

Northeastern Wisconsin Forest Health Update

Wisconsin DNR – Division of Forestry

April 18, 2016

Topics covered this month:

Insects:

EAB new finds in WI
EAB other news
EAB stand management tool
Eastern and Forest tent caterpillars
Gypsy moth
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Pine bark adelgid
Oak bullet gall

Other:

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Pesticide manual code update
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Diseases:

Diplodia in red pine regen
Oak wilt herbicide study
White pine blister rust

Of Historical Interest

25 years ago - 1991 –
Forest tent caterpillar
Bronze birch borer
50 years ago - 1966 –
Pine root collar weevil
Cankerworms

Insects

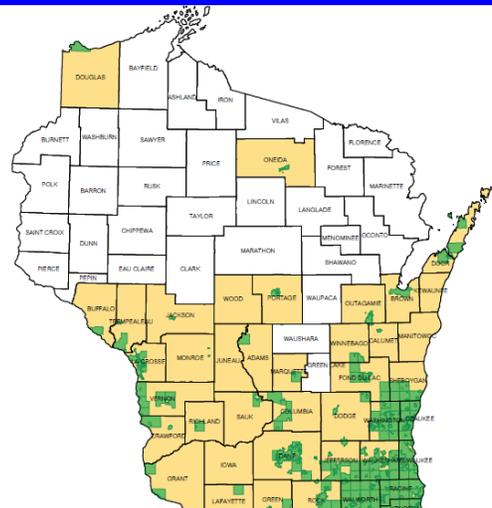
EAB new finds in WI - In the past month emerald ash borer has been identified in the following areas around the state:

New County Quarantines:

- Portage County (identified in Stevens Point)
- Wood County

New finds in Counties already Quarantined:

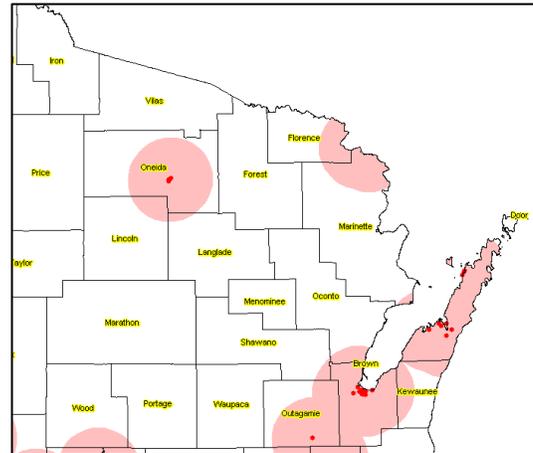
- Columbia County - Towns of Lewiston and Pacific
- Dane County - City of Stoughton
- Jefferson County - City of Lake Mills



EAB quarantined counties shaded in tan. Green areas are Townships or Municipalities where EAB has been identified

- Sheboygan County - City of Sheboygan, Town of Sheboygan Falls
- Walworth County - Town of Troy
- Washington County - Towns of Addison, Hartford and Polk; Village of Richfield
- Waukesha County - Village of Big Bend, City of Brookfield, and Town of Vernon

EAB other news – in my February pest update I included a map showing the latest expansion of the EAB quarantine in Michigan’s Upper Peninsula. Continuing surveys have still not identified infested sites on the Wisconsin side of the border, and at this time Marinette and Florence Counties remain unquarantined. But, there are now areas in Florence and Marinette Counties that are within 15 miles of a known EAB infestation. In the document [Emerald Ash Borer and Forest Management](#), it gives forest management recommendations for forests in quarantined counties AND stands located within 15 miles of a known infestation. In those situations ash becomes High Risk in the Order of Removal when marking a stand.



EAB known locations indicated by red dots. Pink shading is 15-mile radius from known EAB infestations.

EAB stand management tool – a checklist created by WI DNR Silviculture Specialist, Greg Edge, to help determine options for managing an ash stand, has been updated. It’s still a draft, so it’s not posted online, but the latest version is v5.0. If you want to use this great tool to help you evaluate a stand to determine what your management options could be, contact [Greg Edge](#) or myself for a copy of the latest draft. If you haven’t used this checklist before it asks a bunch of questions about your stand, and you check off your answers for each question, then based on those answers it suggests management options that could be appropriate for your particular situation. It’s a useful tool for those ash stands where you walk in and wonder “what the heck am I going to do here?” You can use this either prior to EAB arrival or after EAB is already present in a stand. Let us know if you would like a copy.

