

Northeastern Wisconsin Forest Health Update

Wisconsin DNR – Division of Forestry

September 16, 2014

Topics covered this month:

Insects:

Aspen blotchminer
Gypsy moth
EAB info, biocontrol releases
EAB new finds in WI
Fall webworm
Kermes scale
Mites on tamarack
Oak skeletonizer
Reheaded pine sawfly
Willow flea weevil

Diseases:

Oak wilt in Oneida County
Oak wilt in Washburn County
Sooty mold

Other:

Aspen, birch, and maple mortality
Crazy worms
Fishing spider craze
Maple scorch

Of Historical Interest:

60 years ago - 1954 –

- Red-headed pine sawfly
- White pine weevil

25 years ago - 1989 –

- Forest tent caterpillar

Insects

Aspen blotchminer – I reported on aspen blotchminer in my August pest update, noting defoliation in Oconto, Marinette, Florence, Forest, Oneida, and Vilas Counties.

The damage makes the aspen crowns off-color and thin, and as we move into September the leaves are looking progressively more brown.

The defoliation can be severe but aspen generally handles

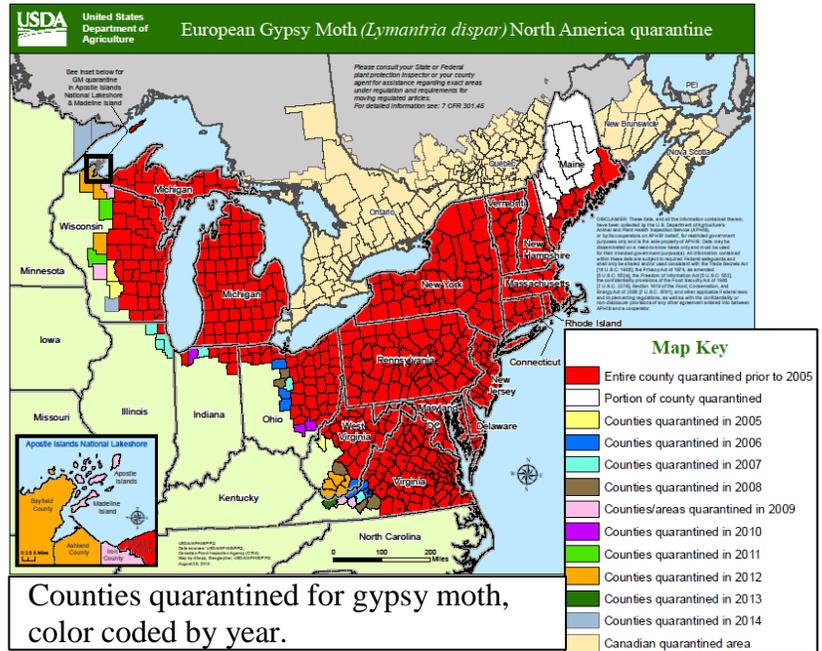


Aspen blotchminer damage on aspen.

the defoliation well, so although it can look bad the effects on the overall health of the trees seems to be negligible. Moths emerge in August and spend the winter in a protected place. Larvae spend their entire life feeding within the leaf and pupate within the area that they mined out.

Gypsy moth – Minnesota has its first quarantined counties for gypsy moth. Although gypsy moth has not made it all the way across the state of WI in all areas, it has marched steadily across the northern tier of counties and 2 counties in the arrowhead region of Minnesota are the latest to be added to the national quarantine (shown in grey on the map at right).

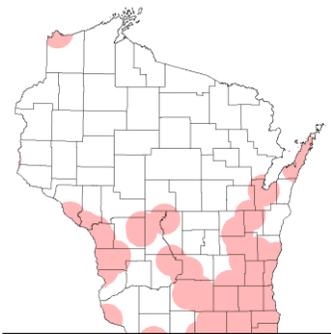
If your county is planning to participate in the gypsy moth suppression spray program next year, just a reminder that applications are due the first part of December. But ... the Forest Service is requesting an approximation of acres that will be entered so if you're in my coverage area let me know by October 31, 2014, if your county is planning to submit an application and approximately how many acres you think you'll have.



