

Northeastern Wisconsin Forest Health Update

Wisconsin DNR – Division of Forestry

June 20, 2016

Topics covered this month:

Insects:

EAB new finds in WI
EAB other news
Eastern pine seedworm
European pine sawfly
Forest tent caterpillar
Gypsy moth
June beetle defoliation
Larch casebearer
Lecanium scale
Spiny oak sawfly
Spruce budworm
Yellowheaded spruce sawfly

Other:

Jumping worms
Storm damage
Water levels are up

Diseases:

Ash anthracnose
Oak wilt
Pine needle rust



Ladybug larvae.

Of Historical Interest

25 years ago - 1991 –
Mountain ash sawfly
Spruce needle rust
50 years ago - 1966 –
White pine weevil

Insects

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

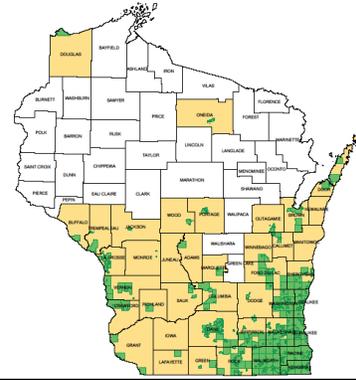
New finds in Counties already Quarantined:

- Crawford County – Town of Utica
- Rock County – City of Evansville

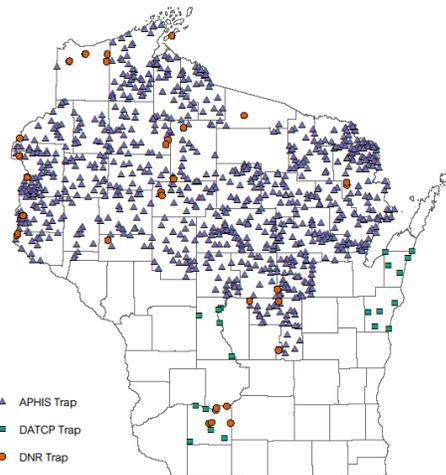
- Sauk County – City of Baraboo
- Vernon County – Village of Readstown
- Waukesha County – Village of Pewaukee

EAB other news – the proposed EAB trapping survey locations are shown below. The map includes USDA APHIS, DATCP, and DNR traps for EAB in Wisconsin. The majority of traps are located in counties where EAB is not known to be present.

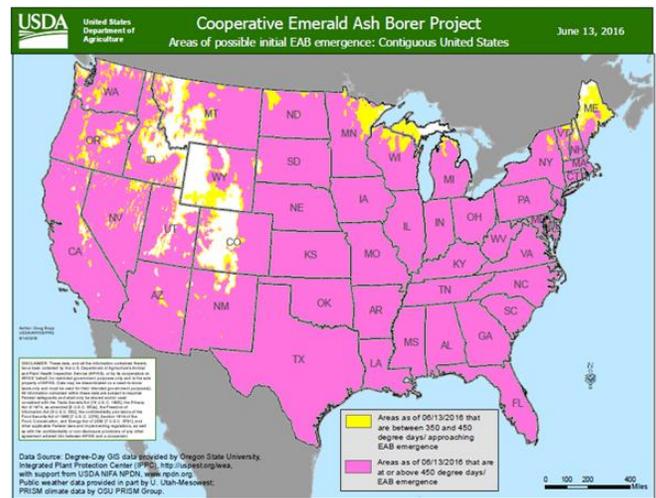
UW Extension has updated the following EAB documents with the latest info on pesticides for treatment of EAB: [Homeowner Guide](#) and the [Professionals Guide](#).



EAB quarantined counties shown in tan. Known locations of EAB shown in Green.



Proposed EAB trap locations for 2016.



EAB predicted initial emergence. Areas in yellow are "approaching emergence". Map date 6/13/16.

