

Southern Region Forest Health Update

Wisconsin DNR, Forest Health Protection Unit

March 21st, 2013 Vol. 10 No. 2

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Articles in this newsletter were written by Mark Guthmiller, Regional Forest Health Specialist, unless otherwise noted.

Staff Update

Bill McNee has accepted a new DNR Forest Health position in Plymouth (Sheboygan County) effective Monday, March 25. He will become the primary DNR contact for forest health issues in 8 southeast counties (Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington and Waukesha). Bill has worked many years as a regional gypsy moth suppression coordinator for northeast Wisconsin and has also been assisting with a number of forest health issues in southeast Wisconsin the last few years. He will now take the reins of the southeast counties on a permanent basis. Mark Guthmiller will continue to serve as the forest health specialist in the south central counties as part of the forest health strategic direction staffing plan. Please welcome Bill to this new position! Staff contact information is posted at the end of the newsletter.



Bill McNee, DNR Forest Health Specialist, Southeast WI

DNR Invasive Species Email List Service- Colleen Robinson Klug

The DNR has created a new invasive species topic on its list of topics available to email subscribers through Gov Delivery. This is a new way for us to communicate information related to invasive species. If you'd like to subscribe, please:

1. visit <http://dnr.wi.gov/> and scroll down to the very bottom of the page,
2. click on the **red envelope** near the words "sign up for DNR updates",
3. enter the email address where you'd like to receive messages to this list serve. Then,
 - a. If your email address is already subscribed to any DNR Gov Delivery topic you'll get to change your subscriber preferences next. This is when you can add topics you would

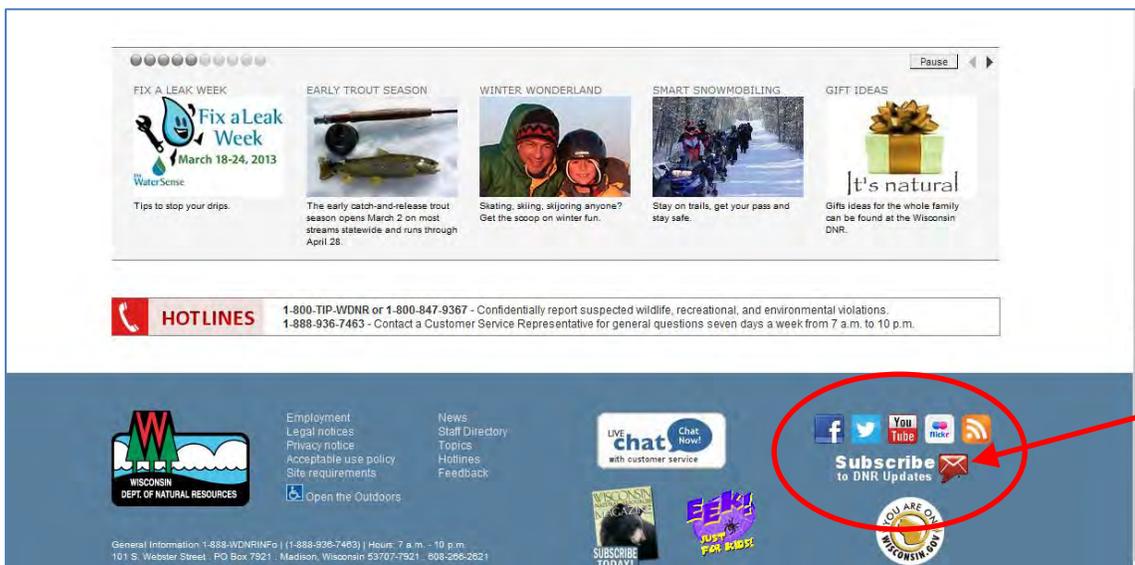
like to receive information about, such as the new one for invasive species. If, in the past, you opted to protect your user preferences with a password, you'll need to enter that first.

- b. If your email address is not already subscribed to any DNR Gov Delivery topics, follow the prompts to sign up for topics you are interested in and create settings for the frequency with which these messages will be sent to your inbox, etc...
4. When you are viewing the pages with the long list of topics, scroll down to the bottom of the first page to find the “invasive species” topic. You can place a check mark next to “invasive species” to receive emails for the entire list of topics nested under “invasive species” OR you can pick and choose individually. There is an option specifically for “forest pests and diseases”.

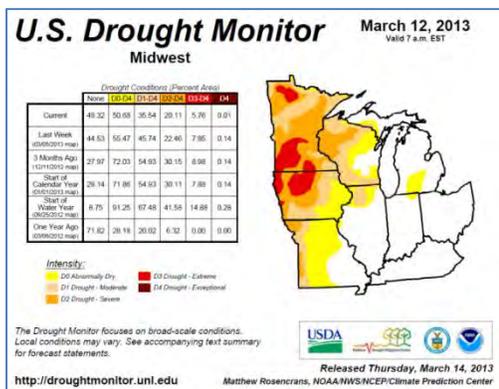
FYI: Gypsy moth spray notifications will still be sent out through the gypsy moth spray update Gov Delivery topic, NOT the invasive species topic.

