Emerald Ash Borer and Your Woodland

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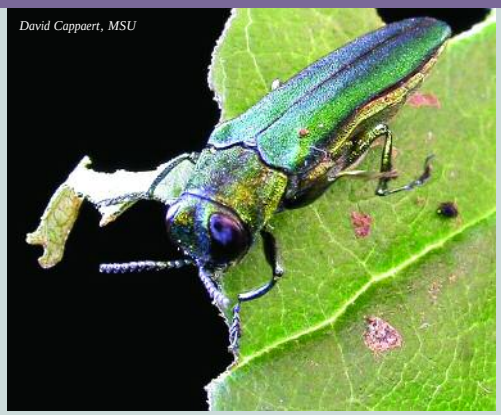
Why should you be concerned about the emerald ash borer?

Emerald ash borer (*Agrilus planipennis* Fairmaire) has rapidly become the most important pest of ash trees (*Fraxinus* spp.) (Fig. 1) in North America. Emerald ash borer (EAB), a native of Asia, had never been found in North America or Europe until it was discovered in southeastern Michigan and Windsor, Ont., in June 2002. This exotic pest was probably introduced at least 10 years before it was discovered, in wood crating, pallets or similar packing material that was shipped into Michigan from Asia.



Emerald ash borer adult.


Fig. 1 – Healthy ash tree.

Damage to ash trees is caused by the EAB larvae, which feed in S-shaped tunnels on the inner bark of branches and tree trunks (Fig. 2). The inner bark, called phloem, transports nutrients and water within the tree. Galleries excavated by the flat, cream-colored larvae cause branches and eventually the entire tree to die. All true ashes such as green ash (*F. pennsylvanica*), white ash (*F. americana*) and black ash (*F. nigra*) are susceptible to EAB. Scientists believe that virtually all ash species in North America are at risk if EAB continues to spread. Emerald ash borer does not attack mountain ash (*Sorbus* sp.) and has not attacked other tree species in North America.

The EAB infestation has severely affected ash trees in southeastern Michigan. Estimates suggest more than 20 million ash trees in urban, suburban and forested areas have already been killed. In addition, localized populations of EAB, called outliers, have been found in nearly all counties in lower Michigan. These outliers are a result of infested ash firewood, nursery trees or logs that were transported out of southeastern Michigan before EAB was identified. Populations of EAB have also been found in several areas of Ohio, Indiana and Illinois, and more recently in Maryland and Pennsylvania. Detection and survey efforts will continue, and the chances are good that more EAB infestations will be discovered. Information about EAB regulations, symptoms of infested trees, insecticides for landscape trees and other topics can be found at **www.emeraldashborer.info**.

What does EAB mean for the *woodland owner* in Michigan? Should you try to harvest your ash as quickly as possible? How should you manage your forest? Should you just let nature take its course?

There are no simple answers to such questions. Much will depend on the condition of your woodland, your objectives for the property and the current status of the EAB situation. You will need to explore your options with a professional forester and stay up-to-date on the EAB regulations that affect your area.

Keep in mind, however, that EAB is not like a native forest insect – it is much more destructive and aggressive than its relatives such as bronze birch borer and two-

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Fig. 2. S-shaped galleries.

lined chestnut borer. North American ash trees have little resistance to this new pest, and even large, healthy ash trees will be killed within a few years of infestation. Prompt attention is needed to reduce the potentially negative economic and ecological impacts of EAB on your property. The following considerations can help you think about how you will manage your woodland property.

1. Consider reducing ash abundance.

Ideally, ash should make up no more than 10 to 25 percent of the basal area of your woodland. If ash exceeds that level and you believe that you have marketable ash trees on your property, you may wish to get estimates and consider selling the ash trees. The level of urgency will depend on how close your property is to sites known to be infested, your overall objectives for the property and the abundance of ash compared with other species on the site.

If you think you have marketable ash trees, work with a professional consulting forester – decisions about timber sales and stumpage values can be complicated. Consulting foresters can help you identify the markets that are available in your area. They may also know of portable or custom sawmills that can be hired to saw ash trees into boards for your own use or for sale.

You may also want to work with neighboring woodland owners. They are probably facing a situation similar to yours. Often the per-acre costs of setting up a timber sale decrease when larger areas are involved. Cooperating with neighbors may lead to lower costs and better timber prices for everyone.

Other tree species may be part of a harvest that removes ash. Many woodlands can benefit from a well-planned harvest in which ash reduction is only one of several landowner objectives. A mixed-species sale may be of interest to more buyers or result in higher profits for you. Again, it is important to work with a professional forester to ensure that the productivity and the health of your woodland are maintained or even enhanced by a harvest.

If you are considering a timber sale, know the current EAB situation in your area – does your property fall within a quarantined area?

