Northeastern Wisconsin Forest Health Update

Wisconsin DNR – Division of Forestry

February 17, 2014

Topics covered this month:

Insects:
Beech scale
Cold weather and insect survival
Columbian timber beetle
EAB chemical treatments can save trees
EAB locations with 15-mile radius
EAB new finds
Valentine's day special – walkingstick love

Diseases:
Oak wilt

Other:
Drought update from MN
Firewood restrictions on state properties changed
Forest health annual report for 2013
Pesticide applicator training

Of Historical Interest:
1954 –

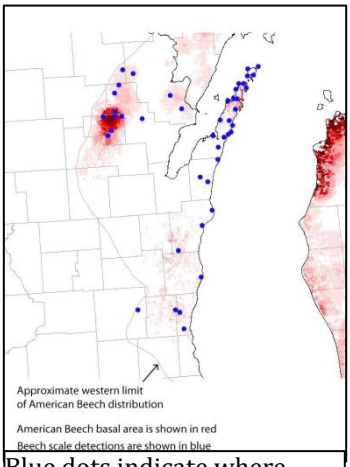
- Forest tent caterpillar
- European pine sawfly

1989 –

- Aspen blotchminer
- Oak wilt info

Insects

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



Blue dots indicate where beech scale has been found, some at very low population levels. Data from WI DNR, MTE, and UW Stevens Point researchers.

Beech scale – the map at right shows where beech scale has been found at very low populations (with the exception of Door County, where there are some larger populations). Most areas of the state where beech is present now have some low level of the scale. It is unknown how long it takes for a scale population to go from a single scale on a tree (or an area where you have to look at several beech to find a single scale), to a full blown scale population where the tree looks white because it's covered by fluffy beech scale. It is at that point, of scale population explosion, that the trees start to decline and die, usually within 3-5 years of the population explosion.

Cold weather and insect survival – if you're hoping that this winter will "kill off all the insects", don't hold your breath. Although the bitterly cold temperatures will impact some insect populations, the reality is that most of our insects do ok during the winter. This is especially true of winters (like this one) where the winter came on slowly and steadily, and has stayed cold, allowing the insects to acclimate to the cold and remain acclimated. So how do insects survive winters? Below are just a few of the ways:

- Life stage - Some insects overwinter as adults, some as larvae or nymphs, and other insects trust that their eggs will be able to survive the cold temperatures and desiccation of winter weather.
- Location - some insects have added protection by living under bark, overwintering at the base of trees, under leaves, or just under the soil.
- Protected by snow - Spending the winter in areas where snow will provide insulation from extreme temps is also a good choice.
- Chemical changes - Super-cooling is another adaptive strategy that insects utilize, in which they reduce the water in their cells, and replace it with compounds that work like antifreeze.

But don't despair … there will definitely be some winter mortality of some of our insect populations, just not the wholesale destruction that some are hoping for.

Columbian timber beetle – the staining from Columbian timber beetle (a small ambrosia beetle, resembling a bark beetle) continues to be evident on some silver maple stands in my region. The staining, once present, will not go away, even when the population of Columbian timber beetle collapses. This staining causes logs to be reduced in grade. Columbian Timber Beetle does not kill the tree or weaken it, but does introduce stain fungi, and will attack all sizes of silver maples. Any new wood put on after attacks subside will be clear wood, but the

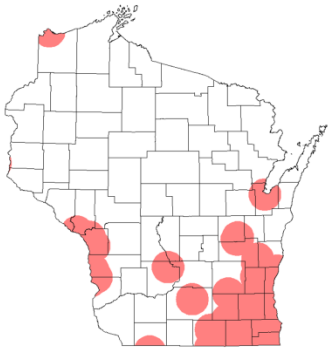

Staining in silver maple logs caused by Columbian timber beetle. Heavily stained log on left, lighter infestation on right. Photo from Algoma Lumber Co.

staining in the inner rings will remain. This insect is very difficult to detect in a stand, since the only outwardly visible signs will be tiny pin-head sized holes in the bark, and maybe the occasional small frass-toothpick sticking out of the hole. The only reliable method to determine if a stand is infested is to cut down a small tree and check both a horizontal section and a vertical section to look for the characteristic staining.

