Northeast Wisconsin Forest Health Update

July 15, 2011

Topics covered this month:

Insects:
Asian longhorned beetle
Eastern spruce gall adelgid
Gypsy moth
Emerald ash borer

Diseases:
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Beech bark disease
Dutch elm disease
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Other:
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New tick-borne virus, Powassan
Squirrel damage to maples, the saga continues

Insects

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

Asian Longhorned Beetle (ALB) – from Bill McNee. Asian Longhorned Beetle (ALB) has been found in and around Bethel, Ohio (about 25 miles east of Cincinnati). The pest was identified after a local vineyard owner noticed unusual damage to several maples. Recent media reports indicate that about 100 infested trees have already been found in the area. ALB attacks many hardwood species, including maple, poplar, willow and elm.

Here are links to ALB identification and how to distinguish ALB from the native lookalikes (most notably the pine sawyer). ALB is glossy, has banded antennae, and lacks a white dot where the wing covers meet.
http://www.na.fs.fed.us/pubs/palerts/alb/alb_pa.pdf
http://massnrc.org/pests/blog/uploaded_images/ALBvsPinesawyer-715980.jpg
http://www.uvm.edu/albeetle/identification/index.html

Eastern Spruce Gall Adelgid – galls are just beginning to form on white spruce. Swollen areas on the twigs of spruce trees (right) may look like small cones but they're not, they're homes for small adelgids which live inside the gall and suck plant juices. For part of their life, adelgids live within these galls that the tree creates for them. As fall

approaches the galls will turn brown, dry out, split open, and release the adelgids. Old adelgid galls will remain on the tree for the life of that branch. The galls do not usually kill the branch although severe infestations can stunt the growth of the tree and predispose it to attack from other insects or diseases. Eastern Spruce Gall Adelgid prefers to attack white spruce and Norway spruce. Another adelgid, Cooley Spruce Gall Adelgid, prefers blue spruce and makes larger galls at the tips of twigs.

Gypsy Moth – from Bill McNee. The summer of 2011 has turned out to be one of the quietest in recent memory, as the low populations have generated very few nuisance caterpillar complaints statewide. Reports of a few male moths have come from as far north as Marinette County, indicating that the caterpillar season is just about over.

No defoliation was spotted in recent aerial surveys conducted in northeast Wisconsin, and areas that were heavily defoliated in 2011 had little tree mortality thanks to the rainy summer of 2010.

Moshawquit Lake (Menominee County) in late June 2011.

The same area a year earlier, heavily defoliated by gypsy moth caterpillars.

Emerald Ash Borer (EAB) – from Bill McNee. EAB-infested trees have been found in Kenosha after trapping adult beetles for 2 years. An infested tree was found in the west-side neighborhood where the traps had previously caught adults, and soon after, additional infested trees were located in a nearby commercial area. Wisconsin now has 4 known infestations where larvae have been found and one detection where only adult EAB have been found (downtown Green Bay).

Staff from the Dept. of Agriculture, Trade and Consumer Protection (DATCP) will be checking ~6,000 purple EAB traps during the summer, and expect to have them all taken down by mid-September. If you see a purple trap lying on the ground, please email Becky Gray at DATCP (rebecca.gray@wisconsin.gov). A trapper will re-hang the trap.

Purple EAB detection trap. Photo by Renee Pinski.

Illinois has released an updated list of communities and parks that have found EAB. The list has grown to over 5 pages long, and is available at: http://www.agr.state.il.us/eab/PDFs_for_web/Home/Confirmed_EAB_locations.pdf. A recent media report indicated that 22 Illinois communities have had first finds of EAB so far in 2011. Illinois first found EAB only 5 years ago!