If your woodland is in a quarantined county or township, contact the Michigan Department of Agriculture and learn about your options. The EAB situation is dynamic – regulations, quarantines and options can change rapidly as new information becomes available. The Michigan Department of Agriculture or the regulatory agency in your state will have the most up-to-date information available about quarantines, restrictions and options that apply to property in specific geographic areas. Generally, ash logs, wood or chips can move *within* quarantined areas but cannot be transported out of quarantined areas, into the Upper Peninsula or across state borders without compliance agreements and special permits from the state regulatory agency/agencies.

2. Non-timber Considerations

Many of the ash trees on your property may be too small for harvesting, or you may not want to get involved with harvesting and selling timber. You may still, however, want to consider cutting these trees to reduce the overall abundance of ash in the woodland and to reduce the density of EAB populations in your area.

Ash makes excellent firewood – it is easy to split and burns hot. *But PLEASE, remember that a single piece of infested ash firewood can start a new EAB infestation!* Many regulations apply to ash firewood. Also, most campgrounds in the north central United States do not allow visitors to bring in firewood, particularly ash firewood, that originated in infested states or areas. It's best to avoid transporting ash firewood off your property altogether.

Ash trees can simply be cut and left on the ground. After cutting, the phloem and wood dry out, and after 6 to 12 months, even large pieces of ash will no longer be suitable for EAB egg laying or larval development. The decaying trees will provide habitat for many wildlife species. Ash trees can also be girdled with a chainsaw or drawknife and left standing. Ash snags are preferred habitat for a variety of wildlife, including cavity-dwelling birds, mammals and amphibians. Removing ash ahead of the EAB infestation may help slow the spread of this destructive pest or reduce the impacts of EAB in your region. The effectiveness of such actions, however, will depend on many factors, including the abundance of EAB and the overall number, size and distribution of ash on neighboring properties.

If you have only a few ash trees or if your woodland is not in or near a quarantined area or outlier, selling or cutting ash trees may be less urgent. Nevertheless, you may want to consider advancing a thinning schedule to remove ash sooner. Begin thinking now about how your woodlot will be affected as the EAB infestation spreads.

Black ash swamps are a special concern. Many times, nearly all the trees on such sites are black ash, and there are few, if any, alternative species to plant. Harvesting such sites with heavy equipment is often not practical because of the wet conditions. Members of several Native American tribes use black ash for baskets and may be interested in harvesting some black ash trees in some areas. The Department of Natural Resources, USDA Forest Service or MSU Extension office in your area may be able to help you contact basket makers interested in harvesting black ash trees.

3. Think about how EAB will affect your long-term objectives.

Think about what you want your woodlot to look like in the future. Determine what other tree species are present on your property. Can you encourage those species by selectively removing ash, using herbicides or planting?

Planting hardwood or conifer species, in combination with natural regeneration, can replace the ash component of your woodland, increase diversity and improve habitat for wildlife. Commercial nurseries and conservation districts sell tree seedlings each spring.

When choosing species to plant, consider the soil and weather, plus the risk of browse damage from deer, rodents and rabbits. A professional forester can advise you about the species that are most appropriate for planting on your property.

Be aware of other forest health issues that may be present in your woodland, such as beech bark disease, oak wilt and others. If other damaging pests present significant threats, be sure to consider them as you develop your forest management plan.

Also, remember that other insect and disease pests can affect ash trees. Signs of EAB infestation include characteristic D-shaped exit holes on branches or the trunk (Fig. 3) and S-shaped tunnels under the bark (Fig. 2). Adult beetles are metallic green and are most active from mid-June through early August. Unfortunately, it's possible to have an EAB infestation for several years before many people notice symptoms.

It is always best to work with a professional consulting forester to help you through the decision-making process for your property. Ash trees grow across a wide variety of habitats and site conditions. There are no standard prescriptions. Developing a written forest management plan for your woodland is a good idea for many reasons (records, taxes, memory, scheduling, etc.). Be wary of unsolicited offers to buy your trees. Take the time to consider all your options and make the decisions that best reflect your wishes.

Fig. 3. D-shaped exit holes.

Contact your county MSU Extension office for more information about ash trees and EAB. Several publications related to EAB are available, such as "Distinguishing Ash From Other Common Trees" (bulletin E-2892), "Ash Identification" (E-2942), "My Ash Tree is Dead – Now What Do I Do?" (E-2940), "Signs and Symptoms of the Emerald Ash Borer" (E-2938), "Native Borers and Emerald Ash Borer Look-Alikes" (E-2939) and "Don't Be Fooled By Look-Alikes! (Emerald Ash Borer and Asian Longhorned Beetle)" (E-2944). You can download these bulletins online at **www.emdc.msue.msu.edu** or order a copy through your county MSU Extension office.

Learn more about how to recognize EAB and infested ash trees by visiting the Internet at:

www.emeraldashborer.info

www.michigan.gov/mda, *then click on* **"emerald ash borer"**

www.na.fs.fed.us/fhp/eab

Infested ash tree and (inset) green ash leaf.

Daniel Herms

White ash trees killed by EAB are sawn into lumber near Midland, Mich.

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