

Northeastern Wisconsin Forest Health Update

Wisconsin DNR – Division of Forestry

February 14, 2013

Topics covered this month:

Insects:

Asian longhorned beetle document
Butterflies/tiger beetles of Wisconsin
Emerald ash borer
EAB survival in submerged logs
Gypsy moth
Valentine's Day insect highlight

Diseases:

Beech bark disease
Nectria
Thousand cankers disease in North Carolina

Other:

Drought
Firewood and DNR properties
Forest health annual report
Herbicide effectiveness on invasive plants
Invasive plant control information
Pesticide applicator training info

Insects

*information and photos in this document from Linda Williams unless otherwise noted.

Asian longhorned beetle document – a new document is available, Asian Longhorned Beetle and its Host Trees. It includes information on where the beetle is currently found in the US, what it looks like, and what to watch for. The close-up high quality photos are phenomenal and worth checking out even if you don't read the whole document. Paging ahead to page 25 in the document is a section on how ALB acts in a natural woodland, attacking red maple more often than other maples, but page 26 lists the hosts that ALB will infest and it's a long list. Check out this document (and the incredible pics of the insect!) at <http://na.fs.fed.us/pubs/alb/alb-and-host-trees-09-12-2012-screen.pdf>



Below is a list of locations/updates for Asian longhorned beetle in the US as of January 2013:

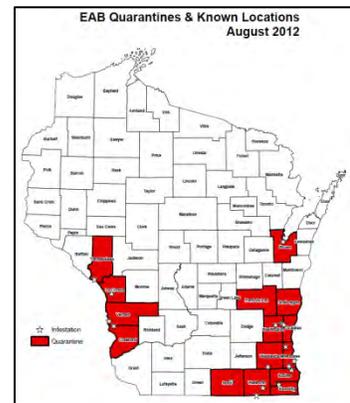
- Illinois – first detection 1998. Eradicated
- New York - Aug 1996 was first detection. Ground and aerial survey continues. The last detection was on April 26, 2010 in Brooklyn, Kings County. Confirmation surveys for declaring eradication of New York County began in August 2011.
- New Jersey - October 2002 first detection. The last detection was on August 1, 2006 in Linden, Union County. Confirmation surveys for declaring eradication of Middlesex/Union Counties County began in September 2011.
- Massachusetts – first detected in Aug 2008, infestation continues
- Ohio - first detected June 2011, removals continue

Butterflies/tiger beetles of Wisconsin – need to identify a butterfly from Wisconsin? Check out <http://wisconsinbutterflies.org/> Not interested in butterflies? You're in luck! There is also a list of tiger beetles found in Wisconsin! With actual photos! And interestingly enough they also have a list/pics of robber flies of Wisconsin and there are LOTS of species of robber flies, so check it out!

Emerald Ash Borer (EAB) – from Bill McNee. In the past week, two communities in southern Milwaukee County have had their first EAB detections: the village of Greendale and the city of Greenfield. The infestation was discovered after a city forester from a nearby community noticed suspicious woodpecker activity in Greendale. The pest was found nearby in Greenfield a few days later. The detections are about one mile from known-infested trees in the City of Franklin. For more information, visit: www.emeraldashborer.wi.gov. Milwaukee County is already under an EAB quarantine (see map).



An ash tree turns color in Oshkosh, October 2012. Photo by Bill McNee.



Counties quarantined for EAB are shown in red.

In recent years scientific research has been documenting the human health benefits of having trees in a person's immediate environment. A new study has found a statistical relationship showing increased human deaths from heart and lung diseases in areas where EAB is known to be killing ash trees, compared to deaths in areas not known to be infested by the tree-killing insect. The cause of the relationship has not been determined. More information can be found at:

<http://www.sciencedaily.com/releases/2013/01/130116163823.htm>

EAB survival in submerged logs – in the December 2012 Newsletter of the Michigan Entomological Society, an article by T. Baweja, T.M. Poland, and T.M. Ciaramitaro, looked at EAB survival in submerged black ash logs. The basic take-home message was that you need to submerge the logs for about 4 months to get complete mortality of all EAB life stages.