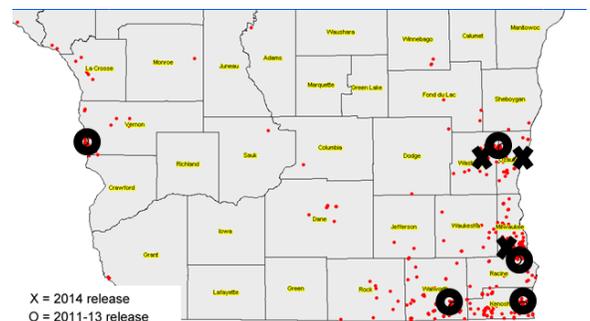
EAB info – the map at right shows the 15-mile radius around all known infestations of emerald ash borer in Wisconsin. The Emerald Ash Borer and Forest Management document

https://datcpservices.wisconsin.gov/eab/articleassets/Management_Guidelines_for_Wisconsin_Forests.pdf (revised May 2014), still states that salvage and pre-salvage harvests are recommended within an EAB quarantined county and for all stands within 15 miles of a known infestation, even if currently located outside of a quarantined county. Ash trees should be considered high risk for EAB mortality within the next harvest cycle.

EAB biocontrol releases continue - This summer we have continued to do introductions of the parasitic wasps, *Tetrastichus planipennisi* and *Oobius agrili*, in southeast Wisconsin. The *Tetrastichus* wasps attack EAB larvae beneath the bark, and the *Oobius* wasps attack EAB eggs on the bark surface. These introductions can help slow the spread and buildup of EAB populations, and delay tree mortality, although they will not stop EAB. The parasitic wasps, which are tiny and don't sting, have been introduced at several sites in southern Wisconsin from 2011 - 2014. The limiting factor with these wasps is that you must



EAB infestations with 15-mile buffers, as of 9/11/14.



EAB biocontrol releases. X=2014 releases, O=2011-2013 releases.

have EAB in order to introduce them.

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:

- Calumet County – Village of Sherwood*
- Kewaunee County**
- Manitowoc County**
- Outagamie County**

*I spotted this infestation on my way to a meeting at High Cliff State Park when my gps unit took me in on streets that I don't typically travel on ... and at one intersection I noticed a group of ash in a yard that had extensive woodpecker flecking along the entire trunk of the tree, crown dieback, and sprouting from the base. The infestation is larger than just that one yard, but that is what caught my attention.



D-shaped EAB exit holes.

**These counties were quarantined although EAB has not been confirmed in them yet. They are completely surrounded by counties where EAB has been confirmed and it is highly likely that EAB is already present as low-level infestations often go undetected for years.

New finds in Counties already Quarantined:

- Milwaukee County – Village of St. Francis

Fall webworm – I'm still getting a number of calls/reports/questions about fall webworm. This is the insect that is creating the large messy web nests at this time of year (late summer / fall). Fall webworm does most of its damage later in the season, when the tree is preparing for fall, and it will not kill the tree. If the web is just too ugly to look at I recommend tearing it down with a rake and soaking the whole thing in a bucket of soapy water. There is no need to prune out portions of your tree just to get rid of the webs, and no need to use fire to burn them out; both do more harm to the tree than the caterpillars themselves would have done.



Fall webworm web nests.

Kermes scale - oak twigs with Kermes scale present will often be killed from the point where the scale feeds to the branch tip. Female Kermes scales are fairly large, light brown and round, and are sometimes mistaken for galls. These native insects are immobile and tend to cluster near buds of a twig or branch. Wasps may be attracted to the honeydew that they produce, and the scales are often tended



Round tan things are Kermes scales.

and protected by ants. These scales feed on sap causing a loss of plant vigor and growth, as well as twig dieback due to their toxic saliva. While a heavy infestation may cause young trees to be stunted or deformed, natural enemies are usually plentiful and control is not usually necessary.