Eastern pine seedworm – high numbers of this pest were noted (as they dropped from the trees into my hair) in Marinette County. Eastern Pine Seedworm (*Laspeyresia toreuta*) feeds in jack pine cones and then drops to the ground to pupate early in the spring. Adult moths emerge a couple weeks later. There are many things that can feed on jack pine cones, this is just one of them. Feeding by this pest can reduce the number of viable seeds.



Eastern pine seedworms are really quite small, maximum length about 2mm.

European pine sawfly – large populations were found feeding on red pine in Outagamie County. European Pine Sawfly caterpillars are dark green in color with 3 pale stripes on the body and a black head and feed in groups, primarily on red pine and scotch pine. Damage can be severe but is usually limited to defoliation of the 2nd year needles, so the tree can end up with a “bottle brush” appearance with only new growth being present on the tree. Tree growth rates can be reduced, but rarely results in mortality. Control options include squishing colonies by hand, or spraying the insects with a general insecticide.



European pine sawflies feed in groups.

Forest tent caterpillar – forest tent caterpillar numbers have been low for a number of years. This year congregations of caterpillars have been noted in Oconto and Vilas Counties. Defoliation was very minimal in these areas, even though there were a number of caterpillars present. This native pest has periodic outbreaks every 10-15 years. Our last outbreak here in Wisconsin was from 1999-2002. Check out a recent [Minnesota article](#) about forest tent caterpillar populations remaining unexpectedly low.



Forest tent caterpillars.

Gypsy moth – gypsy moth caterpillars are a range of sizes right now, with some areas in southern parts of the district having 4th and 5th instar caterpillars, while northern parts of the district are mostly 3rd instars with a few 4ths. Traps are currently being set to monitor moth numbers so you may see some of the green “milk



Gypsy moth caterpillars. Mostly 3rd instars, with a single 4th instar (left center with pairs of red dots and blue dots).

carton” traps as you travel the state, although on the eastern side of the state, where we’ve had gypsy moth for a while now, no traps will be placed because we already know its present here.

Aerial spraying of Btk for gypsy moth is complete. In some western areas of the state the Slow The Spread program will be doing additional treatments of mating disruption pheromone flakes. Those treatments should begin the last week of June.

A spray progress chart and maps of spray sites can be viewed online at <http://gypsymoth.wi.gov>. For more information you can call the toll-free hotline 1-800-642-6684, and press 1. You also can get instant updates by connecting with DATCP on

Twitter (<http://twitter.com/widatcp>) or Facebook (<http://www.facebook.com/widatcp>). You can

also send an e-mail to gypsymoth@wisconsin.gov. If you would like updates automatically sent to your email, you can sign up at this [link](#).

What can you do about gypsy moth? There is lots of info on the site <http://gypsymoth.wi.gov/> Check out the "learn more" link under the photo of the gypsy moth caterpillar and view [pictures of gypsy moth in all of its life stages](#) and [photos of other caterpillar species](#), to help you identify gypsy moth. If you suspect you have gypsy moth on your property, check out [Tips for yard trees with gypsy moth](#) or [Managing gypsy moth in forests or woodlots](#).

June beetle defoliation - adult June beetles defoliate trees. They prefer oak in this area but will also feed on other species. A report of significant defoliation to young oaks came from Oconto County. Since they only feed during the night the defoliation seems to appear magically overnight, with no forewarnings. Control is difficult since defoliation is often complete before you even know that you should be spraying. Turning off exterior lighting can help by not attracting the adults to your yard.



June beetles defoliating oak.

Larch casebearer – some widely scattered areas of moderate defoliation have been noted in Oconto County and Vilas County.

Lecanium scale – calls about sticky stuff coating everything and sooty mold growing on things continue to come in from around northeastern Wisconsin. In most cases this sticky stuff is due to Lecanium Scale infestations. Scale samples were recently sent to a scale insect identifier, who determined the scales causing the problem are European Fruit Lecanium (*Parthenolecanium corni*). Although this pest has been previously identified in Wisconsin in the early 1900's, this may be the first large scale outbreak of this pest in a forest setting in Wisconsin. One of my counterparts recently attended a meeting where it was mentioned that Lecanium scale responds well to heat, so if our summer is hot and dry we could potentially see high populations next year as well. Scales have been noted in the following northeast Wisconsin counties: Brown, Door, Kewaunee, Langlade, Marinette, Oconto, Oneida, Shawano, and Vilas Counties. Host trees that I've found scales on include: Oak, cherry, ash, maple, dogwood, muscledwood, basswood, and hazel brush.



