

Northeastern Wisconsin Forest Health Update

Wisconsin DNR – Division of Forestry

November 21, 2014

Topics covered this month:

Insects:

Bronze birch borer
EAB info
Gypsy moth

Other:

Pesticide Applicator Training info
Sapsucker defect
White splotches on maple bark (lichens)

Diseases:

Beech bark disease document for review
Declining/dying spruce
SNEED

Of Historical Interest

25 years ago - 1989 –
Pine tortoise scale
Yellowheaded spruce sawfly
60 years ago - 1954 –
Oak gall rust
Walkingsticks

Insects

Bronze birch borer – bronze birch borer, *Agrilus anxius*, is a native woodborer that attacks birch. It creates D-shaped exit holes, similar to emerald ash borer. Bronze birch borer attacks stressed trees, and the source of the stress can be anything from drought, flooding, or defoliation, to old age. All birch can be attacked, including ornamental varieties, and trees often die from the top down. Birch trees will attempt to grow callus tissue over any borers that attack the tree. A healthy tree can stop a borer from getting too far, but a stressed tree will not be able to keep up with the borers, and the borers will eventually girdle the portion of the tree that they're attacking. The tree at right, although having grown callus material over some of the galleries, clearly was not winning this battle based on the number and length of galleries present (and the crown was 2/3 dead). Larvae take 1 or 2 years to develop depending on tree health and how far north they are. Adults are present for most of the summer, although each adult only lives about a month. Insecticides can be used for controlling bronze birch borer in yard



Bark has been removed to show galleries of bronze birch borer.

trees. In forested areas, keeping the birch healthy (and not too old) is a key to reducing the amount of bronze birch borer attack.

EAB info – I often am asked if the cold winters will kill EAB. The answer is ... maybe some of them, but not enough. EAB is a cold hardy insect, and comes from a region that gets cold temperatures, so it's able to withstand a certain amount of cold. Additionally, EAB overwinters as a larvae that can supercool, meaning that they increase the amount of glycerol in their body, creating an antifreeze, so that ice crystals don't form and damage their cells. Plus, they're protected under the bark of trees, so windchill means nothing to them. But ... some EAB will die if we have prolonged periods of bitterly cold temperatures like last winter. It won't kill them all, but it might knock them back a bit. So hope for cold winters!



EAB larvae. Photo by Kyoko Scanlon.

EAB new finds in WI - In the past month emerald ash borer has been identified in the following areas around the state:

New County Quarantines:

- none

New finds in Counties already Quarantined:

- Trempealeau County – City of Arcadia

Emerald Ash Borer Quarantine



Quarantined County

Wisconsin Department of Agriculture, Trade and Consumer Protection
Map Updated 10/7/2014



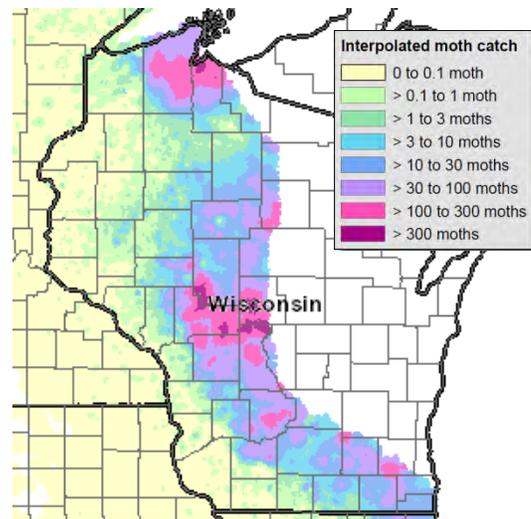
EAB additional reading:

- **Native insect parasitizing EAB** - Researchers at the University of Kentucky report a native *Heterospilus* sp. parasitizing EAB. This species is known to parasitize other native wood borers but had not previously been reported in EAB
<http://www.kyforward.com/our-living/2014/11/11/uk-research-show-promise-in-fight-to-protect-kentucky-ash-trees-against-emerald-ash-borer/>

Gypsy moth – the final trap numbers are in. Map at right is from the Slow The Spread Foundation website <http://skynet.ento.vt.edu/da/da.htm> with darker colors indicating higher numbers of moths per trap.

The leaves are off the trees so egg mass surveys can be done more easily now to predict gypsy moth populations in 2015. For more information on how to do egg mass surveys, visit www.gypsymoth.wi.gov.

Oiling of egg masses to kill them can be done as long as you can spray the oil (until the oil gels due to the cold). Scraping of egg masses, in which you actually remove them from the site, not just scrape them off the tree, can be done throughout the winter. Egg masses scraped off trees and left on the ground



Gypsy moth trap catch numbers. From <http://skynet.ento.vt.edu/da/da.htm>

will be protected by snow and may still hatch in the spring. Information on oiling or removing egg masses is also available at the above site.