Mites on tamarack – mite damage to tamarack is causing some trees to turn a golden yellow color. This can be confused with trees that are being attacked by Eastern Larch Beetle and turn color earlier than the normal fall color, and of course it can be confused with normal fall color change. The mite populations on these trees are so heavy that when looking at the needles with the naked eye it appears that the needles have



Tamarack needles with high mite population. The specks are all mites feeding on the needles.

pepper on them, but a hand lens reveals that each speck of

pepper is indeed a mite. The mites appear to prefer warmer areas with open grown trees, and trees on the edges of stands. Pole-sized and smaller trees are preferred but I've seen it affecting some larger trees as well.



Tamarack needles turning yellow due to heavy mite damage.

Oak skeletonizer - the damage in the photo is caused by a native insect, the oak skeletonizer. Damage is showing up in Marinette County, and I've had reports from my counterparts that damage is being observed in the northwestern and central areas of the state. Larvae feed on the undersides of the leaves leaving the veins which give the remaining leaf a lacy appearance. The tiny caterpillars (1/4 inch long when full grown) have pupated now. This insect spends the winter as a pupae. In areas with large populations Bt can be sprayed when the small caterpillars are out and feeding but usually the damage is fairly insignificant.



Oak skeletonizer damage. Photo by Aaron Caylor.

Redheaded pine sawfly – on August 31, 2014, I photographed these redheaded pine sawfly larvae on a red pine in northern Vilas County. This seemed very late for the larvae to be out, since I typically think of them as an early summer (mid-June to mid-July) defoliator. In the northern parts of their range they typically only have 1 generation per year. Perhaps the late spring, with snow remaining on the ground for so long this year, just set them back. They were feeding on the 2nd year needles, as they are supposed to, so at least in that respect they were behaving. A unique aspect of these critters is that unmated adult female sawflies can still lay eggs but the offspring will all be male.



Redheaded pine sawfly larvae feeding on red pine.

Willow flea weevil – in Brown, Calumet, Marinette, Shawano, and Oconto Counties, willows are turning brown due to the damage created by willow flea weevil. Damage is severe enough that the trees appear brown and “dried up” from a distance. The adults are tiny black weevils that tend to “rain down”



Willow flea weevil damage due to larval feeding. Larvae are a leaf miner.



Willow flea weevil adults feeding on willow leaf.

out of the tree onto your head when you disturb a branch. Defoliation starts with the immature stage of the weevil, a tiny grub that feeds inside the leaves, mining out leaf material and leaving dead brown blotches. The larvae pupate and the adults emerge to feed on the leaves as well, leaving tiny round feeding marks. The adults will overwinter and emerge in the spring to feed on the opening buds and new leaves.

A few additional cool insect photos I’ve taken recently:



Small caterpillar (1") mimicking a stick.



Scorpionfly adult.



Looper caterpillar, ~1" long.



Bald faced hornet nest, about twice the size of my head (no selfies to prove it though).



Male dobsonfly, ~4" from tip of mandibles to end of wings.

Diseases

Oak wilt in Oneida County – oak wilt has been identified for the first time in Cassian Township in Oneida County (T37N R7E). Samples were submitted for testing and were confirmed positive in the lab. There was a mature tree, a sapling, and several clumps of stump sprouts that were actively dying from oak wilt. Oak wilt has also been found in Nokomis Township, Woodruff Township, and Three Lakes Township within Oneida County.

What that really means is that it's being found around the county and folks should be managing appropriately. For homeowners, it is recommended to not prune, wound, or harvest oaks in April, May, June, and July. For timber sales in forested areas, guidance (including a risk based interactive online decision guide) can be found on the WI DNR Forest Health webpage <http://dnr.wi.gov/topic/ForestHealth/OakWilt.html> but the gist of it is that to minimize the risk of introducing oak wilt into new locations you should avoid pruning, wounding, or harvesting oak stands from April 15 – July 15, which is the high risk time period of the year. These dates are based on scientific studies of the insects that vector the fungus, the time of year that the insect is present, and the time of year that the fungus is producing spores.

If you'd like more info on that study let me know and I can get that to you. Foresters – if you'd like to discuss your specific site whether you have oak wilt or not, let me know and we can discuss the options.



Trees on edge of oak wilt pocket died as pocket continues to expand.