European fruit lecanium. Scale insects suck the sap of the tree.

Large populations of scale invariably means a lot of honeydew coating branches and leaves and anything sitting underneath those trees, like lawn furniture and vehicles. Homeowners may 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.

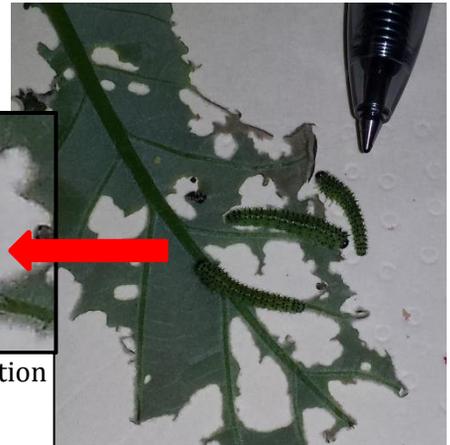
Control of Lecanium scale in forest settings is usually left to nature. Ladybug larvae and other predators, as well as tiny parasitic wasps (1mm in size) and fungal diseases will attack the scales this summer. In some areas, particularly in Door and Kewaunee County, nearly half of the scales last year appeared to be infected with fungi, and additional scales were parasitized, although this still allowed enough to survive to create a large population this year.

Yard trees can be sprayed to control the scale, although it's best to time it for when the crawlers are out moving around. Eggs begin to hatch usually by mid- to late-June, into July. Systemic insecticides would work on trees as well and can be applied in fall or spring to combat the scales. 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.

Spiny oak sawfly – red oak leaves are fed upon by many things, but this was a new one for me. The spiny oak sawfly feeds between the veins of the leaves, leaving a lacy appearance to the leaves. They have forked spines all along their bodies.



Spiny oak sawfly. Typical defoliation and a close-up of the caterpillar. Photo by Rich Lietz.



Spruce budworm – defoliation is showing up in the northern counties, and the caterpillars are beginning to pupate. Moths will emerge a couple weeks after pupation. Spruce and balsam fir are defoliated by this pest, which is a native insect with periodic outbreaks.

Outbreaks occur every 30-50 years, and last 10 years on average. Our previous outbreak ran from 1970-1980. Mature balsam fir and spruce are preferred hosts, 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.



Spruce budworm caterpillar.

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.



Spruce budworm pupae.

Homeowners with just a few spruce or fir to protect can treat those trees with insecticide. The biological insecticide Btk will work on the caterpillars, as will general insecticides, but for this year, most of the caterpillars are already done feeding, so spraying may not be very effective. Homeowners should prepare themselves to spray next spring when the caterpillars start feeding as buds begin to break early in the spring, and they should water their trees if we have a dry summer or fall, so the trees remain healthy. Defoliation is often most severe in the upper portions of the tree, so homeowners should plan accordingly when spraying their trees and be sure the entire tree gets sprayed.



Just a fun pic of a spruce budworm that was killed by a fungal disease, the dusty stuff is fungal spores. Neat!

Yellowheaded spruce sawfly – additional site visits to monitor populations have shown very high populations once again in Shawano, Outagamie, and Waupaca Counties on young spruce. Last year additional reports came from Marinette, Door, and Vilas Counties, so landowners should keep their eyes open. These sawflies feed on the newly expanding spruce needles, preferring white spruce, and are only obvious for about 3 weeks before they pupate. They have one generation per year, so if you have defoliation this year, but missed the opportunity to spray, you should monitor those trees in early June next year to determine if spraying is warranted. For more information check out the USFS document on [Yellowheaded Spruce Sawfly](#).



Yellowheaded spruce sawfly larvae and feeding damage.



