsin, and now Madison, La Crosse and the Twin Cities. It recently was found in Superior, WI and Douglas County in now under State of Wisconsin quarantine (ash wood or trees cannot be transported out of the County at present) and soon Federal quarantine will also be imposed.

EAB LIFE CYCLE AND HOW IT CAUSES DAMAGE

Adult beetles emerge from infested trees beginning in April and continue to emerge through June. They mate and migrate to ash trees, where they lay their eggs on the host trees. The larvae feed in the cambium layer just under the bark, girdling branches and eventually the entire tree, depriving it of water and nutrients and killing it. The grubs pupate and become adults by the following spring, when they emerge and start the cycle over again. They leave a small D-shaped hole in the bark when they emerge which is very characteristic and can be used in identification of the insect. The adult beetle is very small, and is a bright metallic green. It is easily recognized by an expert, but there are other beetles, such as the Japanese beetle, with which it may be confused by the layman. Positive identification is made only by a State or Federal Entomologist.

Adult beetles can fly some distance but they migrate to new areas mainly by being transported by humans in infested wood (which is how they got here from China). They infest a tree from the top down, and it usually takes several years of repeated attack to kill a tree.

Infested trees are first recognized by dying branches in the top of the tree, the damage progressing downward over time. D-shaped exit holes in infested areas are a prime indicator. Much sucker growth at the base of the infested tree is also an indicator.

CONTROLLING EMERALD ASH BORER

When first discovered there were no controls available except to remove the ash trees before they became infested and a source of further infection in healthy trees. This method of control is still the most prevalent in use by municipalities.

Progress in controlling the insect has been made however, and currently there are insecticides available that are fairly effective. Some are highly toxic and must be applied by a licensed professional, usually by injection into the tree. There are some treatments now on the market that can be applied by homeowners and other unlicensed individuals; these are applied as a liquid soil drench or to the soil surface in granular form. All are hazardous to aquatic life and should not be allowed to enter water sources or runoff areas leading to them.

Spraying of the adult beetles as they emerge from infested trees and migrate is not practical due to the long emerging season, from mid-April through June.

Biological control is now becoming a possibility. Minute wasps which lay their eggs in EAB grubs feeding under the bark of ash trees are a natural parasite, and they are now being released in SE Wisconsin by the USDA. It will probably be some time before the success of this effort will be known. Native parasite wasps have evidently also discovered the EAB grubs and are beginning to use them as a food source, and red bellied woodpeckers and white breasted nuthatches have begun to feed on them as well, to the point that the numbers of these birds are greatly increasing where EAB is operative.

To this point the main control of the spread of the insect population has been restricting the movement of firewood and other wood products. It may have slowed the spread of EAB but has not stopped it. EAB so far has not been affected by the cold winter temperatures of our region.

HOW TO RECOGNIZE ASH TREES AND WHERE THEY MAY BE LOCATED

Ash trees are in the genus *Fraxinus*, which is the olive family. There are a number of species of ash trees, mostly native, which grow in Northern Wisconsin and in or near Bayfield. These included white, green and black ash. White ash is a natural component of the mature deciduous forest, while green ash may be found in many places. Black ash is mostly found in swampy areas.

Most tree species have simple leaves, which are not divided into leaflets, and their leaves and branches are arranged alternately, not opposite each other. Maple and ash are the most recognizable trees with opposite branching, but ash tree leaves are divided into leaflets, arranged like a feather, while maples have undivided leaves.

One of the trees often confused with ash is the mountain ash, which has feather-compound leaves but alternate branching. It also bears colorful fruit, which the ash trees do not. Box elder also called ash-leafed maple might well be confused with ash species as well.

Bayfield has only a few street trees that are ash trees. There are a number of ash trees in Dalrymple Park, and probably in the ravine conservancy area as well. We do not know at present how many ash trees there may be on private property, although some large trees are evident.

We have placed two EAB traps in the City of Bayfield, one in Dalrymple Park, the other in the City alleyway on Manypenny Avenue, between 8th and 9th Streets. They are easily recognizable as huge blue triangle shaped boxes hanging about fifteen feet high in an ash tree. The inside of the box is very sticky and a pheromone attractant has been placed inside. The boxes will be taken down and examined for beetles in September.

RECOMMENDATIONS TO THE MAYOR AND COUNCIL

We can expect EAB to reach Bayfield, probably sooner than later. When that happens we are required by the State of Wisconsin to have an area to receive wood for quarantine and marshaling purposes, unless we have some other legal place within a quarantined area (most likely the County) to put it. The City should designate such an area, large enough that ash wood can be kept there for at least two years, unless it can make other arrangements.

It should be determined by the City whether homeowners and arborists will be allowed to use the quarantine area, and appropriate ordinances enacted. Smaller wood may be finely chipped, so as to kill larvae and any adults in harvested wood, but larger logs will have to be stored and either utilized after suitable time for firewood, used as saw logs or taken somewhere to be burned as fuel (the power plant in Ashland should be contacted).

The City should consider whether ordinances regarding pesticide use by arborists and homeowners should be enacted.

It is recommended that the Mayor contact Ashland and Washburn, as well as the County, to see what their plans are and how we might all cooperate.

Additional funds should be budgeted for tree quarantine, removal and replacement.

Bayfield homeowners and businesses should be kept informed of the EAB situation.

*Art Ode
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For more information visit www.emeraldashborer.wi.gov