

Northeastern Wisconsin Forest Health Update

Wisconsin DNR – Division of Forestry

June 26, 2015

Topics covered this month:

Insects:

Aphids on tamarack
Basswood defoliators
Buffalo treehoppers on oak
EAB new finds in WI
EAB Rhinelander infestation
EAB trapping
Forest tent caterpillar
June beetle defoliation
Giant ichneumon wasp on Facebook
Larch casebearer
Lecanium scale
Millipedes
Spider mites on tamarack
Spruce budworm
Ugly nest caterpillar

Other:

Frost damage across the northwoods
FSC Highly Hazardous Pesticide list
Hail damage update
Invasive plant and worm ID workshops
Jumping worms

Diseases:

Oak harvest guidelines review



Polyphemus moth. Photo by Jonathan Vote.

Of Historical Interest

25 years ago - 1990 –
 Introduced basswood thrips
60 years ago - 1955 –
 Pine tortoise scale

Insects

Aphids on tamarack – aphids seem to be quite numerous on young tamarack in Oneida County. Ladybug larvae are usually present and should help to control them.

Basswood defoliators – several defoliators have been active on basswood this year, including the scarab beetle that was noted last year (*Dichelonyx subvittata*), basswood leaf roller, green fruitworms, some trees that had minor thrips feeding, and frost/freeze damage (more on frost in the Misc section below). Basswood crowns appear thin in many stands in Marinette, Oconto, Forest, and Vilas Counties.



Above: basswood crown this spring. **Upper right:** basswood leafroller, unrolled to show the caterpillar. **Right:** scarab beetle defoliating basswood leaves.

Buffalo treehoppers on oak – damage from treehopper feeding was noted on young oaks, and a dark colored treehopper with mint green half-moons on its sides was noticed in Oneida and Vilas Counties. I have not identified the species yet. Treehopper damage can cause stippling and puckering of the leaf.



Treehopper damage to oak leaves.

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:

- Dane County – Town of Dunkirk
- Lafayette County – Towns of Argyle and Fayette *

*This was the first finding of EAB in Lafayette County, although the county had been previously quarantined due to being surrounded by other quarantined counties with EAB infestations.



EAB Quarantine.

EAB Rhinelander infestation – many of you have asked about the beetle that was found in a trap in Rhinelander (Oneida County), and have wondered if an infestation has been identified yet. I can now say yes. Two small trees were found to be fully infested in the downtown area, about a mile from the trap location.

EAB trapping – just over 900 traps are planned for this year, with APHIS hanging 823 purple panel traps, DNR setting 40 double-decker traps and DATCP hanging 45 purple panel or green funnel traps. Trapping efforts target the 41 counties that have yet to have an EAB detection.

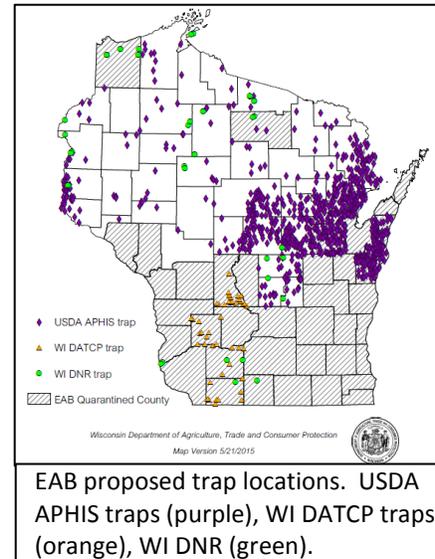
Forest tent caterpillar – the populations of this native caterpillar are increasing. Although I haven't found any areas of significant defoliation, or particularly high populations, I have noticed this caterpillar much more commonly this year in Marinette, Oconto, Oneida, and Vilas Counties. Our last outbreak occurred from 1999-2003.

June beetle defoliation – young oaks were defoliated in Waupaca County by adult June beetles. A planting site in Marinette County was noted to have high numbers of white grubs, the larval form of June beetles, which feed on roots.

Giant ichneumon wasp on Facebook – the DNR Facebook page included a post about the giant ichneumon wasp that generated surprisingly positive comments. The post wasn't quite the viral hit that the fishing spider was last year but it still ended up with a lot of likes and comments.

