

Minnesota MFA Woodlands

Minnesota Forestry Association

MFA: an organization of, by and for Minnesota's private woodland owners and friends.

www.MinnesotaForestry.org

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DNR Cambridge Office
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• October 9, 2018

Conference Calls
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• November 13, 2018
• December 11, 2018

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Emerald Ash Borer Risk Status in Minnesota

From My Minnesota Woods

The invasive Emerald Ash Borer (EAB), *Agrilus planipennis*, is an invasive wood-boring beetle first detected in the U.S. near Detroit, Mich. in 2002. Since that time, EAB has killed millions of ash trees.

Since it was first discovered in Minnesota in 2009, the beetle has continued to spread across the landscape, and the effects of the invasive insect are devastating: EAB attacks and kills nearly all ash trees greater than one inch in diameter.

EAB is a non-native insect transported from Asia to the U.S. The beetle feeds on the tissue of ash trees between the bark and sapwood and disrupts the nutrient and water flow of the tree, eventually killing the tree after several years of feeding.

A single generation of EAB is completed in one to two years. Eggs are laid during the summer on trunks and branches of ash trees. Larvae hatch from the eggs and tunnel beneath the bark, making distinct “S”-shaped (serpentine) galleries, and feed on the phloem of the tree. Larvae may spend the winter inside pupal chambers in the outer sapwood, bark, or in feeding galleries, and some larvae will feed for another summer before completing development. Adults emerge from ash trees through a distinct “D”-shaped exit hole from May through September. Upon emergence, adults will feed on ash leaves in the canopy before mating and laying eggs.

Trees are killed by continual larval feeding, and tree mortality accelerates as EAB populations increase in density. Although the beetle is capable of spreading to nearby areas through flight, the primary means of long distance EAB spread to new areas is through the transport of firewood or other woody material from ash trees.

There are nearly 1 billion ash trees in Minnesota, according to University of Minnesota Extension Forestry Educator Angela Gupta, and once EAB reaches a stand of ash, the expected mortality for ash within the stand is nearly 100 percent.

The loss of such a huge number of trees can have big impacts on the ecosystem, said Gupta, including changing the structure of wetlands, reducing species diversity, loss of habitat, and potentially allowing the introduction of additional invasive species.



Emerald ash borer galleries found underneath ash tree bark. Photo by Jeff Hahn, UMN Extension Entomologist.

Minnesota Forestry Association

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Away from home for a time? Please contact the MFA office if you'll be away from home for an extended time and let us know when you'll be back. We'll hold onto the newsletter until you return so you won't miss a single issue!
Information@MinnesotaForestry.org
or call 218-879-5100.

There is also research that invasive plants thrive in the wake of EAB because more light and other resources are available for them to fill the niche left by ash.

What do the Active and Low Activity periods mean?

The activity level of EAB helps determine when it is safest to work with ash trees.

The identification of the Active and Low Activity periods helps to reduce the spread of EAB. If a tree is left alone during the Active Period, then EAB has a place to lay eggs and reside. But, because the adults will not emerge for one year, if the tree is cut down during the Low Activity Period, the eggs and adults will not have a chance of surviving and spreading.

EAB Active Period: May 1 – Sept. 30

During this active period, avoid the removal of ash branches, stumps or trees. This is because insects may fly and infest nearby ash trees.

If removal is required:

- Prune and remove ash trees if absolutely necessary.
- Chip at least the outer one inch of bark and wood on-site and transport to the nearest ash tree waste disposal site where they will quickly process the material.
- Or, transport at least outer one inch of bark/wood in an enclosed vehicle to the nearest ash tree waste disposal site that can quickly process the material. Material should be sealed until it can be chipped.

EAB Low Activity Period: Oct. 1 – April 30

- Prune and remove ash trees as needed.
- Transport at least one inch of bark/wood to the nearest ash tree waste disposal site where it will be taken care of before May 1.

General questions concerning EAB and EAB removal:

Do the pruning and removal guidelines apply to the whole state?

