Northeast Wisconsin Forest Pest Update

May 16, 2011

Topics covered this month:

Insects:
Cynipid wasps in oak branches
Eastern tent caterpillars hatching
Emerald ash borer
EAB for kids
Gypsy moth

Diseases:
Annosum, 2nd location in Shawano Co.
Ash yellows
Cinder conk
Rhizosphaera needlecast
White pine blister rust

Other:
Brown marmorated stink bug
Firewood movement
Squirrel damage
Ordering publications

Insects

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

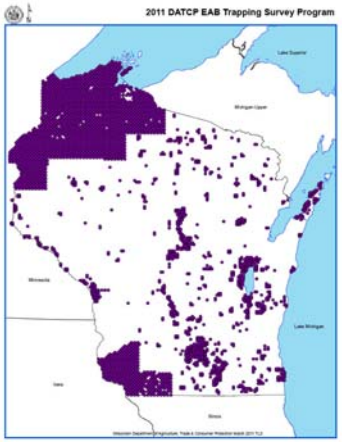
Cynipid wasps in oak branches – last month I reported that some oaks (bur/swamp white oak crosses) from the Green Bay area had branches that were just riddled with tiny cynipid wasps (about 12-20 per square inch). These tiny wasps were infesting the branches of mature trees and the woodpeckers had found them and caused significant damage to the branches. Phil Pellitteri has observed that some of the bur/swamp white oak crosses seem to be highly susceptible to cynipid wasp attack, possibly indicating genetic predisposition. Additional samples with this pest have come in from the Fox Valley area and from Oconto County.

Oak branches damaged by woodpeckers searching for cynipid wasps.

Eastern tent caterpillars hatching – small webs created by newly hatched Eastern tent caterpillars were noticed in the southern counties of the northeast region on May 8. Due to the cool damp weather this spring the hatch is much later than last year (which was an unusually early warm spring). The photo at right of newly hatched caterpillars in their web was taken in Waupaca County on May 12; I snapped the photo just in time - that's Mike Schuessler (DNR Forester) in the background as he was reached for the web to squash the caterpillars. Ewwww! ☺

Although, in all fairness, squashing is a great control method, especially when the caterpillars and webs are this small (although if you're squeamish you may want to wear a glove). Pruning the web nest out of the tree actually does more damage to the tree than the caterpillars would do, so squashing is a nice alternative. When the webs are larger you can pull the webs out of the tree with a rake, or a stick, and dump them into a bucket of soapy water to kill the caterpillars. Don't use fire to burn the webs out of trees, wildfires have been started this way and although you kill the caterpillars there are definitely negative side effects if you burn down the woods or your garage or your neighbor's barn.

Emerald Ash Borer – from Bill McNee. DATCP has begun hanging approximately 6,000 purple EAB traps this year. About 2,000 will be on a grid in northwest and southwest Wisconsin, while the rest will be risk-based and placed in urban areas and at campgrounds, wood-utilizing businesses, etc. Traps are not being placed in Brown, Kenosha, Milwaukee, Ozaukee and Washington Counties because EAB has already been detected there. If you see a purple trap lying on the ground, please email Becky Gray at DATCP (rebecca.gray@wisconsin.gov). A trapper will rehang the trap.



2011 EAB trapping plan. Map by DATCP.

Double-decker EAB trap used in state parks and forests.

DNR forest health staff have also prepared a 'double-decker' EAB trap in a number of state parks and forests. These traps are not practical to set up in large numbers, but may be able to detect EAB at lower populations than a standard trap hung in a tree.

Later this month, researchers from UW-Madison are planning to release two species of small, stingless wasps near Newburg to help control the emerald ash borer. Both species attack the EAB larvae beneath the bark. A third natural enemy, which attacks the EAB eggs, will be released later this summer once the EAB adults are laying eggs. For more information, read the recent DNR news release

EAB purple trap hanging in tree.

at http://www.dnr.wi.gov/news/BreakingNews_Lookup.asp?id=2083.

EAB for kids – the "Stop The Beetle" website has several educational items geared towards kids. Check out the memory game, where you flip a card and try to find its match, at http://www.stopthebeetle.info/kidscorner/ (I used to be better at this game as a kid!). And while you're there print out a kids activity book with pictures to color, word searches, connect the dots, and more.

Gypsy moth – from Bill McNee. This year's first gypsy moth hatch was seen in Beloit on May 9, and the first hatch in northeast Wisconsin was seen on May 12. The later-than-average hatching is due to the cold spring we have had in 2011. In contrast, last year was exceptionally warm and the spray program's first hatch was seen on April 8, 2010. As a result of the late hatch, BioSim software is predicting that aerial spraying in northeast Wisconsin will occur in the first 10 days of June.