Gypsy Moth – from Bill McNee. It will be about two months until gypsy moth egg masses start hatching, but property owners who are interested in reducing gypsy moth populations should consider oiling or removing egg masses well before then. Horticultural oils that suffocate the eggs are available at many garden centers and large retailers. In general, these are applied when temperatures are above 40° and freezing is not imminent. If removing egg masses, scrape them into a can of soapy water and then let them soak for a few days before discarding in the trash. Additional management options for homeowners and woodlot owners are available at www.gypsymoth.wi.gov.

Property owners looking to hire a business to do insecticide treatments this spring should contact them soon. The Wisconsin Arborist Association has a list of certified arborists available at www.waa-isa.org. Additional businesses offering insecticide treatments may be found in the phone book under ‘Tree Service.’ Homeowners can also purchase insecticides (some applied as a soil drench) at garden centers and large retailers. For larger areas, a guide to organizing aerial spraying and a list of for-hire aerial applicators is available on the state’s gypsy moth website, www.gypsymoth.wi.gov.

Researchers at the University of Michigan have found another reason why gypsy moth caterpillars prefer oaks over maples – there is more protein in oak leaves. Oaks were found to have 30-40% more ‘essential amino acids’ than maple leaves, meaning that a caterpillar would have to ingest more maple leaf to get the same amount of protein. Previous research has shown that maples also produce more ‘tannin’ compounds that make it harder to digest the proteins that are present in the leaf. Read more at:

<http://www.sciencedaily.com/releases/2013/01/130130111757.htm>.

Valentine’s day insect highlight – as you might have guessed there are relatively few holidays that have a bug associated with them, and Valentine’s Day is no different, but, since red is the color for Valentine’s day I thought I would highlight a red bug for you ... it’s poisonous, which doesn’t really go with the theme of Valentine’s day being one of sweets and candy, but humor me and read on. So, the critter is a Milkweed Longhorn Beetle. These cute little beetles feed on milkweed throughout their lives and the adults are a nice red color to indicate their toxicity to the world, although, according to the National Audubon Society Field Guide, the “adults are immune to poison in milkweeds but their larvae are poisonous to birds”. I’m not sure if that means you could safely eat the adults or not ... and if anyone attempts this (and fyi, I’m NOT encouraging it!) let me know how that goes for you. ☺ If indeed the adults are not poisonous then they use the red coloring as protection to mimic the coloration used to indicate toxicity. There are a number of species of milkweed longhorned beetles throughout the US, all specializing on certain species of milkweed with the



Gypsy moth egg masses. Photo by Bill McNee.



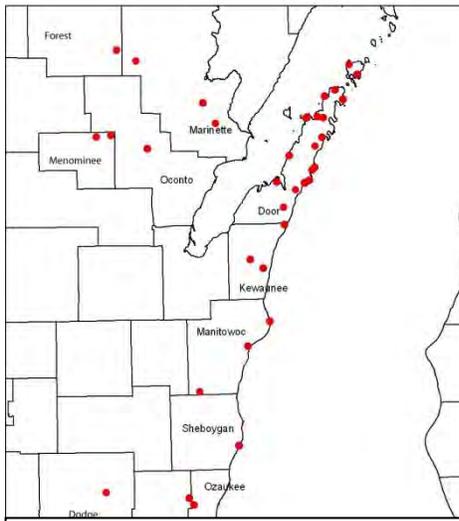
Milkweed longhorn beetle.

adults feeding on the leaves and the larvae feeding on the roots and at the base of the plant. So, there you have it, Happy Valentine's Day!

Diseases

Beech bark disease – this is an exotic insect/disease combination. The exotic scale insect has now been found in most counties where beech occurs in Wisconsin. With the exception of Door Co, the scale populations are extremely low, and I have to look at a number of trees before I can find one tiny fluff-covered scale. If you find a location where the population has exploded and the white fluff is starting to be easier to see on the trees, please let me know where these sites are.

Beech Scale Detections as of November 2012



Red dots indicate positive identification of beech scale. Most are at extremely low populations.



The tiny white flecks buried in the bark crevices are all exotic beech scale insects. This would be considered a low/moderate population even though it may still be difficult to spot from a distance.

In Door County, there are several sites where the population of scale insects has exploded and the trees appear to be “whitewashed” due to the high number of scales. And, Door County is the only area that we’re aware of in Wisconsin where tree mortality is occurring from beech bark disease. This disease will not eliminate beech from the landscape as there is a small percentage of trees that are resistant.

disease in any state in the US. Here in Wisconsin we have



Bill Ruff, WI DNR Forester, stands by a tree that is whitewashed with a heavy scale population on the protected side. This tree was recently dead and rain had washed the scales off the exposed side of the tree which makes it useful to show how dramatically white the trees can appear when heavily covered with scale.

