

Southern Region Forest Health Update

Wisconsin DNR, Forest Health Protection Unit

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Mark Guthmiller (Southern Region Forest Health Specialist)
Articles in this newsletter were written by Mark unless otherwise noted

Gypsy Moth - Bill McNee

Now is the time for landowners and managers to look for gypsy moth egg masses to predict the pest's population size and potential damage to trees next year. We have had very few reports of high populations so far this fall.

Communities and woodlot owners should contact their county coordinator soon if they are considering participating in the 2012 Suppression Program. County coordinators must apply by Friday, December 2 of this year for aerial spraying in 2012. Information on the Suppression Program, egg mass survey instructions and a list of county coordinators are available at www.gypsymoth.wi.gov.

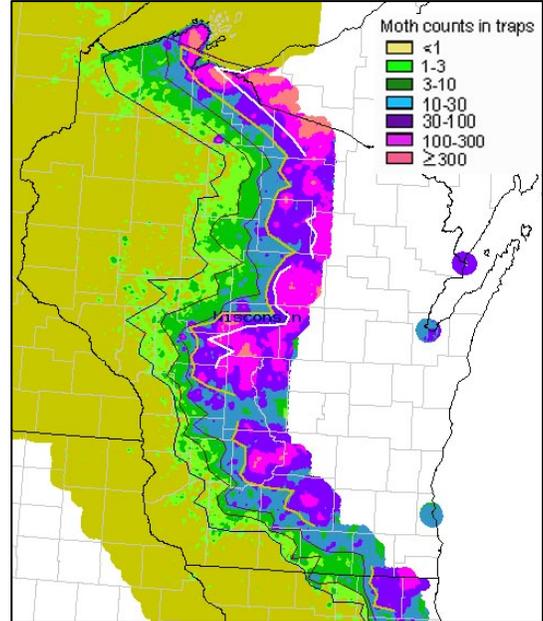


Gypsy moth egg masses

WI DATCP Gypsy Moth Trapping

The Wisconsin Dept. of Agriculture, Trade and Consumer Protection (DATCP) has finished taking down its gypsy moth trapping grid, and has caught 213,451 male gypsy moths. Bayfield County led the way with 60,549 moths. Ashland, Clark and Jackson Counties helped to put the total above last year's 142,409 moths. Final numbers and maps should be available in November. Wisconsin's record catch was ~700,000 moths back in 2003. (Note: Catch numbers are affected by the number of traps in a county, number of counties trapped and blow-in from other counties).

A preliminary map of gypsy moth distribution in western Wisconsin and adjacent states is shown here and also available online at: <http://da.ento.vt.edu/results3.html>. Eastern Wisconsin is not trapped due to the long-established gypsy moth populations.



Preliminary 2011 gypsy moth trapping map.

Emerald Ash Borer (EAB) – Bill McNee

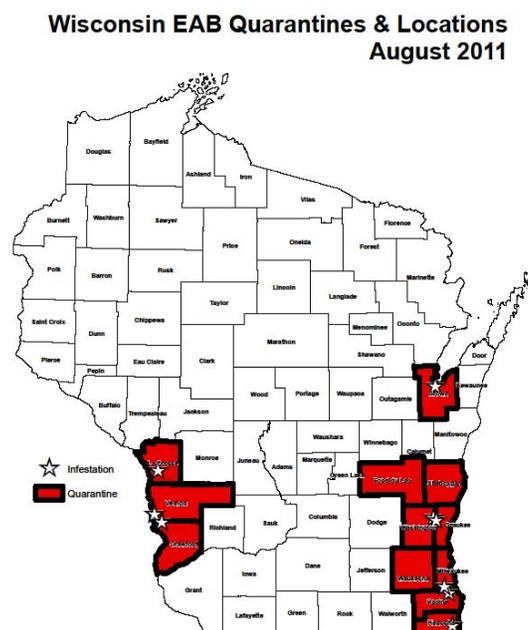
In August it was reported that Emerald Ash Borer (EAB) had been detected in La Crosse County and across the river in Minnesota. Since then, Minnesota has found infested trees and adult beetles at several sites. Infested trees have not been found in La Crosse County, although they are likely present.