It is important to follow the pruning and removal guidelines throughout Minnesota because the signs and symptoms of EAB can lay dormant in the tree for up to five years. It takes a year alone for the larvae to move throughout the tree. Trees can be different

sizes and may react to the insect differently. If the tree is infested but not showing signs of EAB, pruning and transporting ash wood during the Active Period can move EAB to a region of the state where EAB was not present before. Without proper precaution, this can infest a new set of ash trees. It is important to adhere to the removal guidelines and keep ash firewood in one spot.



Adult Emerald Ash Borer.

Which counties are considered EAB quarantined in Minnesota?

A quarantine is a temporary rule intended to help prevent a potentially dangerous or destructive pest or disease from spreading outside of a known infested area into new areas. EAB quarantines are designed to limit the movement of potentially infested firewood or other materials such as live wood, which might hold EAB larvae. To view the most recent update of the EAB quarantined areas, visit the Minnesota Department of Agriculture's EAB status page.

Will "painting" the pruning wounds reduce the EAB risk if the tree is pruned in the high risk season?

No. Painting pruning wounds on a tree will not reduce the risk of EAB infesting the tree during the Active period. Painting any tree wounds is not recommended with the exception of wounds to oak trees during the high risk period for oak wilt.

Are any of our native ash trees (black, green, white) resistant to EAB?

No. EAB infests and kills all species of ash trees in Minnesota, including black, green and white ash.

Does the emerald ash borer attack mountain-ash and wafer-ash?

No. The mountain-ash and wafer-ash are not truly part of the *Fraxinus* genus.

Continued on page 7

Itasca County Hosts Fall Forestry Field Day

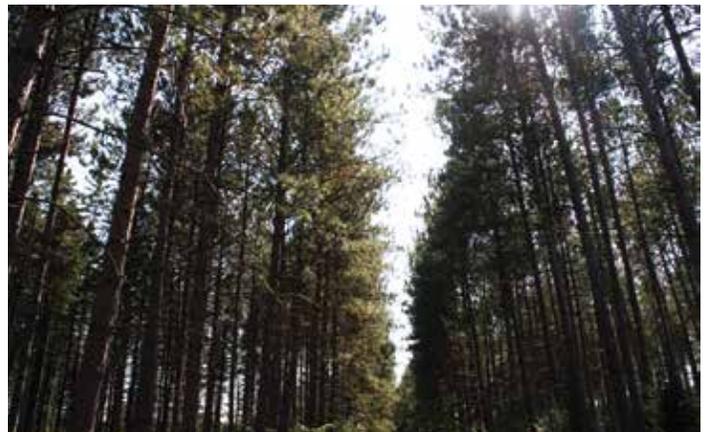
On Saturday, Sept. 8, Itasca County Private Woodlands Committee and a host of forestry partners invited landowners to the Fall Forestry Field Day, Regenerate Your Forest, at Itasca Community College (ICC) in Grand Rapids. Twenty-four individuals attended the event, many of them landowners, but also partner representatives from Sappi, The Blandin Foundation, the Minnesota DNR, MFA, UMN-Extension and Itasca County Land Department.

Indoor presentations were held in Chucker Auditorium at ICC and included topics such as What Rooting Is Right for You, Introduction to the Minnesota State Forest Nursery, Using Native Plant Communities in Forest Regeneration, Options for Regenerating Your Forest, and Management Opportunities for Private Landowners.

During the afternoon field tour, attendees met with a Blandin Forester on a spruce regeneration site, the Itasca County Land Department Commissioner at a Norway pine plantation, two private landowner sites that were previously not forested, and a state harvest site where increasing hardwoods was an objective.

“[In the afternoon,] we looked at a variety of cover types and ownership and it seemed overall the crowd enjoyed the field tour,” said Josh Donatell, CFM Forester for Deer River area forestry, who said the committee plans to hold similar meetings annually in the future.