BMPs to help minimize the spread of the insect. Check them out on our beech bark disease page at <http://dnr.wi.gov/topic/ForestHealth/BeechBarkDisease.html> click on the Management tab and you'll find a link to the BMPs.

Nectria – the “target shaped canker”. Although we still refer to this disease as “Nectria”, the species name was revised in the past decade to be named *Neonectria*. Blame it on the pathologists, they're always changing species names.

This fungal disease can be found causing cankers on a number of different hardwood species including oak, maple, ash, beech, birch, and more. Although it rarely causes mortality it can be a weak point where the tree may break off. The *Neonectria* fungi often enter the tree through a dead branch or branch stub. Once it has entered a tree, *Nectria* is a perennial canker, meaning that the fungus lives many years, each year killing a little bit more of the tree, creating what appear to be “growth rings” on the face of the canker. *Nectria* can sometimes be confused with *Eutypella* canker of maple, the difference being that *Eutypella* often holds the bark on the canker face, while *Nectria* will shed that bark so you can see the canker face with the target pattern. So the target pattern should be easy to identify, but, there are a couple exceptions that we see in Wisconsin. When *Nectria* infects either beech or basswood, it creates very different looking cankers than the typical target canker. In basswood it creates what appear to be small



Nectria canker showing the target pattern, and notice the branch stub in the center where the fungus entered. Photo by Joe O'Brien, USFS.



Round/oval nectria cankers associated with beech bark disease. Each one is 1-3 inches in diameter.



Native nectria species on beech causing larger flattened cankers. Photo by Derek Sokoloski.



Nectria "explosions" under the bark of this basswood (sorry it's not the greatest pic).

explosions under the bark; eventually the bark sloughs off these “explosions”, leaving a crater. And in beech, there is an exotic *neonectria* species associated with beech bark disease that creates many small subtle

cankers on the stem, or the tree can become infected with a native *neonectria* species and have larger concave areas indicating the presence of a canker underneath.

Is nectria a threat to the tree? Should the tree be removed with the next harvest? It depends. Check out the Northern Hardwood chapter <http://dnr.wi.gov/topic/forestmanagement/documents/24315/40.pdf> which includes a table at the end to help you determine if a defect will mean a high probability of mortality or failure, as well as whether

those trees will have a high probability of degrade due to the defect, here's an excerpt regarding cankers:

Trees with cankers are considered high risk of failure or mortality if:

- Canker affects >50% of the stem's circumference or >40% of the stem's cross section.
- Horizontal crack on a canker face.
- >20% of combined circumference of the stem and root collar are affected by butternut canker.
- White pine blister rust canker on main stem but located below crown where stem failure would leave a minimal crown.

Thousand cankers disease in North Carolina – from Bill McNee. In January it was announced that thousand cankers disease (TCD) had been detected in North Carolina for the first time, on the NC side of Great Smoky Mountains National Park. In addition, the tiny beetle known to vector TCD, the walnut twig beetle, has been found at a wood-importing business near Cincinnati, Ohio. No signs of TCD have been seen in Ohio, though.

For more information about the North Carolina detection of TCD, visit:

<http://www.ncagr.gov/paffairs/release/2013/1-13-Thousand-Cankers-Quarantine-Haywood-County.htm>.

Other/Misc.

Drought – have you come across trees that died from the drought last year? Currently conifers are the easiest to identify as they are red/dead and easy to spot. They may be in patches or only in one area of a stand/plantation. Removal of these trees may remove insect breeding habitat and minimize risk to the rest of the stand (like with two lined chestnut borer in oak), or in the case of drought-stressed pines that were attacked by bark beetles the bark beetles probably emerged last fall and are overwintering in the soil or duff layer, so removal of the trees will not directly affect those insect populations.



Young red pine, mortality attributed to the 2012 drought.

Should you replant right away or wait? This is a complex question that will depend on a number of things, including how old your trees are, where the dead trees are located in the stand, how many trees have died, the stocking level of the remaining stand, and whether or not there are other insect/disease issues at work, just to name a few. I recommend contacting your local DNR forester for more information or planting suggestions.