Oak wilt in Washburn County – oak wilt has been confirmed for the first time in Washburn County. Samples from a red oak in the city of Spooner tested positive for the fungus. From the recent press release announcing this new county find:

Oak wilt spores are most frequently brought to new areas in firewood from oaks killed the previous summer. Spores are then spread by insects that are attracted to the sap from tree wounds. To prevent this, do not prune or wound oak trees from April through July. Urban landowners may choose to take a more cautious approach by avoiding pruning until October. If oaks are removed, pruned, or damaged between April and October, seal the wounds with a water-based (latex) paint.

Once a tree is infected, oak wilt spreads from one oak to another through root grafts (connected roots between neighboring trees). Forest health experts recommend cutting through root grafts prior to removal of diseased trees. Contact an urban forestry consultant for advice on successful root graft barriers.

Sooty mold – as insects like scales and aphids feed on the needles/leaves/twigs of trees, they excrete a sticky, somewhat sweet substance, called honeydew, which is the perfect medium for growing sooty mold. Sooty mold can cover the surface of leaves and needles, effectively blocking those leaves and needles from photosynthesizing, causing yellowing and sometimes mortality of needles and leaves. Wasps and ants will often be attracted to these trees where they will collect the honeydew from the insects. In one area of Marinette County, young white pine were dying due to excessive amounts of sooty mold on the needles.



Aphids on white pine branch.



Sooty mold growing on needles.

Other/Misc.

Aspen, birch, and maple mortality – in the northern counties I've been noticing random trees that suddenly die in the woods. These trees are usually widely scattered, often had some leaves this summer until they suddenly died, and are surrounded by healthy looking trees. So far I have

found armillaria only on about 50% of these trees. The aspen and birch are often being attacked by bronze poplar borer and bronze birch borer respectively. In some cases it's clear that the trees produced a heavy seed crop last year. I suspect these trees were stressed by the 2012 drought, allowing insects/diseases to start to attack them, and then further stressed by heavy seed crops last year, and this year they just couldn't hold on any more.

Crazy worms – have you heard about crazy worms? They made it into the news recently when they were found in Appleton, but everyone should be on the lookout for them. A video, produced by the DNR, and available on our Facebook page, shows how crazy they are. They are not a slow mover like most of our worms, but instead thrash around and even detach their tails (which continue to thrash and twitch) to try to distract you. Check out the video at <https://www.facebook.com/video.php?v=786468851417318&set=vb.234938886570320&type=2&theater> Additional info can be found on our website <http://dnr.wi.gov/topic/invasives/documents/crazywormfactsheet.pdf>

Fishing spider craze – if you remember my August update, I included a couple pics and a short blurb about fishing spiders. That pic was posted on the Wisconsin DNR Facebook page and went a bit viral. The latest stats that I have from the Facebook post are:

1,550 Likes
3,049 Comments
11,243 Shares
1,090,048 Views

It also made it onto National Geographic's NewsWatch webpage where their title was "What's a Fishing Spider? Behind the Arachnid Trending on Facebook." How awesome that our native fishing spider was "trending on Facebook"! I had a couple of reporters ask me if the picture was photo shopped ... no ... and I had a couple of reporters ask if I was joking that these large spiders were native ... no. After the media hype, a lot of reports have rolled in, although a lot of folks are spotting Wolf Spiders and assuming that they're a fishing spider. The Dark Fishing Spider continues to be the most common fishing spider that folks are photographing, although there have been a few Striped Fishing Spiders and Six-spotted Fishing Spiders as well.



Dark fishing spider.

Maple scorch – maples growing in low areas in several northern counties suddenly developed scorch late in the season, prior to turning prematurely red. Drought stress is the probable cause, and before you scoff and tell me how much rain we had this spring, we did indeed have a brief dry period in July that could have been enough to impact the maples in low areas. Additionally, with water fluctuations in the low areas, the root systems may have suffered dieback due to flooding this spring. I have to admit that I typically only see scorch in urban areas so this was a bit novel. Often, maples in low areas that are stressed simply turn fall color early ... which we're also seeing this year.



Scorch on maple leaves in low areas.