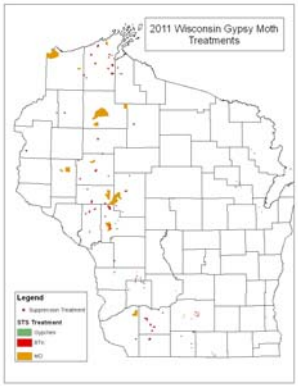
Newly hatched gypsy moth larvae on an egg mass.

Maps of the proposed DNR suppression program treatment areas are now available online at www.gypsymoth.wi.gov. This year the program plans to spray approximately 3,000 acres in 8 counties. For more information, visit www.gypsymoth.wi.gov. Community residents interested in knowing when the spraying will occur can visit this website and sign up for daily email notification, or call 1-800-642-MOTH for a daily recorded update. More information on the spraying can also be found by reading the recent DNR news release, available at http://www.dnr.wi.gov/news/DNRNews_Article_Lookup.asp?id=1761.

Counties with DNR gypsy moth program treatment areas are shown in orange.

This year's participants in the DNR suppression program will be receiving cost sharing at or close to 50% of costs. The federal process for receiving this funding has become more competitive than in previous years.

The slow-the-spread program run by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) plans to aerially treat about 250,000 acres in 22 western counties this year. Maps are available online at www.gypsymoth.wi.gov. Click on the yellow county and then click on the spray block to see a detailed boundary map.



2011 Slow-The-Spread treatment areas.

We continue to hear of significant landowner interest in hiring applicators to do aerial spraying for gypsy moth this spring. A list of for-hire aerial applicators is available on the state's gypsy moth website, www.gypsymoth.wi.gov. Applicators should be contacted immediately, but it may be too late to hire some of them. Questions about how to organize an aerial spray project should be referred to Bill

McNee. A 'How To' guide is also available on the website.

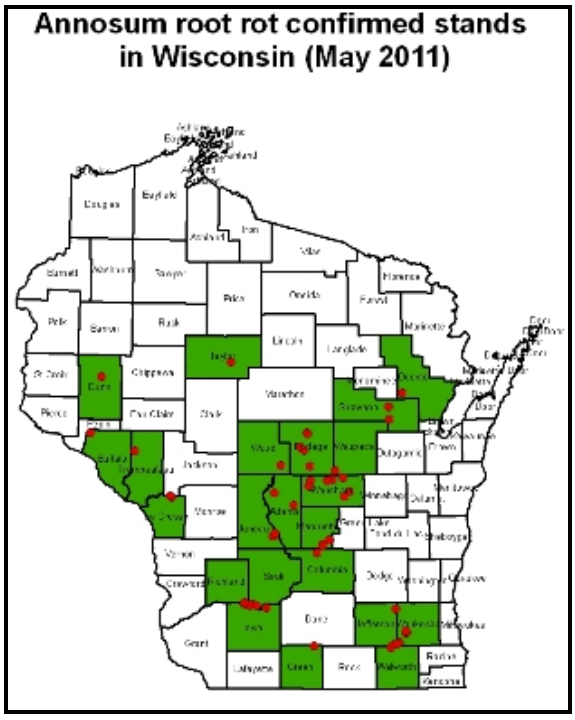
Homeowners who are interested in reducing gypsy moth populations now that hatching has begun should consider scraping and drowning unhatched masses and putting up sticky bands. Burlap collection bands should be prepared in mid-June. More information about management options for homeowners and woodlot owners is available at www.gypsymoth.wi.gov.


Sticky barrier band keeps crawling caterpillars out of the tree.

Homeowners considering insecticide treatments this spring should contact an arborist or tree service very 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 (some applied as a soil drench) at garden centers and large retailers.

Diseases

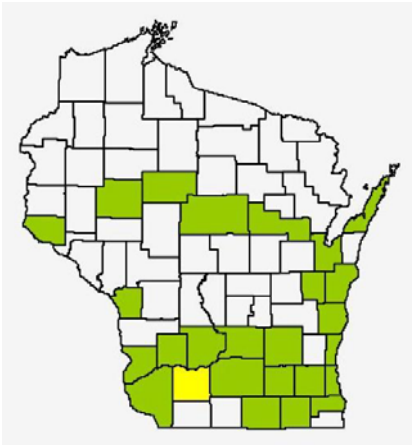
Annosum, 2nd location in Shawano Co – annosum root rot has been confirmed in a second red pine stand in Shawano County. The stand was planted in 1973, and the first harvest was completed in 1997 which would be when Annosum probably entered this stand. The stand is currently being marked for the 2nd harvest, and a single pocket of mortality was noted with about 10 dead trees, several of which had fruiting bodies of annosum at the base of the tree. The stand location is T27N R16E Section 27, which is about 7 miles away from the other known site in Shawano Co. (found in 2009), and about 11 miles away from the only known site in Oconto Co. (found in 2010).