To be added to the mailing list for future events, contact Donatell at 218-328-8912 or email josh.donatell@state.mn.us.





Meet a Tree **Black Spruce**



By Dennis J. Thompson

Black spruce (*Picea mariana*) is a wide-ranging, abundant conifer of the northern parts of North America. Although typically found on wet, organic soils, black spruce can be found on a variety of soils including loams, sands and coarse till. In fact, the most productive stands are generally not found on the wetter sites. In wetter areas, black spruce is commonly found in pure stands and to a lesser amount, mixed with tamarack. On mineral soils, it can be found growing with white spruce, balsam fir, jack pine and tamarack.

On average, black spruce will range from 40 to 65 feet tall at maturity and be nine inches in diameter. On poor sites, tree heights may only be 25 to 40 feet and five inches in diameter at maturity. Average maximum age is about 200 years, but ages up to 280 years have been

Dennis Thompson

reported. Black spruce is classified as tolerant of shade, but it is less tolerant than balsam fir and northern white-cedar, two common competitors in the eastern part of its range.

Black spruce seeds mature three months after pollination, in late August or early September. Some are produced almost every year, but heavy seed years occur at intervals of two to six years and bumper crops every four years. In the northern part of its growing range, bumper crops may be less frequent. The main cone-bearing age of black spruce is from 30 to 250, with maximum production between 100 and 200 years. Interestingly, black spruce cones will remain partially closed and disperse seed over the course of several years. What's more impressive is that some viable seeds may remain in the cones for as long as 25 years!

Clearcutting in strips or patches is generally considered to be the best silvicultural system for managing black spruce. Satisfactory reestablishment of black spruce after clearcutting, however, requires an adequate source of reproduction and often some kind of site preparation. The wood from black spruce is yellow-white in color, relatively light in weight, and strong. In Canada, it is the most important tree species for pulpwood, and is also commercially important in Minnesota. The principal commercial use of black spruce both in Canada and the United States is for making high quality pulp.

Did you know? Historically, black spruce has provided some highly specialized products, a few of which are still used occasionally today:

- Healing salves from spruce resin
- Beverages from twigs and needles
- Aromatic distillations from needles
- Binding material for birchbark canoes



Images courtesy of Minnesota DNR.

Fruits and Nuts: Why Are There So Many Acorns This Year?

From My Minnesota Woods, August 2018

Oaks occupy approximately 9 percent of Minnesota's forests and are a common yard tree enjoyed by homeowners. With so many oak trees around, it is no surprise that many homeowners and woodland owners have noticed the large "bumper crop" of acorns produced this year. Oaks have been responding to favorable growing conditions this spring and summer. A single mature oak tree can drop as much as 10,000 acorns in a single year. Generally, large acorn crops for these trees occur every two to five years.

So what will happen with all of those fallen acorns? Acorns from the white oak family will begin germinating this fall. But red oak family acorns will germinate next spring. During germination and growth in the first year, seedlings can survive in low light. But afterwards, they will need more light to survive.

For woodland owners: Acorns can be collected and planted, but planting can be difficult due to competing vegetation and rodent damage. Collect acorns as soon as they fall and keep them cool and moist. Plant acorns one to two inches deep in spots several feet wide, with three to four acorns to a spot. Oak seedlings are very susceptible to browsing, so after the acorn germinates, it is important to protect the seedling from deer and rodents. More information on acorns and oak woodlands can be found in Extension's Woodland Owners' Guide to Oak Management.

For foragers and foodies: Acorns have sustained civilizations



Photo by Cassandra Tuten

throughout human history. While acorns are not a common part of the American diet today, they were a critical source of starch for our human ancestors. We made acorn pancakes a few years ago; a lot of fun, tasty in a nutty filling way, but a lot of work! If you're interested in acorns for food or the sustainability of acorns and oak ecosystems, check out this interesting article by *Scientific American*: "Is Reintroducing Acorns into the Human Diet a Nutty Idea?"