Larch casebearer – what happened to the damage I was expecting we would see?! In my last update I mentioned that I was already seeing damage to the new needles that were emerging, and it wasn't hard to find larch casebearer feeding on the needles. I expected by this update that I would be reporting on widespread browning of tamarack once again. But I'm not seeing the damage I expected. Why not? I don't know. It's like the caterpillars just disappeared, which leads me to believe they were affected by one of the late frost/freeze events (more on frost in the Misc section below). There are a few small areas scattered widely around the state where I'm seeing browning of the needles associated with significant defoliation by larch casebearer, but it's not the widespread problem that I was expecting. So that's good news! I thought I'd better highlight that since I don't often get to give good news. 😊

Lecanium scale – very heavy populations of Lecanium scale are being observed in many areas of Vilas and Oneida Counties, as well as reports from Brown, Door, Kewaunee, Marinette, Oconto, and Shawano Counties. At this time of year, the dome-shaped scale is the dry husk of the female insect with lots of eggs underneath the shell. If you pop off one of the shells a white "powder" falls out, which is the eggs. There can be over 1000 eggs under there! The



Heavy lecanium scale on oak branch.

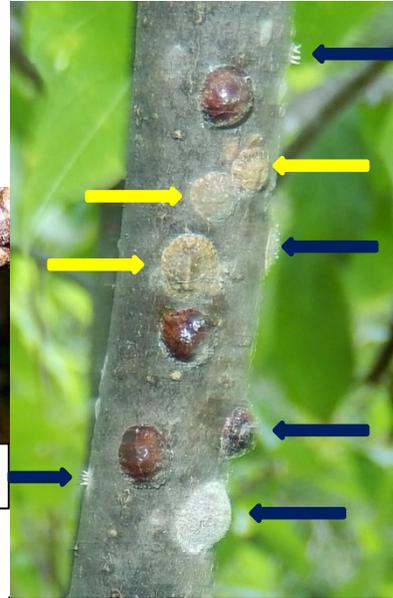
eggs hatch and the crawlers (baby scales) move to the new twigs of the tree and begin sucking sap. Heaviest populations in the north are on oaks, with additional scales on maple, cherry, and even hazelnut. Maple and ash has the heaviest populations in counties along the lakeshore. Multiple years of heavy scale populations can cause branch dieback, so what should you do?.

Landowners should let nature handle it. Ladybug larvae and other predators are at work, as are tiny parasitic wasps (1mm in size) and fungal diseases. In some areas, particularly in Door and Kewaunee County, nearly half of the scales appear to be infected with fungi, and additional scales are parasitized. Northern counties still have fairly healthy scale populations but we may see parasitoid and fungal action yet this summer.

Yard trees can be sprayed to control the scale, although it's best to time it for when the crawlers are out moving around, which is usually mid- to late-June, into July. Systemic insecticides would work as well and can be applied this fall to combat the population next year. As always follow label directions and use products at the appropriate time, as some oils for scale control can burn foliage if applied at the wrong time. Homeowners that don't want to spray to control the scale may simply want to rinse off the honeydew from outdoor items on a regular basis as the stickiness can be unpleasant and can allow sooty mold to grow.



Ladybug larvae feeding on lecanium scale.



Lecanium scale. Some have a fungal disease (blue arrows), and some have been parasitized (yellow arrows).

Maple petiole borer – light damage in Shawano and Vilas Counties was noted.

Millipedes – had a report of millions of millipedes invading buildings near Crivitz. When the ground is saturated they will sometimes seek dry refuge in garages and sheds.

Spider mites on tamarack – some areas of heavy mite damage on tamarack are already showing up. Needles will look slightly off-color, have yellow stippling, and some fine webbing. Damage was widespread last fall. So far this year I've seen it in Forest, Oneida, and Vilas Counties.

Spruce budworm outbreak – widespread spruce budworm defoliation is rapidly becoming evident in a number of counties in the north. Defoliation is severe in many areas, although it can still be patchy within a county. Northern Marinette and Eastern Florence Counties are suffering their fourth year of significant defoliation from spruce budworm. Insects don't recognize



Messy defoliation caused by spruce budworm.

borders so the Upper Peninsula is also dealing with continued defoliation and their DNR issued a [press release](#) with lots of great information.

Periodic outbreaks of this native insect occur every 30-50 years, with outbreaks lasting 10 years on average. Our last outbreak ran from 1970-1980. Mature balsam fir and spruce are the primary targets, although younger balsam or spruce can be defoliated as well. Repeated defoliation can cause top-kill and eventually whole tree mortality. Balsam fir stands, or stands with a heavy component of balsam fir, are often more severely impacted ... but ... don't let that fool you into thinking it won't defoliate pure spruce stands.

Forest managers should monitor mature balsam fir (60+ years old) and spruce (70+ years old) stands for signs of repeated defoliation and top-kill. After 3 years of significant defoliation (or additional years of lighter defoliation) you will start to see top mortality, and you should think about salvage harvests. If the trees are missing more than 75% of their needles, they should be salvaged. Or, if the stand has been heavily defoliated for more than 3 years including the current year, it should be salvaged.