Yellowheaded spruce sawfly. Above, several young sawflies and typical early damage to needles. Right, very young larvae that isn't even as thick as the newly expanding needle it's feeding on.



Diseases

Ash anthracnose – in some areas the ash look very thin. Leaves this spring were damaged by anthracnose, a leaf disease that can be more severe in years with a cool wet spring like we've had this year. Damage could have also occurred from the late frosts that we had. The ash trees then drop the damaged leaves. If they drop enough leaves, the trees will send out an additional set of leaves to replace them. I have



Anthracnose infected leaves.

seen ash with very thin crowns due to anthracnose this spring in Brown, Kewaunee, and Oconto Counties. It is useful to note that ash that are infested with EAB will also



Ash with a very thin crown.

have thin crowns as they decline and are eventually killed by EAB. It's good to verify what exactly is the cause of the thin crown.

Oak wilt – symptoms of oak wilt could start to appear before my July pest update goes out. Oaks that were infected with the fungus can begin to drop their leaves anytime between July and September. Oak wilt is a non-curable fungal disease specific to oaks. Once a tree is infected with oak wilt the fungus will begin to spread outward from the roots of the infected tree through root grafts and into the roots of neighboring oaks. In this way pockets will continue to expand, and each year more oaks will die.

Pine Needle Rust – pine needle rust was noted in Oconto and Shawano Counties in young red pine. Pine needle rust (*Coleosporium asterum*) kills older needles on seedlings and younger trees up to the sapling stage, primarily on red pine but also on Scotch and jack pine. The alternate host of this rust disease is Goldenrod and other asters. In late May and June, orange blisters appear on the needles and release spores that infect the leaves of asters and goldenrod in early summer. By late summer, orange spores form on the undersides of the goldenrod/aster leaves. In cool, wet weather in late summer and into fall, a second set of orange spores on the undersides of aster and goldenrod leaves are carried by wind to pine needles, where they



Pine needle rust fruiting bodies erupt from red pine needles.

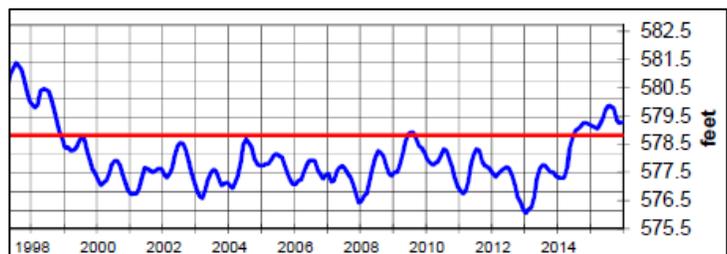
cause new infections. Control is best accomplished by mowing or herbiciding the goldenrod and aster plants in the vicinity. There is no treatment to “save” the needles that have the orange blisters emerging from the needles. This fungus generally will not kill the tree since it affects the older foliage and not the new emerging growth.

Other/Misc.

Jumping worms – Bernie Williams (the WI DNR’s worm expert) says that jumping worms have reached adulthood now and will be thrashing about if disturbed. Jumping worms reproduce and spread quickly. You can report finds to invasive.species@wi.gov. For lots more info on jumping worms check out an article in the [June 2015 Wisconsin Natural Resources magazine](#) or check out the WI DNR [jumping worm page](#).

Storm damage – several strong storms have passed through the area in the last couple weeks which broke branches out of trees. One concern about storms at this time of year is with oak trees in particular. The high risk period for oak wilt transmission by beetles is April, May, June, and July. That means that if these storms damaged your oak trees, those fresh wounds could attract the sap beetles that can spread the oak wilt fungus, and your tree may become infected with oak wilt. Additionally, after storm damage, folks often want to go out and prune any damaged areas, which creates fresh wounds. Because of the risk of oak wilt, if you are pruning trees during the high risk time period (through July 15), it is recommended to immediately cover the fresh wound with wound paint to prevent the beetles from being attracted to the wound.