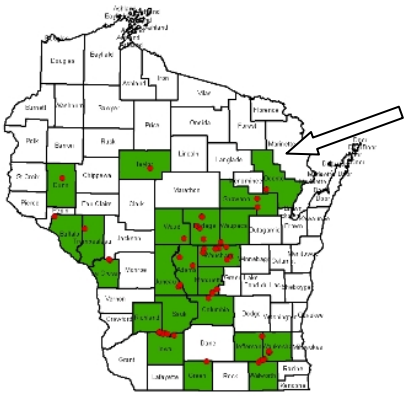
Diseases

Annosum confirmed in Marinette County – the root disease annosum (*Heterobasidion irregulare*) has been confirmed for the first time in Marinette County. The stand is located in T35N R20E Section 29 in a mature red pine stand that was last thinned in 1997.

Pockets of mortality in pine plantations should be examined for the presence of annosum. If fruiting bodies are present they will be at the very base of trees and/or old stumps from previous harvests. You may have to pull back the duff layer to see smaller fruiting bodies, which will look somewhat like a shelf fungus and will have a white or cream-colored lower surface which under magnification is pitted (above). Other symptoms can be quite variable but you may see the following:

- You may or may not see understory saplings that are being killed by annosum, which can kill all conifers and some hardwoods as well. If understory is being killed you may be able to find fruiting bodies on these young trees.
- The pocket may look like a "typical" pocket with dead trees in the center and fading/dying trees on the edges.
- Or, the pocket may look like a clearly defined area of mortality which you might mistake for a lightning strike or a bark beetle pocket
- You may not see any fruiting bodies, or you might find them only on old stumps, only on dead understory, or only on recently dead trees
- The fruiting bodies may be large shelf-like fungi, small popcorn-like spots, or the flat form which I seem to find more commonly on white pine

Annosum root rot confirmed stands in Wisconsin (May 2011)



Counties where annosum is currently confirmed are shown in green, with known locations shown with red dots. Arrow indicates Marinette County, the newest county to have annosum confirmed.

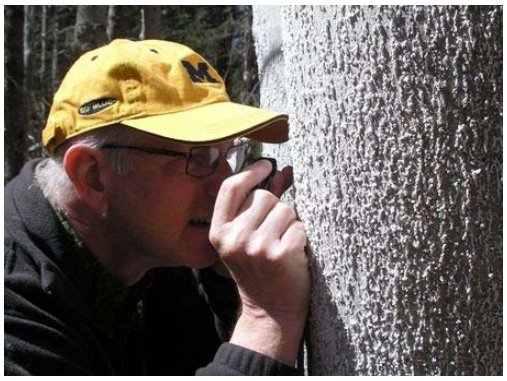
Annosum fruiting body at the base of a dead sapling.

Annosum enters a stand when a wind-blown spore lands on a fresh conifer stump. Treatment of conifer stumps at the time of harvest with a preventative fungicide (Sporax or Cellu-Treat) is the only known way of preventing this fungus from infesting your stand. There are no proven solutions for eliminating the fungus from your stand once you have it and the fungus can remain active in the soil for decades, so preventing it from entering your stand in the first place is your best bet for longterm forest productivity.

If you find annosum, or suspect you have found annosum in the Northeast Region please let me know. There are currently 23 counties in Wisconsin where annosum has been confirmed and the forest health program maintains a map of all known locations (right, Marinette will be added soon) 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/

Beech Bark Disease – a beech tree with a very high population of beech scale has been located on Washington Island in northern Door County. This is the only known heavily infested tree located outside of the original beech bark disease detection area near Sturgeon Bay. Beech bark disease was found in Wisconsin for the first time in 2009. A small percentage (<5%) of American beech are resistant to beech bark disease; another small percentage will be partially resistant while the majority of beech trees are susceptible and will eventually die. The scale and fungus, which work together to create Beech Bark Disease, can travel long distances on infested beech logs and firewood. Management options will vary from area to area, depending on the amount of beech present and distance from an infestation. In most cases, it is not desirable to remove all beech from a stand before the disease moves through since this practice would eliminate potentially resistant beech trees. More information about Beech Bark Disease can be found at http://www.dnr.state.wi.us/forestry/fh/exotics/exotic-bb.htm

Close-up shot of the fluff covering many beech scale insects on the bark of a beech tree.