La Crosse County has been quarantined to restrict the movement of ash articles and hardwood firewood out of the county. An updated map of EAB-quarantined counties has been produced, and is available at:

[http://datcpservices.wisconsin.gov/eab/articleassets/WI_EAB_Quarantines and Locations.pdf](http://datcpservices.wisconsin.gov/eab/articleassets/WI_EAB_Quarantines_and_Locations.pdf).

The Wisconsin Emerald Ash Borer Program has released a revision of the state’s EAB strategic plan. It can be read at this link:

[http://datcpservices.wisconsin.gov/eab/articleassets/WI_EAB_Strategic Plan.pdf](http://datcpservices.wisconsin.gov/eab/articleassets/WI_EAB_Strategic_Plan.pdf).

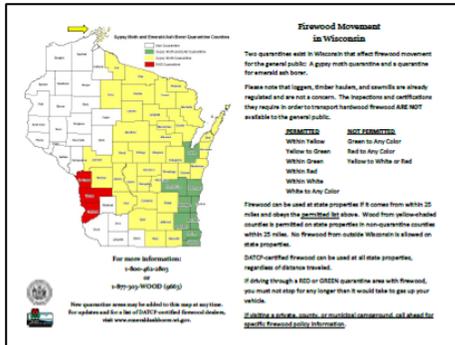


Firewood and Hunting Season – Bill McNee

As hunting seasons begin, hunters are encouraged to not move firewood long distances due to the risk of transporting pests such as emerald ash borer, gypsy moth and oak wilt. In addition, quarantine regulations for emerald ash borer and gypsy moth restrict the movement of firewood out of certain counties.

A nice overview map of firewood movement restrictions can be viewed at:

http://datcpservices.wisconsin.gov/eab/articleassets/EAB_GM_Firewood_Restrictions.pdf



Firewood infested by emerald ash borer. Photo from www.forestryimages.org.

For more information, visit www.emeraldashborer.wi.gov and www.gypsymoth.wi.gov.

DEET and Mosquito's – Bill McNee

Ever wonder how the bug repellants containing 'DEET' keep the insects off of you? A new study suggests that 'DEET' is actually not a repellent. The study suggests that the chemical sabotages their sense of smell by scrambling the signals between antennae and brain. Read more here:

http://www.google.com/hostednews/ap/article/ALeqM5jC6lb_OWYFVfplMFzz0hrQiCKwmQ?docId=c17032e06f624f3384e5c36345eeb997

Multi-colored Asian Lady Beetles – where are they?!

Where are the Multi-colored Asian lady beetles this year?! I have had no reports of problems and I have not seen any congregating on sides of buildings the last couple weeks when conditions were conducive for this. Taking a quick check of the WI DATCP cooperative pest report it looks like soybean aphid (a favorite food source of the beetles) counts are down and maybe this is playing at least part of the role in this apparent reduction in Asian lady beetle populations this fall. If you by are by chance having problems with this critter see the following site for more information:

<http://hort.uwex.edu/sites/default/files/Multicolored%20Asian%20Lady%20Beetle.pdf>

Link to WI DATCP article on soybean aphids:

<http://datcpservices.wisconsin.gov/pb/pests.jsp?categoryid=5&articleid=1830&issueid=174>



Maybe they are lurking in some pine stand?

A 'Poplar' Magnolia- The Next Chapter in the Silviculture Handbook? – Cory Secher

Tulip-Poplar or Yellow-Poplar (*Liriodendron tulipifera*)

Recently DNR Foresters Cory Secher and Steve Holoday found Tulip Poplars, *Liriodendron tulipifera*, growing in Green and Dane Counties. The Green County find was found to be part of an abandoned research project; however the Tulip Poplars found in Dane County are unknown as to their origin and appear to be propagating naturally. The name tulip poplar is deceiving since it is part of the magnolia family, not the poplar family.