Letter to the Editor:

Editor's Note: The following was printed with permission from the author. To submit a letter to be considered for print, email Editor@MinnesotaForestry.org

Dear MFA,

I have just returned from the annual "Wisconsin Coverts Project Workshop" held in a beautiful setting in northern Wisconsin. I first heard about the workshop in the MFA "Minnesota Woodlands" newsletter. I would strongly recommend this workshop to all woodland owners (regardless of size) for a great time and camaraderie with some very professional presentations and site trips all for purpose of how to best manage our woodlands for both timber and wildlife. The workshop presented topics including timber stand improvement, wildlife needs, a myriad of information and assistance, and many others.

I came away very excited to implement some of what I learned at the workshop. The presenters were all very professional and enthused about their subjects. If you would like to learn how to best manage your woodland and wildlife, I would highly recommend this educational program.

Sincerely,

John Wolf, Lutsen, MN



UNIVERSITY OF MINNESOTA
EXTENSION

For MFA members, the two best online sources of woodland information are the MFA website at minnesotaforestry.org, and the University of Minnesota Extension Forestry website at myminnesotawoods.umn.edu.

Cooperative Forestry Act Celebrates 40 Years of Helping Private Forest Owners

When most people think of forested lands in our country, what comes to mind are public wildlands like the Mount Hood National Forest in Oregon or the Shenandoah National Park in Virginia. But the reality is that most forests in America, nearly 60 percent, are owned by private landowners who rely on these lands for income that helps fuel the economic health of rural communities.

Because forests are threatened by wildfire, attacks by insects and diseases, and conversion to non-forest uses, 40 years ago, Congress passed the Cooperative Forestry Assistance Act of 1978. The Act was designed to mitigate these threats by empowering the USDA Forest Service to partner with state forestry agencies, which typically match federal investments two-to-one, to provide technical forest management assistance to landowners.

Today, the Cooperative Forestry programs, created through the Act, help individual and family forest owners balance timber management with the conservation of water quality, fish and wildlife habitat, wildfire management, and opportunities for outdoor recreation. One of these programs is the Forest Stewardship Program, which each year helps connect more than 400,000 landowners with the information and tools they need to manage their woodlands for timber, fuel wood, wildlife habitat, water protection and recreation.

Another example is the Forest Legacy Program, which offers economic incentives to permanently conserve private working forests that support strong markets for forest products. The program recently helped private forest landowners in Georgia conserve 26,000 acres of well-stocked longleaf pine forests that are now actively managed for timber, wildlife habitat, and watershed protection with new areas opened up for hunting, hiking and mountain biking.

Other examples include the Landscape Restoration Program, which coordinates multiple programs to more efficiently deliver services across landscape boundaries. And, last but not least, cities benefit from Cooperative Forestry programs, too, through the Urban and Community Forestry Program. The program serves more 8,200 communities, including more than 2,300 rural small towns, by delivering best available science, tools and financial resources to maintain and improve community forests.



Top: Nearly 60 percent of the country's forests are privately owned, providing landowners with income that help to fuel economic health of rural communities. Photo by Neal Bungard.

Bottom: Cooperative Forestry programs help individual and family forest owners balance timber management with the conservation of water quality, fish and wildlife habitat, wildfire management and outdoor recreation. Photo by Andrew Owen.



Note: The original full-length article, along with the photos used here, were found online, at [usda.gov](https://www.usda.gov), and written by Joyce El Kouarti, Office of Communication, USDA Forest Service in Forestry. For more information, [usda.gov/media/blog/2018/06/28/cooperative-forestry-act-celebrates-40-years-helping-private-forest-owners](https://www.usda.gov/media/blog/2018/06/28/cooperative-forestry-act-celebrates-40-years-helping-private-forest-owners)

A word from the editor

As we move into fall, a season to give thanks and express gratitude, and as yet another summer comes to a close, I want to take a moment to thank all of you who make this newsletter possible. Without your support, advocacy and dedication, this wouldn't be possible. As always, I want to encourage anyone to reach out to me with ideas, thoughts, suggestions, concerns, and more, so that we,

together, can continue to produce a newsletter that is thought-provoking, and serves as an important resource for Minnesota's private woodland owners.