Joe O'Brien examining a tree with a high population of beech scale (white fuzzy stuff on the bark).

Additional information:

Beech Bark Disease: Best Management Practices for Reducing the Movement of the Beech Scale

Homeowner's Guide: How to Detect and Control Beech Bark Disease

How to Identify the Beech Scale in the Field

Dutch Elm Disease - symptoms, including whole tree yellowing and wilting are showing up. This exotic fungal disease is spread by the elm bark beetle and can spread underground through root grafts as well. Since bark beetles are generally not attracted to smaller trees (sapling to small pole size) people often get their hopes up that their small elms have "escaped" and will survive and grow to maturity. Unfortunately, as soon as the trees are large enough for the bark beetles to be attracted to them the trees may become infected with dutch elm disease. The first symptom you will see is usually a single branch on which the leaves turn yellow and die. The rest of the tree will die shortly. Elm trees attempt to fight the fungus by walling off the portion of the tree where the fungus is located but this can lead the tree to self-induced water deprivation and death.

There are some disease resistant cultivars (those crossed with other elm species) and some disease "tolerant"

cultivars available, which tolerate the disease without killing themselves (if I understood what the researcher explained to me). A listing of some of these cultivars can be found on the MN website http://www.extension.umn.edu/yardandgarden/ygbriefs/p425dutchelm-resistant.html

Oak Wilt symptoms showing up – if you have active oak wilt pockets you've probably noticed that the symptoms are beginning to show up already. Oak wilt is a non-curable fungal disease specific to oaks. Trees in the red oak family will die quickly and completely from this disease while trees in the white oak family will die more slowly with a branch or portion of the crown becoming infected. Trees that were infected with the oak wilt fungus this year are currently turning off-color, dropping their leaves, and will soon be dead. Leaves that drop to the ground will be partially green. 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 trees. In this way, over several years, a pocket of dead oaks will be created and the disease will continue to spread through the roots unless something is done to break the root grafts, or, it will stop when the disease runs out of oaks in that area. A good brochure about oak wilt, including the biology of the disease and how it is spread, can be found at http://learningstore.uwex.edu/assets/pdfs/G3590.pdf or check out the oak wilt info on the DNR website at http://dnr.wi.gov/forestry/FH/diseases.htm which includes the online guide for determining oak wilt risk rating related to harvesting oak stands, where you answer some questions about when you want to harvest and what your stand is like and you can print out the recommendations.


Leaves dropped by tree that had oak wilt, note the green base of the leaves with other portions appearing water-soaked and browning.

Rhizosphaera needlecast – calls continue to roll in about spruce that are severely affected by rhizosphaera needlecast. I suspect that the "wettest July on record" that we had last year contributed to the damage, and the prolonged wet, cool spring that we had will just continue to promote the disease. Many of the folks that are calling in say that they have never seen these symptoms on their trees before (although I suspect a more accurate description is that the symptoms have never been this noticeable or this severe). The most severely affected trees around the region are blue spruce, and this can be a somewhat common malady for these trees, whether they're planted in a yard or in a plantation, but white spruce are also severely affected around the region as well.


Spruce affected by rhizosphaera needlecast, all older needles have dropped prematurely.

Thousand Cankers Disease website – the Wisconsin DNR Forest Health website now has a page covering Thousand Cankers Disease of walnut. Check it out at http://dnr.wi.gov/forestry/FH/tcd.htm and click on "Introduction", "Symptoms and Signs", or "Detection" on the left side of the page for more information on this new and emerging disease. We have not found Thousand Cankers Disease of walnut in Wisconsin yet but if you suspect you have this insect/disease combination please contact your regional forest health specialist.

Other/Misc.