Firewood and DNR properties – is the topic of what firewood is allowed on DNR properties, what’s not, and how far it can moved, as clear as mud to you? Below is a bulleted list of some things to remember

- DNR Properties can accept USDA Emerald Ash Borer certified firewood
 - BUT WAIT! The label must have “emerald ash borer” printed in the center of the shield. If “emerald ash borer” is not printed on the shield or otherwise illegible, the firewood may not enter the DNR property.
 - If only “gypsy moth” is printed on the shield this firewood cannot enter a DNR Property.
- Firewood certified by DATCP continues to be accepted into DNR campgrounds
- Firewood brought into DNR Properties from the surrounding area must be:
 - from Wisconsin
 - from within 25 miles of the state property; AND from outside of a quarantined area, UNLESS the property is also within a quarantine.

Forest Health Annual Report - the 2012 Forest Health Annual Report is now available. Table of contents shown at right (sorry for the really small print!). Go to:

<http://dnr.wi.gov/topic/ForestHealth/Publications.html>
 you’ll have to page down to the section on Annual Reports.

If you’re interested in what forest health issues our neighbor states are reporting, you can find 2012 annual reports from

Michigan:

https://www.michigan.gov/documents/dnr/ForestHH_409440_7.pdf

Iowa:

<http://www.iowadnr.gov/Portals/idnr/uploads/forestry/Forest%20Health/foresthealthhighlightsIA12.pdf>

Minnesota doesn’t have their 2012 report posted yet but you can review their updates back through 1969 if you have an interest

http://www.dnr.state.mn.us/treecare/forest_health/annualreports.html

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Herbicide effectiveness on invasive plants – UW Extension has updated the document Herbicide Effectiveness on Invasive Plants in Wisconsin (A3893) which highlights the effectiveness of 35 herbicides on 32 different invasive plants. Download it at

<http://learningstore.uwex.edu/Assets/pdfs/A3893.pdf>

Invasive plant control information – from Tom Boos, WI DNR Forest Invasive Plants coordinator. The Midwest Invasive Plant Network (MIPN) and the University of Wisconsin-Madison have developed a searchable, on-line, invasive plant control database. The database currently includes identification and control information for over 40 invasive species. Both chemical and non-chemical control techniques are presented, and each control method has

ratings for its effectiveness during the year of treatment and the year after treatment. This database contains information on control methods that are either common or effective at controlling specific invasive plants in the Midwestern United States. Methods that are uncommon, do not provide sufficient control, or lack information for determining effectiveness on target species are omitted. The database also allows users to enter information on their experiences with control efforts for the invasive species in the database by submitting a case study. This database provides a central platform for the entire region to easily access and share control information.

To access the MIPN Control Information Database, visit mipncontroldatabase.wisc.edu. You can listen online to a recorded webcast on the new MIPN Control Information Database.

Pesticide applicator training (WI) – If you or your staff need to sign up for pesticide applicator training here is the schedule with dates and pre-registration deadlines:

http://ipcm.wisc.edu/pat/download/download/train_sched_13_04.pdf

And this page has additional information about each training session/location

<http://ipcm.wisc.edu/pat/13-trainingschedule/>

Remember, you can do self-study OR go to a class (Forestry session is March 29), but if you go to the class it's really a good idea to have read/studied the manual BEFORE you go so you can pass the test at the end of the class.

Contact Us

Report EAB:

by phone 1-800-462-2803

by email DATCPEmeraldAshBorer@wisconsin.gov

visit the website <http://emeraldashborer.wi.gov/>

Report Gypsy Moth:

by phone at 1-800-642-6684

by email dnrfgypsymoth@wisconsin.gov

visit the website <http://www.gypsymoth.wi.gov/>

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Note: This pest update covers forest health issues occurring in Northeastern Wisconsin. This informal newsletter is created to provide up-to-date information to foresters, landowners, and others on forest health issues. If you have insect or disease issues to report in areas other than northeastern Wisconsin please report them to your local extension agent, state entomologist or pathologist, or area forest pest specialist.

Pesticide use: Pesticide recommendations contained in this newsletter are provided only as a guide. You, the applicator, are responsible for using pesticides according to the manufacturer's current label directions. Read and follow label directions and be aware of any state or local laws regarding pesticide use.