FYI: To subscribe to receive emerald ash borer updates, visit <http://emeraldashborer.wi.gov> and follow the link on the home page to subscribe.

If you have questions navigating or getting signed up please contact Colleen Robinson Klug, DNR Forest Health Educator at 608-266-2172 or Colleen.robinsonklug@wisconsin.gov



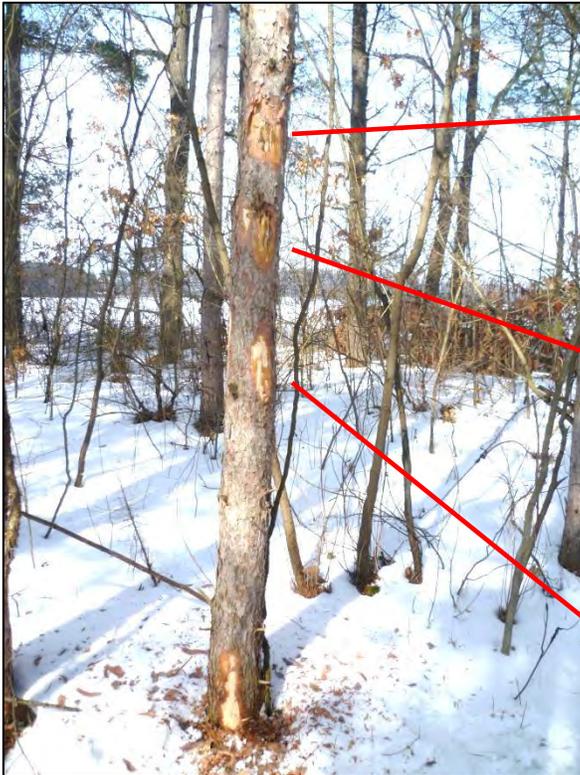
Drought



Drought conditions in southern Wisconsin continue to improve. Some parts of southern Wisconsin reached “extreme” drought conditions this past summer which now have improved to “abnormally dry” or “moderate drought”. This winter moisture has been welcome and should reduce impacts to trees, however we should continue to be aware of some lingering issues such as two-lined chestnut borer and armillaria on oaks, pine engraver beetles on pines, and other pests. We will likely see impacts over the next couple years or even longer (see article on oak decline in Misc. section below). For current drought conditions visit: <http://droughtmonitor.unl.edu/>

Pine Engraver

We are likely to continue to see crowns of pines browning out this spring and summer as Ips bark beetles (pine engravers) get active. They are overwintering in the duff layer as adults and when it finally starts to warm up they will be looking for a tree to start a new family. Stressed pines or fresh slash from a harvest pose the most suitable host material and they can build up in an area and then successfully mass attack healthier pines. Pine engravers attack the upper canopy first and subsequent beetles eventually attack down lower on the main bole. In a recent killed tree it may not be evident at first that bark beetle was the main culprit unless you were able to reach the upper canopy to evaluate. As the bark beetles continue to attack a tree you can find their galleries down at eye level.



Recent (late summer) pine engraver killed red pine



Advanced pine engraver galleries in mid to upper bole that killed the crown of the tree.



A few pine engraver galleries in middle bole.



Lower bole is still fresh and suitable for emerging pine engravers this spring.

Note that the base of the tree also looks fresh and no signs of any root disease or bark beetles.



Pine logs cut during the growing season and stored adjacent to a pine stand



Red pine killed after pine engraver emerged from fresh logs stored next to stand.

Management for Pine Bark Beetles:

Guidelines from the WI DNR Silvicultural Handbook, Red Pine Chapter

Disturbance Agent and Expected Loss or Damage

Prevention, Options to Minimize Losses, and Control Alternatives

References*

Pine Engraver Beetle (Bark Beetles) - *Ips* spp.

Tunneling in inner bark causes mortality in sapling to sawlog sized trees, singly or in pockets. Weakened or storm-damaged trees, trees that have been struck by lightning, and overmature or overstocked stands provide a breeding ground for the beetles. Mortality is usually limited to a few trees during years of normal rainfall. However, during dry summers with suitable breeding material, beetle populations quickly build up and cause large scale mortality.

- Use the pine species and spacing intervals best suited to the site.
- Thin stands to maintain vigorous and healthy growing conditions - Thin between September and March, if practical. If thinning during the growing season, remove harvested timber from the stand within 3 weeks of cutting. Utilize tops down to a 2" diameter. Leave branches attached to stem wood to speed drying.
- Avoid overstocked and overmature stands.
- Promptly salvage or destroy potential breeding material, such as pines that are severely damaged by wind, lightning, fire, disease, insects, or other destructive agents.
- If trees have low vigor due to drought, defoliation, or disease, consider a pre-salvage harvest.
- Harvest newly infested and adjacent trees before the following spring to reduce local populations.
- Utilize as much of each harvested tree as possible.
- Minimize logging damage to residual trees.