These recent finds sparked our curiosity since the Tulip Poplars natural range does not include Wisconsin. Tulip Poplars grow in the Eastern United States from southern New-England, west through southern Ontario and Michigan, south to Louisiana, then east to north-central Florida.



Green Co. DNR Forester, Cory Secher measuring one of the 20"+ dbh tulip-poplars.



Tulip poplar is considered shade intolerant and can grow to heights of 80-120 feet at a rate of 2-3 feet annually, and can live up to 300 years. It produces a deep penetrating taproot with strongly developed wide reaching lateral roots.

Tulip poplar generally grows best in soils that are moderately moist,

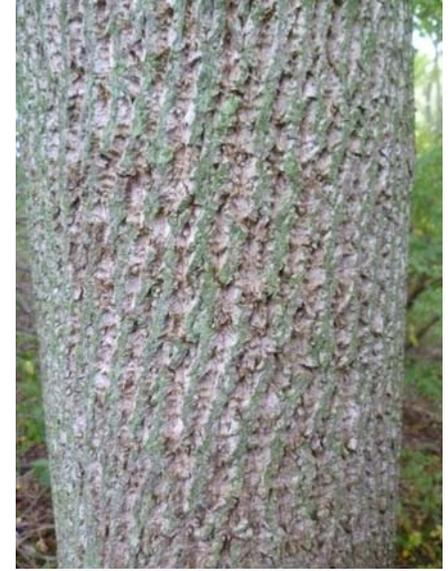
well drained, and exhibiting loose texture. Tulip poplar is a prolific seeder beginning production at age 15 and will continue to produce large annual crops until age 200. The seed is a winged carpel that is disseminated from mid-October to mid-March with 5-20% viability, and may retain their viability on the forest floor for up to 7 years.

Management of tulip poplar ranges from removing 30% basal area, to clearcutting, seed-tree cutting, coppice, and shelterwood silviculture systems. Yet, clearcutting generally produces seedlings that are 2-3 times taller than shelterwood seedlings 5-10 years following a harvest.

Tulip poplar wood is versatile with many uses. Recently the wood is used for lumber for unexposed furniture parts, veneer for crossbands in construction of furniture parts, plywood for backs and interior parts, as well as pulpwood. The wood is also used for structural framing material and for veneers in structural plywood.



Dane Co. DNR Forester, Steve Holoday standing near a tulip-poplar that appears to be propagating naturally.



From left to right: Tulip-poplar leaf close-up, seedling propagating naturally, and bark characteristics.

Editors Note: This was a fascinating week to see these large trees growing in a woodland setting and also to see tulip-poplar regenerating in another area. With ongoing concerns of climate change and potential species shifts this could be a flagship species for such discussions in southern Wisconsin. In terms of insect and disease concerns, to name a few, there is mention of cankers (*Nectria magnoliae*), decay fungi, heart rot, and degrade by Columbia timber beetle. Being thin barked this species is sensitive to fire. Thanks Cory for putting together the write up.

Annosum Root Rot Training Session

I was able to attend an annosum training session earlier this month that was held in West Central Region by DNR forest health program and sponsored by FISTA. The session was geared toward loggers and to give them an opportunity to learn about annosum and treatment to prevent disease establishment on freshly cut stumps. It was a well attended session with lots of good questions.



From left to right: Logger demonstration of mechanized stump treatment, sample treated stump, forest health staff Kris Peterson, Todd Lanigan, and Bob Murphy discussing manual stump treatments and how to identify annosum .