Applications to the 2015 DNR gypsy moth suppression program are due by December 5 of this year. Go to the Suppression page <http://dnr.wi.gov/topic/ForestHealth/GypsyMothSuppress.html> for more information on Applications (select Grants) and a list of local gypsy moth contacts (select Contacts then click on your county). If you decide to do privately-organized spraying, a list of for-hire aerial applicators is available at <http://dnr.wi.gov/topic/ForestHealth/documents/PrivateAerialSpray.pdf> The December 5 deadline does not apply to privately-organized spraying.

Additional insect reading:

Bedbug “natural” control options evaluated: <http://entomologytoday.org/2014/10/09/researchers-compare-efficacy-of-natural-bed-bug-pesticides/>

Exotic lanternfly found in Pennsylvania, first time in the US. Egg masses can be laid on many surfaces and could be transported like gypsy moth egg masses. The adult and larvae are really quite pretty; check out info and pics at the following 2 sites:

http://www.agriculture.state.pa.us/portal/server.pt/gateway/PTARGS_0_2_24476_10297_0_43/AgWebsite/ProgramDetail.aspx?name=SPOTTED-LANTERNFLY&navid=12&parentnavid=0&palid=150&

or

http://www.portal.state.pa.us/portal/server.pt/gateway/PTARGS_0_2_24476_10297_0_43/AgWebsite/Files/Publications/SpottedLanternflyestAlert.pdf

Parasitic insects that control their host’s behavior. The article also talks about other parasites that control their host’s behavior but I found the insect ones to be the most interesting <http://ngm.nationalgeographic.com/2014/11/mindsuckers/zimmer-text>

Southern pine beetle killing pines in Long Island, New York. An interesting comment in the article: “Warming winter temperatures don’t cause the outbreaks, but they permit it”: http://www.nytimes.com/2014/10/29/nyregion/long-island-confronts-destructive-southern-pine-beetles.html?_r=2

Diseases

Beech bark disease document review – The final draft document, titled “Management of Beech Bark Disease in Wisconsin” is posted on-line for public input at <http://dnr.wi.gov/news/input/guidance.html> The deadline for public comments is December 3, 2014.

Declining/dying spruce – you can’t automatically assume that a thinning spruce is due to rhizospahera needlecast anymore. Do you remember a couple years ago when we were having major problems with mature spruce thinning and dying, often from the bottom up? I gave some information in my October 2011 pest update from a researcher in Michigan who had found some new issues on spruce, but I found some more recent articles on it indicating that Phomopsis, causing branch cankers, may be playing a bigger role than previously thought.

So what are the issues with spruce? Well, there are numerous diseases, including Rhizosphaera, Stigmina, and SNEED, which affect the needles, Phomopsis and Diplodia shoot blights, Cytospora canker which kills branches, and now Phomopsis canker as well. Not to mention the harsh winter last year and spruce needle rust. So what is one to do? Try to identify the culprit. Homeowners who want to spray to prevent Rhizosphaera needlecast won't have much success if what they really have is Phomopsis in their tree. Don't get me wrong, Rhizosphaera needlecast is still the most common problem I see on spruce, but there are new players in the game now. In forest settings, spruce planted off-site seems to be much more affected by all problems.



Spruce trees declining from the bottom up. Notice the tree 2nd from the right still appears healthy while others are very thin.

For more info on the newest Phomopsis issue, including pictures of effected trees, check out The Michigan Landscape article at <http://www.hrt.msu.edu/assets/PagePDFs/bert-cregg/Phomopsisdeclinefinalprint.pdf> For information on Rhizosphaera or other spruce problems, MN has a nice one-stop-shopping page <http://www.extension.umn.edu/garden/yard-garden/trees-shrubs/spruce-tree-diseases/>

SNEED – spruce needle drop – or sudden needle drop – this problem in spruce is thought to be caused by the fungus *Setomalonomma holmii*. Pathogenicity of the fungus has not been proven, but it is the primary fungus present on trees with a particular suite of symptoms. Spruce with SNEED will have current year needles that are a nice green color, and all other needles will be yellow or yellow/green in color. Black fruiting bodies will look like pepper sprinkled generously on the twigs of the affected branches. Old needles, although not showing any fruiting bodies, will drop from the tree prematurely, and repeated years of this will cause the tree to thin, decline, and can lead to mortality. I've seen this primarily in plantations of white spruce, but have also seen it in blue spruce plantations and it's reported in Norway spruce as well. I don't know of any sure-fire chemical options to prevent infection or to help the trees recover. Management often involves removing the worst affected trees in the plantation, minimizing stress, and minimizing standing water or waterlogged soils where possible.



A spruce with SNEED, showing typical symptoms of current year needles being bright green and older needles are yellow.

Other/Misc.

Pesticide applicator training (WI) - If you or your staff need to sign up for pesticide applicator training here is some information:

schedule with dates and pre-registration deadlines:

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

NOTE: At this time there is only one live in-person Forestry session listed
January 29, in Marathon County

But you can always do self-study and test at locations around the state. For more info go to <http://pestexam.datcp.wi.gov/> click on Register For An Exam then select the county you want to test in to see the testing dates available.