Eastern and Forest tent caterpillars – eggs will be hatching very soon. Last year the population of forest tent caterpillar was still quite low. Eastern tent caterpillar is the one that



Group of recently hatched Forest Tent Caterpillars.

makes the webs, often in black cherry trees, while Forest tent caterpillar prefers oak and aspen and doesn’t make a web. Control is easy at this stage, either crushing or spraying the young caterpillars works well.



Young Eastern Tent Caterpillars on web.

Gypsy moth – gypsy moth eggs will be hatching soon. Homeowners can reduce gypsy moth populations by oiling or removing egg masses before they start hatching. Horticultural oils that suffocate the eggs are available at many garden centers and large retailers. If removing egg masses, scrape them into a bucket of soapy water or vegetable oil and then let them soak for a few days before



The tree at right was loaded with gypsy moth egg masses last fall. The photo above shows them scraped them off the tree so they could be disposed of prior to hatch.

discarding in the trash. Additional management options for homeowners and woodlot owners (sticky barriers, burlap bands, etc.) are available at www.gypsymoth.wi.gov. Homeowners considering insecticide treatments this spring should contact an arborist or tree service soon. The Wisconsin Arborist Association has a list of certified arborists available at www.waa-isa.org. Additional businesses offering insecticide treatments may be found in the phone book under ‘Tree Service.’ Homeowners can also purchase insecticides at garden centers, hardware stores and large retailers. For property owners interested in aerial spraying, a list of for-hire aerial applicators is available on the state’s [gypsy moth website](http://www.gypsy moth website).

Ladybugs – for those homeowners that had ladybug problems last fall, they will be experiencing continued problems this spring which may prompt some calls and questions. The ladybugs that swarmed houses last fall and found overwintering spots within the house or under the siding are now beginning to emerge and attempt to find their way outdoors. They aren’t always successful, and they may end up in the house, crawling around windows and doors. Homeowners should not squish them as they can stain whatever you squish them on. Vacuuming them up, or capturing them to release outside is the best option at this time of year. [UW Extension’s ladybug document](#) has more control options.



Oystershell scale – this scale insect can sometimes build up to very high populations without anyone ever really noticing since it blends in so well with the bark. When populations are high you may see some dieback or decline in heavily infested branches as the scales suck the sap from the tree, reducing what is available for the leaves. Generally, oystershell scale populations are controlled by natural enemies. After the parasitoids complete development within the scale insect the adult parasitoids must chew their way out



Oystershell scale covering an ash branch.

of the scale shell. This creates a tiny round hole, so any scales with a tiny round hole were killed by natural enemies. If you notice high populations of scale on your tree(s) and decline is occurring you can control the scales using dormant oils or systemic insecticides.



Oystershell scale scattered on main stem. Photo by Vince Mass.

Pine bark adelgid – have you ever seen a white pine where the main stem is covered with white fluff? The white fluff is a tiny insect called Pine Bark Adelgid. They suck the sap of the tree, but even when the populations are high and completely covering the main trunk, I rarely see much of an impact to the tree unless it is under stress from some other factor. You can sometimes find Pine Bark Adelgid on twigs, but I see it mostly on the trunk.



Close-up of bark showing fluff from pine bark adelgids on white pine. Photo by Mackenzie Siglinsky.

Natural enemies usually keep populations in check and generally no additional control is necessary. More info can be found [here](#).



Pine bark adelgid shows up from a distance on the main stem of white pine. Photo by Mackenzie Siglinsky.

Oak bullet gall – these galls, sometimes called Rough Bullet Gall, can quickly become unsightly. I usually see these on burr oak, and occasionally on swamp white oak. They are caused by a gall wasp. The galls start out green, eventually darkening to brown as the season progresses and the gall wasp larvae grows inside. After the larvae complete development and the adults emerge, the dried galls can remain on the tree for more than a year, which can make the tree appear heavily galled although dieback is minimal. Over the



Oak bullet galls are green early in the season. Photo by Tony Nowak.

past decade I've been getting increasing numbers of reports of this pest, usually associated with young plantations of trees that are severely galled. Additionally, in the past 5 years I've seen increasing numbers (albeit still low numbers) of young trees showing decline and twig dieback due to this pest. For more info check out this [link](#).



Oak bullet galls surrounding branch.

Diseases

Diplodia and regenerating red pine under red pine – young red pine growing under a red pine overstory can be severely impacted by Diplodia. Diplodia causes 3 main “types” of damage, including basal cankers on young trees, stem cankers on seedlings/saplings, and branch tip mortality on all ages of trees. Branch tip mortality can have severe impacts on seedlings and saplings if most, or all, of their branch tips are killed, or if infection occurs repeatedly over a number of years.