Fall Survey's for Annosum Root Rot

This time of year is a good time to survey your conifer stands for possible annosum root rot. This disease produces perennial conks (fruit bodies) at the base of the tree, often in the duff layer. If you suspect a new pocket forming you may want to check the base of dead or declining trees or adjacent stumps from a previous thinning. Red and white pine plantations are most problematic but other conifer plantations may be impacted by this disease as well. One can also check dead or dying pine regeneration within a possible disease pocket. Conks are frequently formed on white pine regeneration but also can be found on red pine seedlings. For more information on this disease visit: <http://dnr.wi.gov/forestry/Fh/annosum/>



Left: Untreated stump with annosum conks growing (often you have to move needle duff layer to see these).
Right: White underside of conk showing pore layer.

A Halloween Horror Story: Annosum, Lobsters, and Cannibals

As mentioned in the article above, annosum is a perennial conk, meaning it senesces in the winter months then re-grows new pore layers on the same conk during subsequent growing seasons. While out at a site visit this

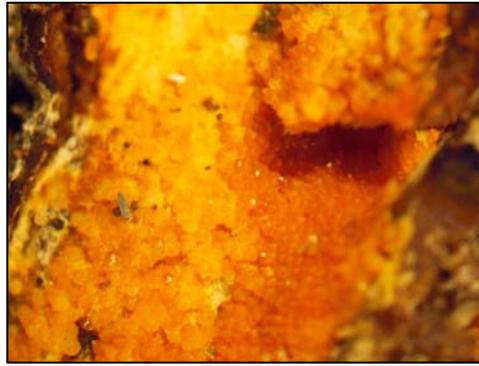
month I noticed what I thought was just senescing conks. It seemed a little early to see the darkening and deterioration of the conk already. Upon closer inspection I found what appears to be a myco-parasite (fungus attacking another fungus) on the annosum conk. I had not seen this before over the years working in annosum pockets so did some preliminary investigating. Apparently there are a group of fungi, in the genus *Hypomyces*, that parasitize mushrooms including polypores. One particular such fungus, *Hypomyces lactifluorum*, is called the “Lobster Mushroom”. In Tom Volk’s link below it talks about parasitic “cannibalism” of this fungus basically eating and transforming the host fungus! It is an interesting article if you want to learn more.

http://botit.botany.wisc.edu/toms_fungi/au_g2001.html



Deteriorating annosum conk appearing to be attacked by a parasitic fungus.

I don't yet know what species is attacking the annosum conks but I did observe similar perithecia (fruiting structures) and spores as found in the genus *Hypomyces*. This link shows the spindle shaped spores of this genus I observed: http://www.mushroomexpert.com/hypomyces_lactifluorum.html If others are noticing this cannibalism of annosum in the field I would appreciate hearing from you!



From Left to Right: Underside of the annosum conk being parasitized, close-up of a mass of perithecia like fruiting structures on the pore layer (giving the underside the orange coloration), and the spindle shaped ascospores.

Forest Genetics Black Walnut and Butternut Conservation Programs – David Stevens, UW Tree Improvement Research Specialist

Editors Note:

David responded to last month's article regarding how old a walnut or butternut had to be to produce nuts. Based on some potted trees as part of his research, it was thought we may have had nut production in as little as three years. David shot that down with information on the geriatric nature of the scion wood used in grafting. See David's reply below:

"The fruit on my grafted walnut and butternut trees behind the Forest Health greenhouse are not an early bearing phenomenon or record I'm afraid. While the grafts are a couple of years old, the scion wood used to create the grafts came from mature trees, most in the 80 to 120 year range. Thus, the upper part of the tree has already gone through the juvenile to adult phase change and is capable of producing flowers and nuts even though the size of the grafted tree gives the appearance of it being a seedling. This "early bearing" is one of the reasons we are using grafted trees to create seed orchards. Seedling grown black walnuts are known to flower and fruit as early as 4 to 6 years of age, though large nut crops don't usually occur until the trees are 20 to 30 years old."

I thought you might find the rest of the research story interesting so asked David to write a short article on it. Read David's write up below for more information on these conservation programs. Thanks David!