Wishing you all a warm and cozy fall and a prosperous season.

Kassandra Tuten, Editor

Looking for Approaches to Managing Your Woods? Check Out the Great Lakes Silviculture Library

The Sustainable Forests Education Cooperative has been busy this summer adding lots of new material to the Great Lakes Silviculture Library. This online library helps forest managers from Michigan, Minnesota, Ontario and Wisconsin exchange forest management prescriptions by using actual on-the-ground activities. Woodland owners can get a lot of great insights on managing their own lands from browsing more than 70 case studies. Recent case studies that have been published include fencing from deer browse, enhancing wildlife habitat for ruffed grouse, and more.

The Silviculture Library was created in 2015 by the University of Minnesota and the Minnesota Forest Resources

Partnership. It was conceived with the idea that every silviculture treatment is an experiment, every forest manager both a teacher and a learner. Too often, we fail to share the experience that we gain from our day-to-day work, limiting the value of what we have learned. The library is designed to serve as one piece of the institutional memory of the Great Lakes forestry community.

The silviculture library is maintained by staff of the University of Minnesota's Sustainable Forests Education Cooperative, based at the Cloquet Forestry Center. To learn more, visit silvlib.cfans.umn.edu/silviculture-library

Emerald Ash Borer continued

Are there any ash trees that are resistant to EAB to some degree?

According to research from Ohio State University, Manchurian ash and blue ash offer some resistance to EAB to different degrees. Manchurian ash may be the most resistant to EAB.

What is the best way to handle the ash logs and debris once the tree has been removed or pruned?

The best way to handle ash logs and debris is to send them to the nearest ash tree waste disposal site to have them processed before May 1 in the Low Activity period. If you are dealing with this debris during the Active period, it is important to seal the debris and logs and transport them to the nearest facility to be processed immediately.

Is there any control for EAB once it's in the tree?

It may be helpful to use insecticides in the early stages of infestation. But keep in mind that once the insect infests the tree, the damage which is caused is irreversible. If the tree begins to show symptoms of damage such as canopy dieback beyond 30 percent, it may not be helpful to inject insecticides because of the volume of tissue loss and decreased ability for the tree to move the insecticide, nutrients, and water throughout the tree. Before canopy dieback reaches 30 percent, insecticides have been shown to be successful.

Is there any treatment to prevent EAB from entering and damaging an ash tree?

There are two common types of approaches of treatment which target the adult insect. These treatments include tree trunk injections and soil and root drenching applications. It has been found that the injection treatment is less harmful on the environment and gives the tree direct injection into the tissue of the tree. It is common that the homeowner pay for these services, and a licensed professional is needed in order to apply the insecticide.

Is it safe to mill any lumber from the ash tree that has been removed? If so, how?

It is safe to mill the lumber from ash trees if the wood does not leave the county it was cut down from, especially if it is a quarantined county and if the outer 1 ½-inch of sapwood is removed and disposed of to kill any EAB present.

Can the EAB be transported via wood chips?

If moving the ash wood is unavoidable, chipping will be the most cost effective approach and destroys the ability for EAB to reproduce. However, chips must be small enough (two sided and less than one-inch) to successfully kill the EAB larvae and/or pupae.

What should I do if I suspect EAB damage on my property?

Contact the Minnesota Department of Agriculture's Arrest the Pest hotline (888-545-6684; arrest.the.pest@state.mn.us). Note the exact location of the tree and take a digital photo if possible.

For information on guidelines to slow the growth and spread of EAB, visit mda.state.mn.us/sites/default/files/inline-files/EAB%20Management%20Guidelines%202018%20WEB.pdf



Thinking of harvesting timber from your land?