*where to order manuals <https://patstore.wisc.edu/secure/index.asp>

*for more info <http://ipcm.wisc.edu/pat/>

You don't have to attend a class, 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.

The training manuals are \$45 per category, and if you want to attend a "Live Session" you need to register for the session which is an additional \$25 fee.

Sapsucker defect – you've probably all seen the damage from sapsuckers. Those methodical rows of holes pecked into the bark of some trees, just down to the cambium layer, repeated in rows or grids, and occasionally blanketing a tree. Because the wounds do get through the bark, into the live portion of the tree, this allows stain fungi to be introduced. In a log, this defect is called "bird peck".

Sapsuckers create the holes to prompt sap to flow which they later come back and lick up using their brush-like tongue. There can be favored trees that the birds will come back to year after year to drill new holes. As a general rule this damage doesn't usually kill the tree. The only way I know of to keep the birds from creating the holes is



Row of holes drilled in the bark by sapsuckers.



Pictures above show staining caused by sapsucker damage to the tree, commonly called "bird peck".

an actual physical barrier, like hardware cloth or something to prevent the birds from accessing the trunk, which is not practical in a forest.

White splotches on maple bark – have you ever noticed young maples with white splotches on the bark? The next time you take a walk through the woods, check them out more closely, they're lichens!

More specifically, those splotches are usually crustose lichens. For the most part they are already "lichenized" which means that they have their photosynthetic partner ... in case you forgot your lichenology, lichens are a combination of a fungus and an organism that can photosynthesize (like algae). But ... some of those white blotches on maples are non-lichenized, and are still waiting for their photosynthetic part to arrive. There are several different species that will grow on the smooth bark of maples in Wisconsin, and microscopic examination is needed to identify them.



White blotches on bark are crustose lichens.

No need to scrape lichens off the trees ... they're just simply using the bark as a substrate to live on, not taking any nutrients from the tree. Thanks to Mary Barkowiak (previously with forest health, now with Forest County Potawatomi Natural Resources) for info on lichenized vs non-lichenized lichens.

Of Historical Interest

25 years ago, in 1989 –

- **Pine Tortoise Scale** – *Toumeyella parvicornis* (Cockerell) Populations erupted in late summer in the central and west-central counties. Heavy infestations were observed on jack pine in Chippewa County and on Scotch pine in Trempeleau County. An extremely heavy population on Scotch pine Christmas trees in Waushara County was treated with diazinon.
- **Yellowheaded Spruce Sawfly** – *Pikonema alaskensis* (Rohwer) Spotty damage to spruce was reported in Oneida County while extensive heavy defoliation of open grown white spruce was observed in southern Washburn County.

60 years ago, in 1954 –

- **Oak Gall Rust** – *Cronartium cerebrum* (Berk.) Very prevalent in some plantations in Eau Claire County. Infestation appears to have advanced on a large scale in 1951 when conditions were ideal for introduction.
- **Walkingsticks** – *Diaperomera femorata* (Say) Heavy infestations defoliated several hundred acres of hardwoods in the northern half of Marinette County; the stands were

predominantly oak. And outbreak in which 80 acres were completely defoliated occurred in the town of Bridge Creek, Eau Clair County.

Contact Us

Forest Health Staff - contact info for each Forest Health Specialist can be found our webpage at

<http://dnr.wi.gov/topic/ForestHealth/staff.html>

Report EAB:

by phone 1-800-462-2803

by email

DATCPEmeraldAshBorer@wisconsin.gov

visit the website

<http://emeraldashborer.wi.gov/>

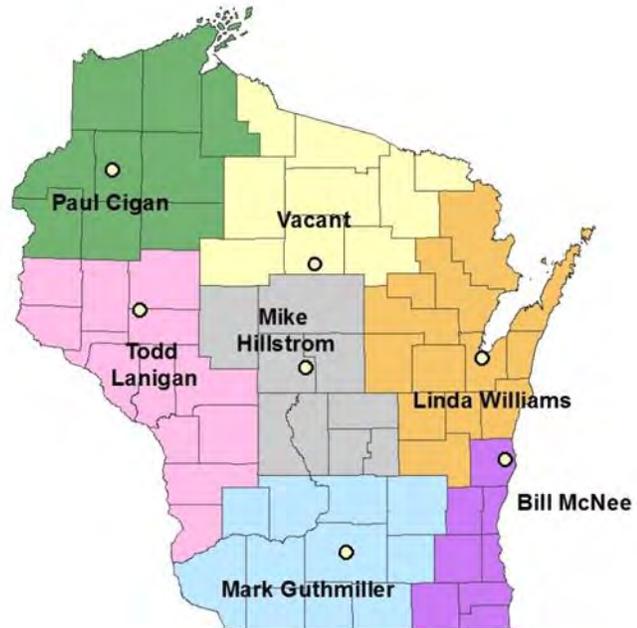
Report Gypsy Moth:

by phone at 1-800-642-6684

by email

dnrfrgypsymoth@wisconsin.gov

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



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<http://dnr.wi.gov/topic/ForestHealth/>

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.