If you find annosum, or suspect you have found annosum in the Northeast Region please let me know. There are currently 22 counties in Wisconsin where annosum has been confirmed and the forest health program maintains a map of all known locations (right) to help land managers be aware of the risk in their area. For more info on annosum go to http://dnr.wi.gov/forestry/fh/annosum/

Thanks to Ben Knaack for alerting me to this latest site.

Ash Yellows - Ash yellows is a disease that causes slow growth, branch dieback, and eventual mortality of ash. It is caused by a special type of bacteria - a bacterium without cell walls, called a phytoplasma. There is no known way to prevent or cure ash yellows. It is believed that this disease could kill a tree by itself or act with other stress causing agents, such as drought, root damage, and insect defoliation. Ash yellows has been reported only in North America. The disease is mainly observed in the northeastern and mid western states and southern most portion of Canada. In Wisconsin, ash yellows is currently found in 26 counties. Surveys continue but ash yellows may be more widespread and causing more damage than previously believed.



Counties where ash yellows has been confirmed. Iowa County (yellow) was added in 2010.

Witches brooms on ash.

There are a number of signs to watch for to determine if your trees are affected by ash yellows. Leaves of infected trees may be smaller in size, and light green. Vertical cracks and cankers may appear on the trunk near the base. Infected trees often develop clusters of upright shoots, called a witches broom, at the trunk. The presence of a witches broom has been the key to confirming ash yellows in the field.

You can find more information about ash yellows from the websites below.
http://www.na.fs.fed.us/pubs/howtos/ht_ash/ht_ash.htm - USDA Forest Service website
http://hort.uwex.edu/articles/ash-yellows - University of Wisconsin Garden Facts

The forest service factsheet recommends that trees with greater than 50% crown dieback be removed within 5 years and other affected ash during subsequent harvests.

Cinder conk – Brian Schwingle, Wisconsin DNR Forest Health Specialist for the Northern Region, recently wrote the following information regarding cinder conk, or the sterile conk:

Black masses protruding from the bark (arrows) indicate the presence of cinder conk or sterile conk.

The Sterile Conk—No Longer Sterile (officially)!

(**Warning**: Only for you pathology geeks. By reading the following paragraph, you hereby agree to not make fun out of any member of the Forest Health Staff for taking an interest in the intricacies of fungal taxonomy)

Most of you are familiar with the canker rotting fungus called the sterile conk, found on birch. It's called the sterile conk because no one ever *apparently* saw it produce any sexual fruiting bodies in nature (note the "apparently"). The black mass is just a bunch of fungal hyphae. I recently saw a research abstract (published in 2010) that made me chuckle for two reasons. They reported the sexual fruiting body (basidiocarp) of the sterile conk for the "first" time on a living birch. So, the sterile conk is no longer sterile, officially. Though you may not find this truly hilarious, I do. Also hilarious: there are pictures of the basidiocarps in a reference that many of you have in your offices (Sinclair & Lyon, 2005). I suppose the discoverers of this disease should have just called it That Nasty Black Growth on Birch Disease: http://onlinelibrary.wiley.com/doi/10.1111/j.1439-0329.2010.00687.x/abstract

Rhizosphaera Needlecast – I've had several reports this spring of spruce trees with thin crowns, particularly the lower branches. Rhizosphaera needlecast disease causes the trees to lose their older needles prematurely. Needles from the current year are not affected but when the older needles are lost the trees look quite sparse. Lower branches will be more affected than branches in the crown. The Rhizosphaera fungus lives within the needle and closer inspection will reveal tiny black dots emerging from the stoma in the needle (right). Raking up fallen needles will help to limit the amount of fungus available to re-infect the needles in the spring.

Small black dots are the fruiting bodies of Rhizosphaera needlecast fungus.

Not all trees are affected equally by Rhizosphaera. Some spruce trees are slightly resistant to this needlecast (white spruce is listed as having "intermediate" resistance), some trees have slightly better airflow around them which dries out the needles faster so that the fungus cannot grow into the needles, this is why the tops of trees will be less affected the lower branches. Additionally, some trees are genetically resistant to Rhizosphaera. If you have a plantation with just a few trees that are severely affected by Rhizosphaera you might consider removing just those trees as they will probably be affected by Rhizosphaera for much of their life.

White Pine Blister Rust - blister rust causes a canker on white pine which can girdle the branches and the main stem. Blister rust cankers are currently sporulating, producing the orange pustules (right) 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, completing the life cycle.