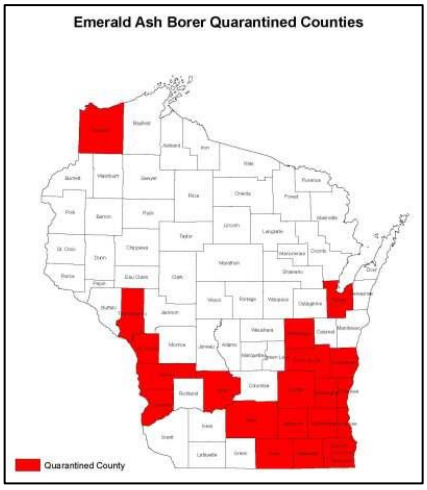
Horizontal section and cross-section show characteristic staining from Columbian timber beetle.

EAB chemical treatments can save ash trees – did you know that ash trees can be treated to prevent EAB infestation? New research is constantly coming out regarding how to save ash trees using pesticides. This is not practical for forested settings, but if you are talking to a homeowner (or a landowner who has some ash in their yard), this may be an option to save a few of their ash trees. Treatment can be done by the homeowner themselves, or by a professional, but not every ash tree can, or should, be treated to save it. And treating before EAB is known to be within 15 miles of you can be a waste of money. Treating the tree once means protecting it for 1-2 years, depending on the product, so homeowners must make the commitment of repeated treatments if they want to keep their trees alive for the long term. More info, including the different pesticide choices for homeowner use, can be found at http://datcpservices.wisconsin.gov/eab/articleassets/Homeowner%20Guide%20to%20EAB%20Insecticide%20Treatments.pdf

EAB locations with 15-mile radius – is your property in a quarantined county or within 15 miles of a known EAB infestation? If so you should consider taking action to minimize the impact of EAB on your property when it arrives. It is not required that you take any action, but if you're planning something for your forest, then you should be doing it once your county is placed under quarantine (map below) or when EAB is within 15 miles of your property. The current map of EAB known infestations, with 15-mile radius circles drawn around each known infestation, is shown at right. For management recommendations check out the document Emerald Ash Borer And Forest Management at http://datcpservices.wisconsin.gov/eab/articleassets/Management_Guidelines_for_Wisconsin_Forests.pdf



Known EAB locations with a 15-mile radius indicated in pink.



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

<u>New County Quarantines:</u>

<u>New finds in Counties already Quarantined:</u>

- City of Cedarburg, Ozaukee County

EAB mortality – photos from the Newburg area, where EAB was first found in 2008, showing extensive ash mortality between 2009 and 2013.

Photos above – EAB impact, ash mortality. 2009 on the left, 2013 on the right. The fork in the river is visible in both photos. Note the dead skeletons of trees in the 2013 photo, just 5 years after EAB was identified here. Photos by Bill McNee.

Valentine's Day special – Walkingstick love – last fall a forester (who requested to remain anonymous) was eating lunch one day when they noticed (and videotaped) a pair of mating walkingsticks. During the video the forester was sure to get all angles as well as poking at the male a little bit to get him to "sway in the wind" like the twig that he's supposed to mimic. Some of you have probably never seen a female walkingstick before, or noticed the size difference between a male and female, and maybe some of you have never seen a walkingstick at all, but for the few who have seen a mating pair, it's a rare opportunity indeed. Thanks to the forester for videotaping this love fest!