It only takes one year of severe infection to set a young tree back significantly, or cause mortality. Seedlings/saplings growing under a red pine overstory are there for many years before the



Above R - Red pine understory heavily impacted by Diplodia. Left – when you look closely at the understory you see all twig tips have been killed. Photos by Chris Duncan.

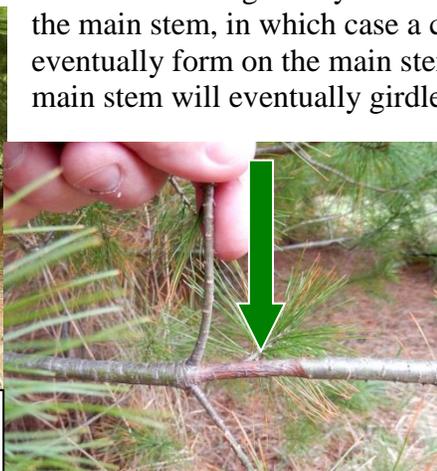
overstory is removed, which allows for many chances of severe infection years. Mature red pine, even those with very little diplodia, will allow a constant rain of spores to fall on the understory pines throughout their life. In many years there may be no significant effect of this rain of spores. But all it takes is one bad year to set your regeneration back significantly.

Many people think that the solution is to remove the overstory, or to cut the mature pine that borders a young red pine plantation, and that can be the answer if the young pine is more important than the mature pine. Each situation will have to be discussed with the landowner to find out what their goals are and what makes sense for management. And remember, if you're reacting to severe damage on young pines, the damage is already done, and those pines may not recover well.

Oak wilt herbicide study – we still need oak wilt pockets in Wisconsin to include in our oak wilt herbicide study that is evaluating the use of herbicides to stop oak wilt pockets from expanding. Criteria for a site include: species composition of at least 60% red oak group, low slope, oak BA > 35 sq.ft./acre, sandy/loamy sand or sandy loam/loam soils, at least ¼ mile to any known untreated oak wilt pocket, and we need to be able to monitor the site for the next 5 years. We will do the treatment and future monitoring if the site qualifies. If you have any sites that could be used for our study, or want to discuss this further, please contact [Jed Meunier](#) or myself.

White Pine Blister Rust - blister rust causes a canker on white pine which can girdle the branches and the main stem. Blister rust cankers will be sporulating soon, producing the orange pustules which produce the spores of this fungus. This disease is specific to white pine but the disease cannot be transmitted directly from one tree to another. Spores that are produced on white pine can only infect *Ribes* (gooseberry) plants which will then produce spores later in the summer. Those spores from the *Ribes* plants will then be able to infect a white pine tree (if the weather conditions are just right), completing the life cycle.

If you have just a few blister rust cankers on branches of young trees you should prune off those infected branches. These branches can be spotted from a distance because they will be off-color (below, red arrow) or the foliage will have turned a rusty red color. Prune infected branches at the main stem. By doing so you've just saved your tree (at least from that particular canker). If the canker is located close to the main stem the fungus may have already grown into the main stem, in which case a canker will eventually form on the main stem. Cankers on the main stem will eventually girdle the tree, although



Off-color branch (red arrow) is easy to spot. Upon closer inspection a sunken canker from blister rust was found on the branch (green arrow).

in healthy trees with good growth rates this may take many years.

Other/Misc.

Cedar mortality in Door County – I recently visited a site in Door County where large mature northern white cedar were declining, only to suddenly turn red and die. As is commonly the case, it wasn't just a single problem or pest causing the mortality. This site had been affected by a significant wind storm in 2011, followed by removal of many damaged trees in 2012, and a dry droughty summer in 2012. This stand is on the Lake Michigan shoreline and experienced below normal lake levels from 1999-2014. Lake levels returned to normal beginning in 2014. Both drought and flooding or a rise in water table can cause dieback in a tree root system. Branch samples turned up two tip blight diseases, *Kabatina* and *Pestalotiopsis*. A minimal number of bark beetles were found in the trees. No root decay fungi were identified, although there was decay in some trees which appeared related to stem and root damage that probably occurred during the 2011 wind storm. This damage was often masked by a solid bark surface, but upon cutting down a tree, or removing the bark, damaged wood would be revealed.