Imprelis herbicide damage to conifers – Imprelis is a new herbicide put out by DuPont and is suspected of causing conifer damage and mortality in areas where it has been used. Imprelis is used on lawns and turf grass to combat broadleaf weeds, but, it appears it may be having a significant impact on some conifers, including spruce and pines of all sizes. DuPont is in the process of researching this problem so if you have applied Imprelis to your lawn or turf and suspect that recent damage to pine or spruce may be due to the chemical please contact DuPont or if you're in Wisconsin contact the Plant Disease Diagnostic Clinic :
http://tdl.wisc.edu/Interactive%20Pages/ImprelisFactSheet062111V2.pdf
For more information and additional photos check out the following sites:
http://news.msue.msu.edu/uploads/files/122/Imprelis%20homeowner%20factsheet_Bert%20Cregg.pdf
http://www.ppdl.purdue.edu/PPDL/hot11/6-10.html

Herbicide damage can be difficult to diagnose but if you're looking at spruce or pines that are in a yard, or next to a yard, it would be worth your time to find out if chemicals have been applied to the lawn.

Invasive species detection tools - Some creative New Englanders have come up with a novel use for public swimming pools – detection tools for invasive insects. Read more here:
http://www.nashuatelegraph.com/news/925607-196/this-invasion-may-be-happening-in-your.html

New Tick borne virus, Powassan – a new tick borne virus, Powassan (POW) virus, which is spread by deer ticks, has recently been showing up in Minnesota, with 6 cases being reported from 2008-2010. This virus can cause encephalitis and meningitis, or inflammation of the brain, spinal cord, etc. Symptoms can include fever, headache, vomiting, weakness, confusion, loss of coordination, speech difficulties, and memory loss. Signs and symptoms occur within 1 to 5 weeks of an infectious tick bite. Check out Minnesota's webpage on Tick-Transmitted Diseases and click on Diseases That Can Be Transmitted By Ticks for more information on POW
http://www.health.state.mn.us/divs/idepc/dtopics/tickborne/index.html When working in the woods be sure to practice "tick prevention", by using products that

An assortment of deer ticks. Adults appear to wear a dark "cape" and have a reddish-brown abdomen while immature ticks appear as mostly black.

repel ticks, tucking your pants into your boots, wearing light colored clothing so that you can easily see ticks to pick them off, and then of course do tick check when you come in from the field or each night before you go to bed. Here's a helpful hint that my supervisor recently gave me, which I have recently tried and had great success with**:** after you've been in a tick infested areas, just throw your clothes in the dryer on high heat for a 5 minutes or so, then check the lint trap! Dead ticks will be collected there and it might amaze you how many you've collected!

Squirrel damage to maples – the saga continues. In the February, April, and May pest updates I mentioned the significant amount of squirrel damage occurring to sugar maples around region, where the squirrels were eating the bark off the branches throughout the crowns of trees. In my travels yesterday I passed some of these sites where squirrel damage was significant, and it appears that the damage continues to show up. Some trees appear to have leafed out, although the leaves did seem to be off-color, but recently the branches were unable to support the leaves and they have wilted and turned brown, making them visible from quite a distance. I suspect that although these branches were almost completely girdled by the squirrels they were able to leaf out this spring with the cool wet weather, but with the weather warming, and the trees needing to move more water to support those leaves, they were unable to do so and the branches have wilted and died.

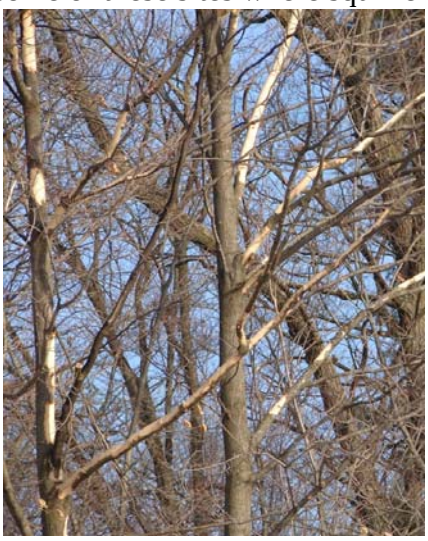


Photo taken February, 2011. Pale areas are where squirrels were feeding on the bark.

Recently dead branches, and off-color branches, have significant squirrel damage from this past winter.

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.