Water levels are up – after a decade of below normal water levels, you would think that high lake levels would be a good thing. But for trees that started to grow along lakeshores that were exposed for many years, those trees are now all doomed. In many areas I’m seeing trees along the edges of lakes that are dying due to high water levels.



Lake Michigan water levels from 1998 to present. From the Army Corps of Engineers site on [water levels in the Great Lakes](#).

Of Historical Interest

25 years ago, in 1991 –

- **Mountain Ash Sawfly** – *Pristiphora geniculata* (Hartig). Moderate to heavy defoliation of ornamental mountain ash occurred in Langlade, Lincoln, Oneida, Vilas, Washburn and Sawyer counties.
- **Spruce Needle Rust** - *Chrysomyxa* sp. Moderate to heavy needle loss was observed on Colorado blue spruce and occasionally white spruce in Oneida, Vilas, Sawyer, and Price counties.

50 years ago, in 1966 –

- **White-Pine Weevil** - *Pissodes strobi* (Peck) About 1 percent of the leaders were attacked in Northwest Area stands that were most severely infested, compared with essentially no weeviling in the same area in 1965. Weevil populations were generally light in the Northeast Area, but a few white pine plantings had moderate infestations in Langlade, Marathon and Oneida Counties. Populations were low in the East Central Area. Incidence of attack, while less than 1 percent, was highest and most successful on Norway spruce. Many larvae on white pine failed to complete development. West Central Area populations were about the same as in 1964 and 1965, with infestations ranging up to 30 percent of the current leaders in heavily infested white pine plantations. A light white-pine weevil attack was reported on red pine in Trempealeau County, a noteworthy fact, since damage to other than white pine is unusual in the West Central Area. Insecticide evaluation plots for weevil control were established in Clark County Forest and Wildcat Mountain Park plantations. Methoxychlor and GC - 9160 (Allied Chemical Co.), compared with 0.5 percent lindane, were both equally effective providing better than 99 percent control. Approximately 24 acres of white pine -plantings were treated in Wildcat Mountain Park with the insecticides mentioned, and about 73 acres were treated in the Clark County Forest. Of this acreage 45 acres were treated with lindane (0.5 percent) to which aroclor had been added. Twenty-eight acres were used for test plots which were treated with each of the insecticides mentioned above, with and without aroclor.

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:

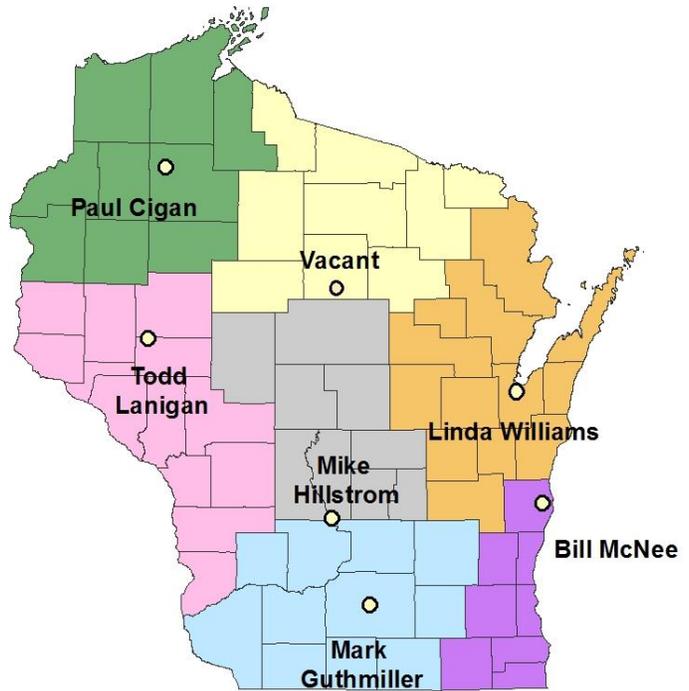
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Note: This pest update covers forest health issues occurring in Northeastern Wisconsin. This informal newsletter is created to provide up-to-date information to foresters, landowners, and others on forest health issues. If you have insect or disease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