After looking at all of that info, I believe the problems started with the 2011 wind storm. Broken or damaged roots and damage in the main stems from the 2011 storm, as well as a sudden change to the stand when many down/damaged trees were removed was the initial stressor. The droughty summer of 2012 continued stressing the trees, and the lower-than-normal lake levels would have caused some level of stress prior to the wind storm. Damaged trees were then invaded by bark beetles and decay fungi as well as the 2 tip blight fungi. Trees are still recovering from these stressors and additional mortality may occur.



Several declining cedars, with one that looks ok.



This tree was declining. Removing the bark found extensive cracking throughout the main stem that was not visible without bark removal.

Invasive species control financial resources - By [Michael Putnam](#), WDNR Invasive Plant Program Specialist. A [list](#) of financial resources for controlling invasive species of all kinds has been posted on the Governor's Wisconsin Invasive Species Council [website](#) under the "resources" tab. The list, prepared by the Department of Natural Resource's Invasive Species Team, provides links or other contact information to funding sources provided by federal and state agencies along with private foundations.

The list can be searched by grantee and taxa eligibility. Eligible grantees range from government agencies, tribal and local governments, businesses, non-profit organizations to private individuals. Eligible taxa include plant pests and diseases, invasive plants, aquatic

invasive species and invasive animals, both invertebrate and vertebrate. Eligibility categories can be selected using one or both of the drop-down menus.

Some grants are solely for invasive species work. Others include work on invasive species as part of a larger goal. For example, DNR wildlife stamp grants can support invasive species control as part improving the habitat of gamebirds and waterfowl.

The webpage has an email link by which you can alert us to out-of-date information and broken links. Please use them if you encounter these problems and, especially, to inform us of funding opportunities not included in the list.

Pesticide manual code updated – the [WI DNR Pesticide Use Manual Code 4230.1](#) has been updated. If you use pesticides for the Department, please check out the changes AND check out the training videos (links below) that have been developed to make learning the new info as easy as possible. DNR staff should:

1. Read the [manual code](#).
2. View the overview training modules at [Pesticide Training](#) (these outline the new pesticide use requirements).
3. View additional modules as required based on your role and responsibilities (this will be identified in the overview training)
4. Visit and bookmark the new and improved [Pesticide Use intranet page](#) for all-things pesticide.

Squirrels stripping bark from maples – I've received a number of reports of squirrels stripping all the bark off maples. Telltale signs of squirrel damage include young trees or branches

stripped of bark, small teeth marks on the wood, and a pile of bark chips at the base of the tree. Damage has been observed or reported from Florence, Marinette, Oconto, and Oneida Counties this year. My counterparts around the state have also received some reports of this problem. Maple bark is usually a late-winter or early-spring food for squirrels and the damage usually stops after the



Tiny lines show where squirrel teeth scraped the inner bark and cambium layer.



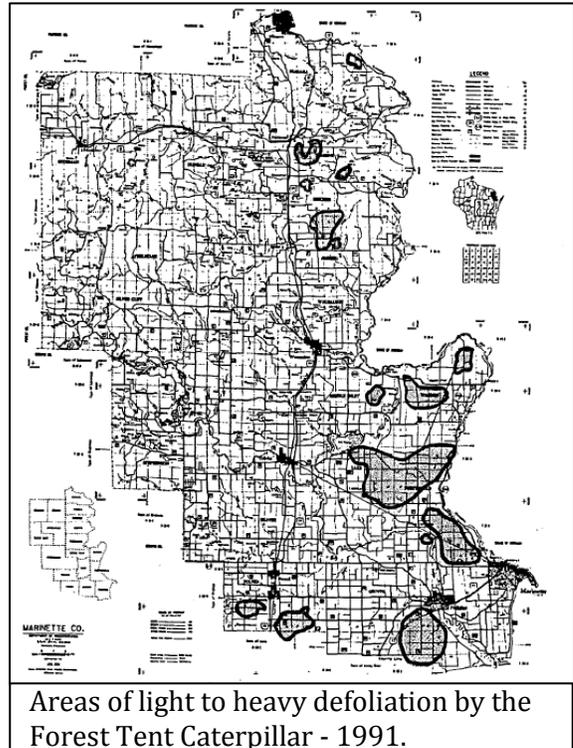
Small bark chips litter the ground around this young maple that was stripped of bark by squirrels.

buds swell. Extensive squirrel damage to trees is not a new problem as the [Minnesota Forestry Notes No. 54](#) from 1956 proves, but it's a difficult issue to prevent. UW Extension's [Squirrel](#) document gives some control options. Past years when I've noted squirrel damage include: 2002, 2006, 2008, 2009, 2011, 2012, 2013, and 2016.