The Wisconsin Forest Genetics program, a joint venture between the U.W.-Madison Department of Forest and Wildlife Ecology and the WDNR -Division of Forestry, has an ongoing black walnut (*Juglans nigra*) genetic conservation project. On an individual tree basis, black walnut is the most valuable species grown in the state, however, Wisconsin is on the northern edge of black walnuts range and its natural distribution is limited to the southwestern one-third of the state. While walnut is native to most of the central and eastern parts of the United States, research has shown that at the northern margin of the species range, winter injury regularly occurs on trees from sources moved more than 100 miles north of their origin. Given this, the Forest

Genetics program has been selecting superior quality trees in natural stands from Wisconsin and Northern Illinois and grafting scions from those trees into clonal seed orchards. The orchards serve both to conserve the limited genetic resource of black walnut that is adapted to Wisconsin and to provide future sources of improved seed for the state nursery program. If you know of any superior native black walnut candidate trees, please contact David Stevens at (608) 263-6977 or dstevens@wisc.edu.

Another genetic conservation program is also under way for a close relative of black walnut. Butternut (*Juglans cinerea*), sometimes referred to as white walnut, is a native Wisconsin tree prized for its nuts by both wildlife and humans and for its quality lumber. The species is found throughout the state, with the exception of the three northern most counties, but has been declining steadily since the introduction of butternut canker disease (*Ophiognomoniaclavigignenti-juglandacearum*), first reported in Wisconsin in 1967.

Starting in the 1980's, an increasing number of putatively disease free trees have been identified growing alongside infected trees throughout the species range, including here in Wisconsin. While tolerance or resistance to the disease has yet to be confirmed, putatively disease-free trees from infected areas have been screened and indicate there is both a wide phenotypic variation in susceptibility to the disease and a high level of genetic diversity present within the species. In an effort to conserve and propagate these potentially resistant trees, the Forest Genetics program has partnered with the USDA Forest Service to establish a butternut genetic conservation project. The Forest service has provided both grafted clones and seedling progeny from 35 disease free Wisconsin selections to establish a seed orchard to study resistance and eventually provided seed for the state nursery system.

Happy
Halloween!

SOR Forest Health Assistance
Wisconsin DNR, Forest Health Protection Unit
September 2010 to September 2011

Contacts for DNR staff, municipal foresters, and forestry cooperators

For general forest health and municipal level urban forest health issues

Mark Guthmiller (SOR region: SCR & SER combined) 608-275-3223

For gypsy moth

Mark Guthmiller (SCR Team area) 608-275-3223

Bill McNee (SER Team area) 920-662-5430

Andrea Diss-Torrance (Statewide issues) 608-264-9247

For emerald ash borer

Mark Guthmiller (SCR Team area) 608-275-3223

Bill McNee (SER Team area) 920-662-5430

For beech bark disease/beech scale

Mark Guthmiller (SCR Team areas) 608-275-3223

Bill McNee (SER Team area) 920-662-5430

Direct public inquiries regarding yard tree concerns to UW county or state extension offices or:

Emerald ash borer hotline	1-800-462-2803
Emerald ash borer e-mail	DATCPEmeraldAshBorer@wi.gov
Gypsy moth hotline	1-800-642-MOTH

Additional Program Web-based Resources:

Forest Health web site: <http://www.dnr.state.wi.us/forestry/fh/>

Gypsy Moth web site: <http://gypsymoth.wi.gov/>

Emerald ash borer web site: <http://dnr.wi.gov/forestry/fh>

Emerald ash borer cooperative state web site: <http://emeraldashborer.wi.gov/>

Note: Southern Region is composed of both SCR and SER Team Counties

SCR Team Counties: Columbia, Dane, Dodge, Grant, Green, Iowa, Jefferson, Lafayette, Richland, Rock and Sauk

SER Team Counties: Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington, and Waukesha