Now for the educational part … walkingsticks occasionally defoliate oak in Wisconsin, but did you know that walkingsticks require 2 years to complete their life cycle in the north? So, if you're going to have a walkingstick outbreak it will not be a consecutive year occurrence. From the US Forest Service's Walkingstick FIDL:

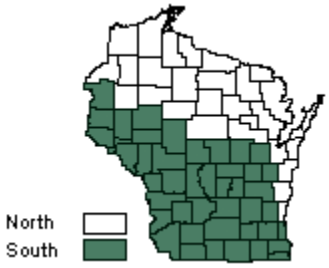
> The eggs overwinter in the leaf litter, and most remain unhatched throughout the following summer and winter. Nymphs emerge the next spring. As the cycle in the north is 2 years long, even-year and odd-year broods have developed. In some localities both broods are nearly equal in numbers, but in others they are unequal. For instance, in Minnesota even years are "off years" while in Wisconsin and Michigan odd years are "off years. " http://www.na.fs.fed.us/spfo/pubs/fidls/walkingstick/walkingstick.htm

Mating pair of walkingsticks. The smaller one is the male.

Diseases

Oak wilt – pruning, wounding, or harvesting oaks during winter months greatly reduces the risk of spreading oak wilt. The most common insects that carry the fungus from tree to tree are out and active in the spring and early summer, so, to keep the beetles from coming to your trees, it is recommended to not prune, wound, or harvest during the high risk time period:

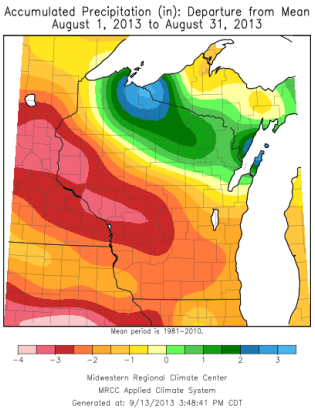
Southern WI - April 1 – July 15 (grey in map at right)
Northern WI - April 15 – July 15 (white in map at right)



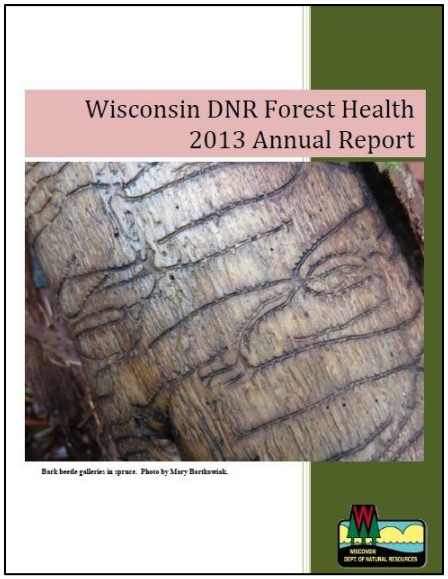
So, if you're concerned about oak wilt, you should be thinking now about when you want to get out and prune or harvest your oaks, so that you don't have problems with oak wilt. For more info check out the DNR oak wilt webpage http://dnr.wi.gov/topic/ForestHealth/OakWilt.html

Other/Misc.

Drought update from MN – the latest Minnesota Forest Insect & Disease Newsletter has a brief update on conifer mortality and reminds us that although the spring of 2013 was wet, there were some portions of the state that had dry periods in summer and late-summer which may have prevented our trees from fully recovering from the 2012 drought (at right the precipitation departure from the mean for August 2013). Check out the MN article at http://www.dnr.state.mn.us/fid/jan2014/uptick.html



Firewood restrictions on state properties changed – the new rule states that firewood brought onto state properties must originate within 10 miles of that state property. These changes will take effect for the 2014 camping season. Wood certified by the Wisconsin Department of Agriculture, Trade and Consumer Protection as being treated to kill infesting organisms will continue to be accepted onto any state property regardless of the distance of origin.