Of Historical Interest

60 years ago, in 1954 –

- Red-headed Pine Sawfly – *Neodiprion lecontei* (Fitch) The decline of this pest continued. Infestations were small and were light to moderate with few heavy infestations reported. Direct control was necessary on a 15-acre plantation of Norway Pine in Lincoln County and in Chippewa County; spraying was by hand.
- White Pine Weevil – *Pissodes strobi* (Peck) Severe damage to many white and jack pine plantations was sustained in the northern half of the state. In some plantations, 50% to 95% of the leaders were infested. Heaviest damage occurred in the following counties: Douglas, Langlade, Vilas, Sawyer, Dunn and Rusk.

25 years ago, in 1989 –

- Forest Tent Caterpillar – *Malacosoma disstria* (Hubner) Widespread heavy defoliation of aspen, birch and oak occurred in several northeastern and northwestern counties (Figure 4). Hardest hit was Marinette County where the entire aspen timber type in the county, 211,000 acres, was moderately to heavily defoliated. Parasitic Sarcophagid flies associated with the infestations were annoying to tourists, especially in the northeastern counties. High quality red oak in Menominee County was given foliage protection with aerial applications of two insecticides. The growth regulator, Dimilin was applied to 25,600 acres at a rate of 3 ounces ai plus 1 pint mineral oil in sufficient water to make 1 gallon of formulation per acre. The bacterial insecticide, *Bacillus thuringiensis* was applied to 2,235 acres near water at a rate of 8 BIUs plus sticker and spreader in sufficient water to make one gallon of formulation per acre. Egg mass surveys in December point to increasing populations in eastern Menominee County and continued heavy populations in Marinette County in 1990. Heavy moth flights in the northwestern counties indicate the potential for widespread defoliation in 1990.

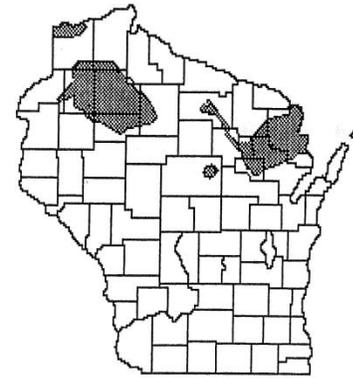


Figure 4. Area of light to heavy defoliation by the Forest Tent Caterpillar - 1989.

Phenological Notes:

May 10 Eggs are hatching rapidly in Menominee County and should be 90% hatched by May 14

May 31 Larvae primarily in 4th instar

June 7 Larvae in 4th instar in northeastern counties

June 15 Pupation has begun in northwestern counties

July 5 Some larvae still feeding in Oneida County

July 4 Massive moth flight in Washburn 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

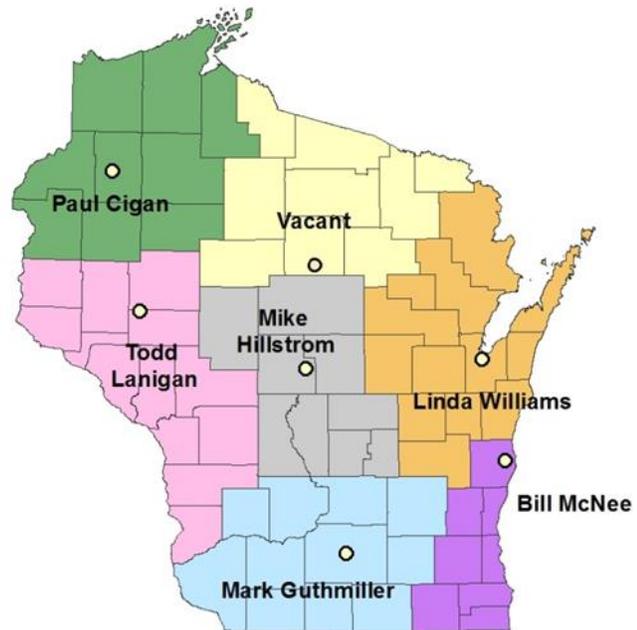
<http://emeraldashborer.wi.gov/>

Report Gypsy Moth:

by phone at 1-800-642-6684
by email

dnrfrgypsymoth@wisconsin.gov

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



Northeast Region Pest Update produced by:

Linda Williams

Forest Health Specialist

Wisconsin Department of Natural Resources - Northeast Region

Linda.Williams@wi.gov

<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.