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Emerald Ash Borer and Your Woodland

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. It was probably introduced at least 10 years ago in wood crating, pallets, or similar packing material that was shipped into Michigan from Asia.

Fig. 1 Emerald ash borer adult.

Damage to ash trees is caused by the EAB larvae feed in S-shaped tunnels on the inner bark of br and tree trunks (Fig. 2). The inner bark, called p transports nutrients and water within the tree. C excavated by the flat, cream-colored larvae caus branches and eventually the entire tree to die (Fig. 3). 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.

Currently, 20 counties in southeastern lower Michigan are included in the EAB quarantine (Fig. 3). Estimates suggest that EAB has already killed at least 10 to 15 million ash trees in urban, suburban, and forested areas in this region of Michigan.

In addition, several outlier populations of EAB have been found in western and northern lower Michigan and in areas of northern Indiana and Ohio. Most of these outliers are low-density, small s of EAB, and many of the ash trees in these have few or even no external symptoms of . The outliers are a result of infested ash nursery trees or logs that were transported out stern Michigan before EAB was identified. In latory agencies eradicated several outlier populations by removing all ash trees within a 1/2 mile radius of ash trees known to be infested. Detection and survey efforts are continuing and there is a good chance that additional outliers will be found in the next few years. Some outlier populations will likely be targeted for eradication or suppression activities, depending on their location and the availability of funding for the EAB program.

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 these 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.

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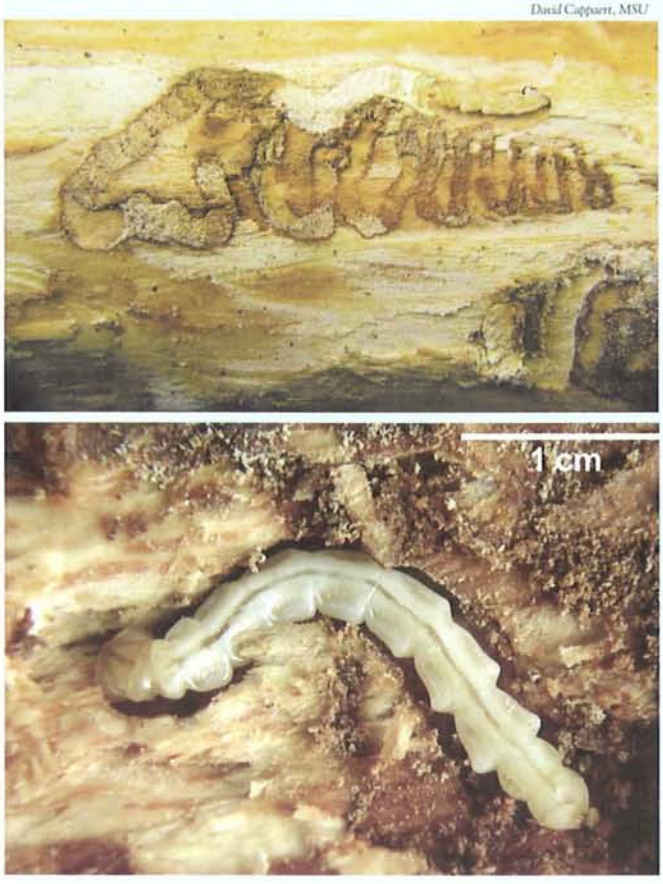

Fig. 2. S-shaped galleries (top) and gallery with larva (bottom).

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-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 property.

1. 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, call 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 the quarantined zone in southeastern Michigan (Fig. 3) but cannot be transported out of the quarantined area without compliance agreements and special permits from the state regulatory agency.

2. Consider reducing ash abundance to minimize EAB impacts on your property.

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. If you wait until the quarantine area comes to you, your options may be limited. The level of urgency will depend on (1) how close your property is to sites known to be infested, (2) your overall objectives for the property and (3) the abundance of ash compared with other species on the site.

If you have marketable ash trees, work with a professional 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 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.

Many of the ash trees on your property may be too small for harvesting or you may not want to get involved with harvesting or 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, **but remember, do NOT transport ash firewood off your property!**

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 logs 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 will help slow the spread of this destructive pest and will reduce the impact of the pest in your region.

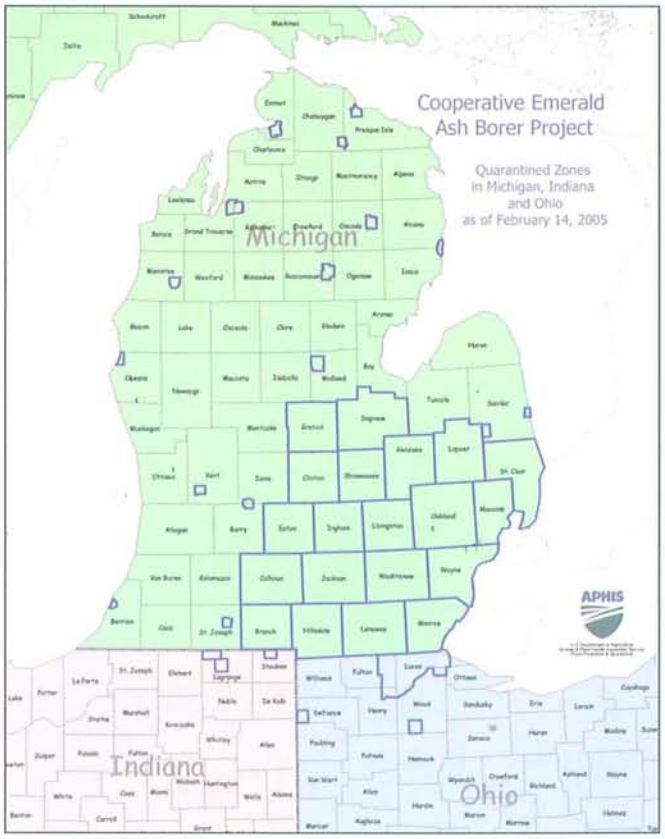

Fig. 3. Contact the Michigan Department of Agriculture office for current regulations and information.

Black ash swamps pose a difficult challenge. 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. In areas with high concentrations of black ash, cutting or girdling the ash trees will help to reduce the amount of breeding material for EAB. Members of several Native American tribes use black ash for baskets and may be interested in harvesting some black ash trees in some areas.

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 if the EAB infestation spreads through lower Michigan or into the Upper Peninsula.

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.

Fig. 4. D-shaped exit holes.

Also, remember that other insect and disease pests can affect ash trees. Characteristics of EAB infestation include D-shaped exit holes on branches (Fig. 4) or the trunk 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.

ALWAYS work with a professional 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 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.

Contact your county MSU Extension office for more information about ash trees and EAB. You can obtain a free emerald ash borer poster (E-3004) or the "Distinguishing Ash From Other Common Trees" publication (E-2892) through your county MSU Extension office. More photos and EAB information can be found in Extension bulletins E-2938, E-2939 and E-2944. You can order or download these bulletins online at **www.emdc.msue.msu.edu**.

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/spfo/eab

www.cips.msu.edu/diagnostics

Fig. 5. Infested ash tree and (inset) green ash leaf.

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