If you have just a few blister rust cankers on branches of young trees you should prune off those 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 in healthy trees with good growth rates this may take many years. Blister rust spores must first infect a needle, and then grow into the branch. Since white pine seedlings and saplings often have needles attached directly to the main stem this can allow the fungus an entry point directly into the main stem of the tree. Damage from a girdling canker may not be severe enough to cause tree decline and mortality for several to many years.

Canker on the off-color branch.

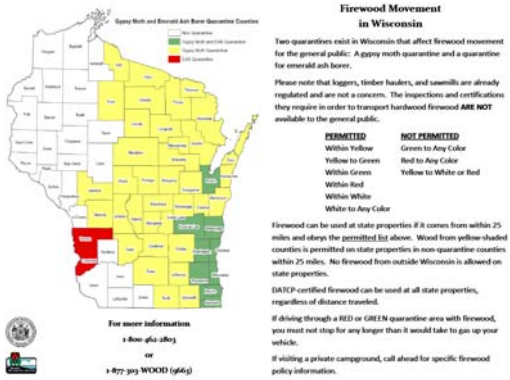
Other/Misc.

Brown Marmorated Stink Bug – from Bill McNee. Over the past few months we've been mentioning another invasive pest called Brown Marmorated Stink Bug because of its nuisance factor and agricultural damage. Unfortunately, this pest has been found in northern Illinois. For more information and some pictures of what the insect can do to agricultural crops, visit: http://bulletin.ipm.illinois.edu/article.php?id=1461

Brown Marmorated Stink Bug. Photo from www.forestryimages.org

Firewood movement – from Bill McNee. As we approach the start of the 2011 camping season, remind the public to buy firewood near where they plan to burn it in order to reduce the spread of invasive pests. A new handout explains the state's restrictions on firewood movement, and should help to make the rules less confusing. It can be download at: https://onlineservices.datcp.wi.gov/eab/articleassets/EAB_GM_Firewood_Restrictions.pdf.

For more information on firewood movement, please visit the WI DNR website at http://dnr.wi.gov/invasives/firewood/. Be aware that private campgrounds, county parks, national parks and national forests may have their own restrictions that are not covered on the map.



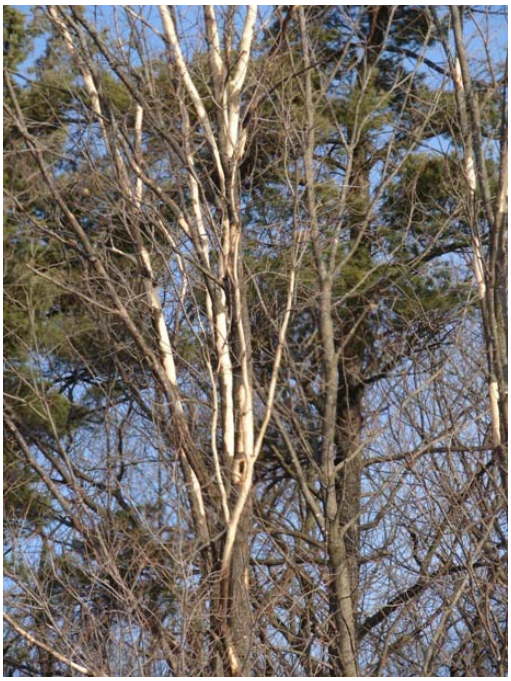
In addition, a new letter-sized "Don't Move Firewood" poster has been produced, and is shown below. If you would like the file to print and distribute, contact Linda or Bill.

Squirrel damage – I've mentioned squirrel damage to maples in the last 2 pest updates, and I will mention it again because reports continue to roll in from around the region of significant damage to maples, where squirrels have chewed the bark in the crowns of the trees. Several of you have questioned how to tell the difference between squirrel feeding and porcupine feeding on trees. An email response from Professor Scott Craven (UW Madison) gives some guidelines for determining which pest has chewed the bark off. Dr. Craven says:

> This was a bad winter for gray squirrel barking of trees … However, porkies will do similar damage. For a gray squirrel the incisor widths vary from 1.3 -1.7 mm, for a porky its nearly 3x's that.... 3.6-4.8mm. So you could actually measure the tooth marks and know for sure..but my guess is its mostly, if not all, squirrels. Scott Craven

Expect branch mortality to occur in some of these maples over the next year or two.

I've also had a few reports this winter of squirrel damage on spruce, with squirrels nipping off the branch tips, which often end up littering the forest floor.



Sugar maple with bark removed by squirrel feeding.

Ordering Publications - As the field season approaches, DNR staff can order forest health and other forestry brochures from the following link: http://intranet.dnr.state.wi.us/int/land/forestry/Publications/. Non-DNR staff can contact their DNR forest health person to order them.

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/

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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.