Trees defoliated by spruce budworm appear brownish from a distance.

Homeowners with just a few spruce or fir that they want to protect can treat those trees with insecticide. Bt will work on the caterpillars, but for this year, most of the caterpillars are already done feeding, have pupated, and are emerging as moths. So, for this year, concerned homeowners should prepare themselves to spray next spring when the caterpillars start feeding as buds begin to break, and they should water their trees if we have a dry summer or fall. Defoliation is often most severe in the upper portions of the tree, so homeowners need to plan accordingly when spraying their trees and be sure the entire tree gets sprayed.

Ugly nest caterpillar – some nests of this caterpillar showing up along roadsides in Florence and Oconto Counties.



Above: ugly nest caterpillar web.
Left: web torn open showing caterpillars and frass.

Diseases

Oak Harvest Guidelines review – public review of the Oak Harvest Guidelines to reduce the risk of introduction and spread of oak wilt will open June 29. Watch for more information on how you can give your input, or check the DNR website, dnr.wi.gov keyword “Public Input Opportunities”

Other/Misc.

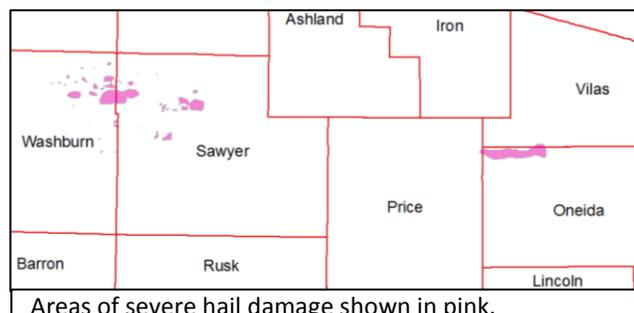
Frost damage across the northwoods – extensive frost damage to oaks has been noticed north of Hwy 64, with scattered localized areas south of 64 being impacted. Many areas north of Hwy 64 have been subjected to 3+ frost or freeze events since the trees broke bud, with the most recent ones being June 2 and June 6, when temps dipped in the low 30’s. Each event this spring has set the trees back. Additional cool nights, and the delay in time from when leaves are killed to the breaking of new buds with new leaves, has left many trees bare and looking nearly dead. Landowners should be patient, as it takes a couple weeks for new buds to break after the current leaves have been killed. Oaks that do not send out sufficient additional leaves for the summer may be attacked by two lined chestnut borer. Other species that I have seen with lesser amounts of frost damage include maple, ash, basswood, and spruce.



This branch shows 2 damage events, one frost/freeze that killed the first growth (now brown), then the buds that grew after that were frosted (larger green leaves are tattered from frost), and now the tree is breaking another bud (small red leaves). Photo taken 6/10/15.

FSC highly hazardous pesticide list – just a clarification ... the 2015 list is now active, but, until June 30, 2016, the use of pesticides that have been dropped from the old version of the HHP list, like most 2-4 D formulations, dicamba, hexazinone and simazine, will still be allowed. Prohibition on newly added pesticides such as borax, imidacloprid, emamectin benzoate, picloram and rotenone will not be required until next summer, June 30, 2016. With other states, Wisconsin is working on a derogation (exception) for use of emamectin benzoate for EAB treatment. For those of you treating cut pine stumps to prevent annosum, although borax was added it does not match the formulations in Cellu-Treat® or Sporax® so we are ok with those treatments as well.

Hail damage update – last month I included information about significant browning of conifers in parts of Oneida and Vilas Counties due to damage from a hail storm in September 2014. Damage is even



Areas of severe hail damage shown in pink.

more apparent now (photos below). Paul Cigan, DNR Forest Health Specialist in Spooner, mapped some additional damage in Washburn and Sawyer Counties, and the USFS has mapped damage from this storm (including significant wind damage) in northern Price County, and eastern Sawyer County.



Damage to conifers from the September 2014 hail storm, conifers now turning brown.



Damage to hardwoods sustained during the September 2014 storm. Branch dieback and thin crowns are now evident.



White pine damaged by September 2014 hail storm.



Overstory and understory conifers severely impacted by the September 2014 hail storm.

Invasive plant and worm ID workshops – some one-day workshops will be offered on invasive plant ID and management as well as worm ID. These sessions have an indoor portion as well as an outdoor field portion. Dates and locations include: Oshkosh (9/15/15), Menomonie (9/17/15), Clinton (9/22/15), Waukesha (10/1/15), Stevens Point (10/2/15). Check with your UW Extension office for additional information and registration.