Call Before You Cut

You will be sent a packet of information with no cost or obligation to you.

218-879-5100

Upcoming Events

Find more events, and more information on these events, at the MFA website, www.MinnesotaForestry.org, or by calling MFA at 218-879-5100.

Webinar: An Update on Minnesota's Deer Management Plan

Tuesday, Oct. 16, 12-1 pm

Minnesota DNR recently finalized and has begun implementing its first ever state-wide strategic deer management plan. The Minnesota White-tailed Deer Management Plan will be used to prioritize agency resources and activities related to deer over the next 10 years. We will highlight the goals most pertinent to forest resource managers, as well as describe the 200,000 deer harvest target, among other topics. Speaker: Erik Thorson, Minnesota DNR

Fee: \$20 per webinar or \$50 for the entire 2018 series

To register, visit sfec.cfans.umn.edu/2018-webinar-oct

Adults vs. Kids - Survival of the Fittest

Saturday, Oct. 20, 1-3 pm

Maplewood Nature Center

Who has the better skills to survive in the wilderness: adults or kids? Adults and kids go head-to-head in teams to build a shelter, make a fire and identify plants. Light snack provided. Closed-toed shoes and long pants recommended. For children ages nine to 13 with adults.

Registration required. Prepay \$5/person by Wednesday, Oct. 17 at maplewoodnaturecenter.com and click on the RegisterOnline-Go button, or call 651-249-2170. Activity Registration No. 16157.

Walk When the Moon is Full

Tuesday, Oct. 23, 6:30-8 pm

Maplewood Nature Center

Hike by the light of the moon, learn some fun facts about the moon, and c'mon outside as we enjoy the moonshadows of the trees and breathe the brisk air. Back at the nature center, enjoy a cup of hot cider as we listen to stories from Ojibwe, Dakota and other cultures. Dress for the weather, and bring a mug. Appropriate for ages seven and up with adults. Small Scout troops are welcome.

Fee: \$4/person

Register by Sunday, Oct. 21 online at maplewoodnaturecenter.com and click on the RegisterOnline-Go button, or call 651-249-2170. Activity Registration No. 16158.

Snakes Alive

Saturday, Nov. 3, 10-11:30 a.m.

Maplewood Nature Center

Meet a live western hognose snake, boa constrictor, egg-eating snake, and lots of other visiting snakes from "Snake Discovery." You'll get to see them up close, touch, hold and watch them eat. Snakes play an important role in the ecosystem; discover how to help them, so they can help us.

Fee: \$5/person.

Register by Thursday, Nov. 1 online at maplewoodnaturecenter.com and click on the RegisterOnline-Go button, or call 651-249-2170. Activity Registration No. 16159.

Wonderfall Puppet Show

Thursday, Nov. 15, 10:30-11:45 a.m.

Maplewood Nature Center

Celebrate America Recycles Day with our wild animal puppets. Skunk, eagle and more will teach us about migration, hibernation and



Minnesota Forestry Association

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www.MinnesotaForestry.org

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recycling. Play the Recycle Fishing game then make a recycle craft and have a snack. Take a self-guided hike afterward.

Fee: Prepay \$4 per child by Tuesday, Nov. 13. Register online at maplewoodnaturecenter.com and click on the RegisterOnline-Go button, or call 651-249-2170. Activity Registration No. 16161.

Webinar: Forest Inventory with LiDAR, Minnesota's Approach

Tuesday, Nov. 20, 12-1 p.m.

Natural resource managers are increasingly turning to cutting-edge technologies for a less expensive and robust forest inventory. In Northern Minnesota, a high density LiDAR-derived forest inventory project is underway across multiple ownerships. This webinar will discuss the methods, accuracy, and costs in implementing high density LiDAR in forest resource assessments at landscape scales. Speaker: Dennis Kepler, Minnesota DNR

Cost: \$20 per webinar or \$50 for the entire 2018 series

For more information, and to register, visit sfec.cfans.umn.edu/2018-webinar-nov