Forest Health Annual Report for 2013 - the 2013 forest health annual report is now available on the web. What is the annual report you ask? Well let me tell you, it's 37 pages (2.1Mb) of forest health bliss … errr, information … covering some of the major issues that we saw last year. Some of the topics include:

- A study on the susceptibility of different seedling species to annosum

- A study on a virus that infects the fungus that causes chestnut blight
- Emerald ash borer
- Invasive plants
- Oak wilt and using herbicides to control pockets
- Eastern larch beetle
- and, the Germann Road fire forest health issues

Just to name a few

Check it out: http://dnr.wi.gov/topic/ForestHealth/documents/AnnualReport2013.pdf

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://pestexam.datcp.wi.gov/
*where to order manuals https://patstore.wisc.edu/secure/default.asp
*for more info http://ipcm.wisc.edu/pat/
*live forestry session is March 20

Remember, you can do self-study OR go to a class (live Forestry session is March 20, in Park Falls). 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.

Of Historical Interest

60 years ago, in 1954 –

- **Forest tent caterpillar** – *Malacosoma disstria* Hbn. Based on a winter egg band survey made in early December of 1954, it appears that the infestation reached its peak this year and is now on the decline. The parasitic fly, *Sarcophaga aldrichi* (Park), is expected to be present in much greater abundance in 1955. The total area encompassed by the infestation in the state during 1954 was 8,220,769 acres.
- **European pine sawfly** – *Neodiprion sertifer* (Geoff.) Eight larvae identified as this species were found near Arkdale in Adams County by Philip Smith and R.C. Wilkinson of the State Department of Agriculture. Host – Red Pine. The closest previously recorded infestation is south of Rock Island, Illinois, a distance of approximately 200 air miles from the Arkdale area. The species was first discovered in the United States in New Jersey in 1925. It is a serious defoliator of pine and among its hosts are red, Scotch, jack and mugho pines. It overwinters in the egg stage similar to *Neodiprion annulus* and *Neodiprion americanus banskianae*. Eggs hatch early in May and feeding is done on the mature foliage. The larvae mature about the second or third week in June before the new growth has fully emerged. There is one generation annually.

25 years ago, in 1989 –

- **Aspen blotchminer** – *Phyllonorycter tremuloidiella* (Braun) The outbreak that erupted in 1987 in the northern counties continued to decline. Only very light levels of leaf mining were observed.
- Information on the status of the oak wilt situation in Marinette County, Wisconsin was presented at the Michigan Society of American Foresters meeting in Memonimee County, Michigan in April. Johann Bruhn (Michigan Tech) and Bob Heyd (Michigan DNR) were also on the program discussing the Michigan control program. We are working on an approach to a biologically sound and financially feasible control program within the Menominee River Valley of Michigan and Wisconsin.

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/

Northeast Region Pest Update produced by:
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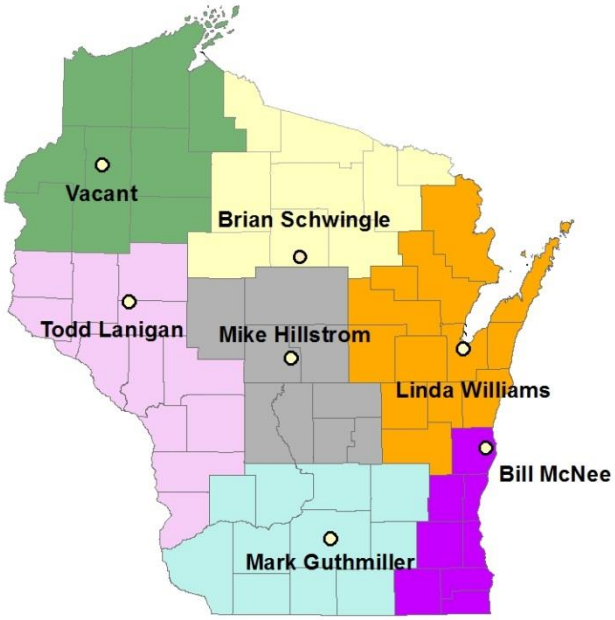

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Note: This pest update covers forest health issues occurring in Northeastern Wisconsin. This informal newsletter is created to provide up-to-date information to foresters, landowners, and others on forest health issues. If you have insect or disease 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.