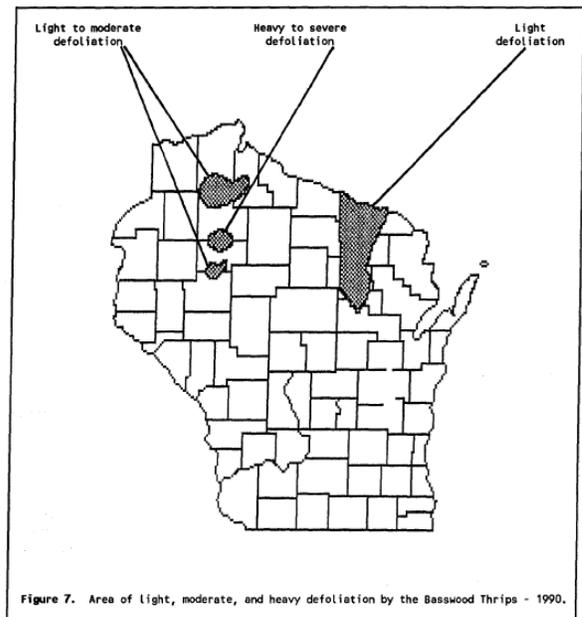
Jumping worms – jumping worms will soon have a public education campaign mounted to help educate folks on what to look for. Following that, be prepared for phone calls to come in

regarding these worms. Check out this [link](#) for a video of the worms which shows just how they thrash around and can actually jump out of your hands. There was also a recent article in [Wisconsin Natural Resources magazine](#) with great info, and there is a [factsheet](#), which you can direct people to for more info.

Of Historical Interest

25 years ago, in 1990 –

- **Introduced Basswood Thrips** – *Thrips calcaratus* Uzel. Basswood defoliation was generally reduced in 1990. Damage to basswood foliage occurred in scattered pockets of light to severe defoliation in Rusk, Barron, Washburn, Sawyer, Forest, Oneida, Langlade and Menominee counties (Fig. 7). No visible defoliation occurred in the western or southern counties.



60 years ago, in 1955 –

- **Pine Tortoise Scale** – *Toumeyella numismaticum* (P. & M.) Heavy infestations were observed in young plantations of jack pine in Marinette County and some mortality occurred. Light infestations were reported in Vilas, Iron, Langlade, Clark, Eau Claire, and Jackson Counties. A heavy infestation in Sawyer County was brought under control by ladybird beetles and other enemies. A project on the study of resistance of jack pine to the pine tortoise scale has been initiated under a grant from the Wisconsin Alumni Research Foundation. The purpose of the study is to determine the mechanism of resistance and ascertain whether it is hereditary in nature.

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>

Vacancy area coverage:

Oneida, Vilas, Forest, Florence Co's – Linda Williams

Lincoln, Langlade Co's – Mike Hillstrom
Price, Taylor Co's – Todd Lanigan
Iron County – Paul Cigan

Report EAB:

by phone 1-800-462-2803

by email

DATCPEmeraldAshBorer@wisconsin.gov

visit the website

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

Report Gypsy Moth:

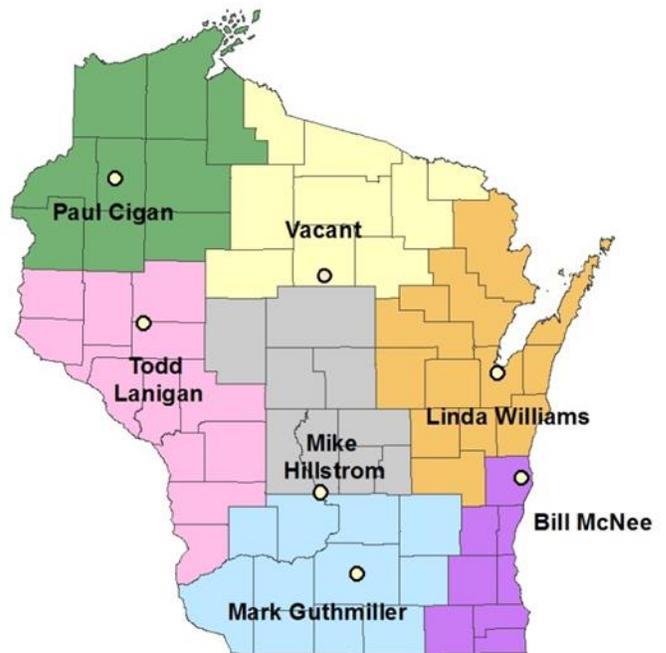
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Note: This pest update covers forest health issues occurring in Northeastern Wisconsin. This informal newsletter is created to provide up-to-date information to foresters, landowners, and others on forest health issues. If you have insect or disease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