Of Historical Interest

25 years ago, in 1991 –

- **Forest Tent Caterpillar** *Malacosoma disstria* (Hubner) The widespread outbreak that has plagued northern Wisconsin since 1986 declined significantly in area and intensity. In northwestern Wisconsin, a complete collapse of the insect population occurred and no defoliation was observed. Pockets of heavy defoliation occurred in Marinette, Oconto and Menominee counties and pockets of light to moderate defoliation occurred in Door, Brown, Kewaunee and Manitowoc counties. Phenological notes: April 28 Larvae hatching in Shawano County, May 22 Larvae active in Brown County, June 5 Larvae in last instar in Menominee, Marinette, Oconto, Door, Brown, Kewaunee and Manitowoc Counties.
- **Bronze Birch Borer** - *Agrilus anxius* Gory. The populations of the bronze birch borer declined as most drought-damaged birch were already dead and rainfall helped relieve the drought stress on remaining birch. Birch mortality also declined dramatically with the onset of normal rainfall. Both recovery and continued decline was noted in Langlade, Lincoln, Oneida, Forest, Oconto, Marinette and Vilas counties.



50 years ago, in 1966 –

- **Pine Root Collar Weevil** - *Hylobius radicis* Buchanan.
 - Northwest Area - No new infestations were reported in 1966. Tree mortality is still occurring in Scotch pine Christmas tree plantings. The older jack pine plantations which were heavily infested several years ago showed no new symptoms.
 - Northeast Area - Mostly red pine windbreaks were affected in Marathon, Marinette and Oconto Counties. Approximately 15 percent of the Scotch pine in a Shawano County Christmas tree plantation exhibited symptoms ranging from chlorosis to tree mortality.
 - West Central Area - The insect continued to be a major pest for Scotch pine Christmas tree growers. Heavy attacks were also noted in two red pine sapling

stands. A 40-acre private plantation in La Crosse County was almost 100 percent infested, and a school forest planting in Dunn County was more than 90 percent infested. High winds tipped trees in both plantations disclosing infestations which had killed few trees until this year.

- East Central Area - Recent infestations are difficult to detect except by disturbing the bases of trees. Old infestations continued to become apparent during prolonged dry periods and during strong winds. Relatively new infestations, associated with red pine subject to drought conditions on high dry sites, were observed in Marquette, Waushara and Waupaca Counties. Where mortality occurred, it appeared to happen suddenly.
- A variety of Scotch pine, French Green, seems to be better suited to conditions in the East Central Area, than other varieties, and in addition appears to be less susceptible to weevil attack.
- **Cankerworms** - Fall Cankerworm - *Alsophila pometaria* (Harris), Spring Cankerworm - *Paleacrita vernata* (Peck). An infestation was widespread in the Town of Leon in Waushara County (East Central Area). The principal host was black oak, most of which had been severely injured by late frosts. The population was less dense where late frost damage was most severe.

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/>

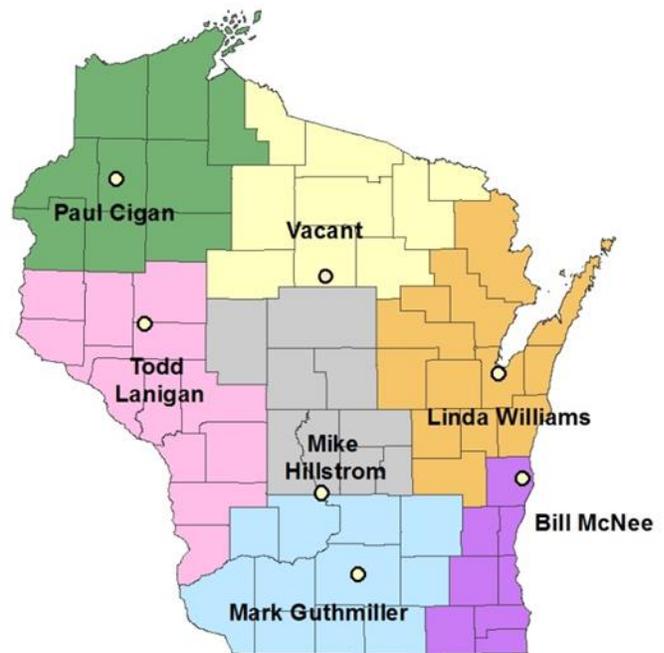
Report Gypsy Moth:

by phone at 1-800-642-6684

by email

dnrfgypsymoth@wisconsin.gov

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



Northeast Region Pest Update produced by:

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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.