- Pine Bark Beetles in Wisconsin. 2007. Wisconsin DNR. Division of Forestry.
- Bark Beetle Pest Alert: Southern Pine Engraver (*Ips grandicollis*) M. Guthmiller. 2003. Wisconsin DNR. Division of Forestry.
- How to identify and manage pine bark beetles. 2000. Minnesota DNR. Division of Forestry.

Gypsy Moth – Bill McNee

DNR Forest Health has updated its list of aerial applicators that can be hired to do aerial spraying for gypsy moth or other forest pests. It can be found online at:

<http://gypsymoth.wi.gov/documents/AerialApplicators.pdf>.

It will be about a month until gypsy moth egg masses start hatching in southern Wisconsin. Property owners who are interested in reducing gypsy moth populations should consider oiling or removing reachable egg masses well before then. Horticultural oils that suffocate the eggs are available at many garden centers and large retailers. In general, these are applied when temperatures are above 40° and freezing is not imminent. If removing egg masses, scrape them into a can of soapy water and then let them soak for a few days before discarding in the trash. Additional management options for homeowners and woodlot owners are available at www.gypsymoth.wi.gov.

Property owners looking to hire a business to do insecticide treatments this spring should contact them 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. For larger areas, a guide to organizing aerial spraying and a list of for-hire aerial applicators is available on the state's gypsy moth

website, www.gypsymoth.wi.gov



Oiling gypsy moth egg masses

Egg Hunt at the Park

Gypsy Moth Hatch and Development at Governor Dodge State Park

As Bill mentioned above, there is still time to get out and oil gypsy moth egg masses once temperatures rise above 40 degrees. As part of the gypsy moth suppression treatment planned at Governor Dodge State Park, property staff were recruited for a morning egg hunt last week. A number of gypsy moth egg masses within eye level were tagged. These egg masses will be left to monitor hatch and caterpillar development. This hatch and development data is important for timing treatment. The product used to treat is a Btk formulation and this product is most effective on the very early instar or caterpillar stage when they are very small. With a successful egg hunt we are now ready for warm temperatures and hatch is likely a month away. The remaining un-tagged egg masses are now be fair game for another egg hunt for park staff

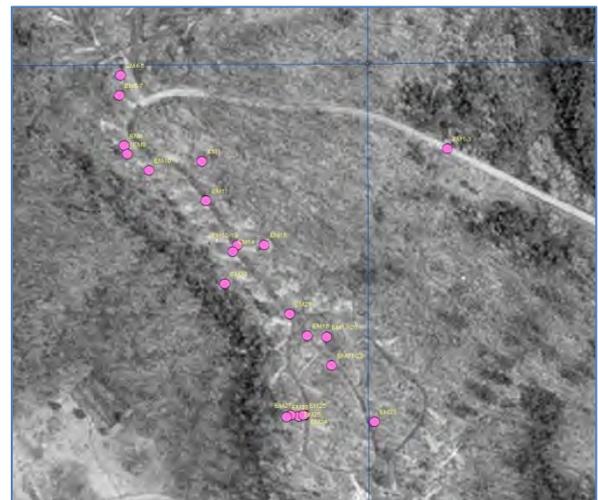
to oil. Oiling gypsy moth egg masses helps reduce damaging populations. This oiling effort can even be beneficial within a spray block.



Governor Dodge State Park gypsy moth egg mass hunting recruits. Thanks for your assistance!



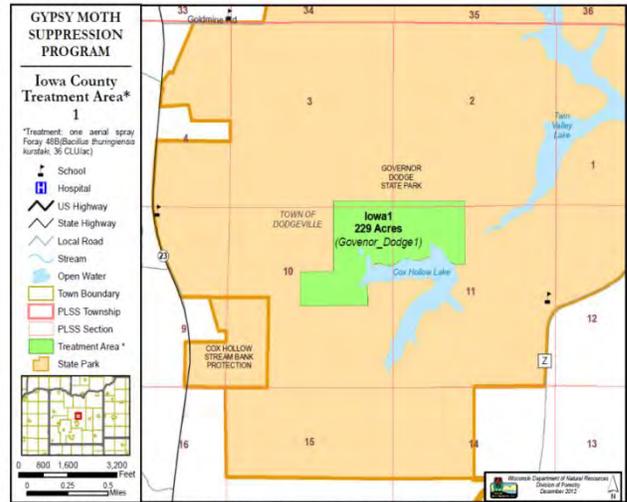
A tagged gypsy moth egg mass used to monitor hatch and time aerial treatments later this spring.



A map was created from the successful egg hunt to facilitate revisiting tagged egg masses for hatch monitoring.

Governor Dodge State Park Gypsy Moth Suppression Treatment Block

As mentioned last month, Wisconsin DNR Parks and Forest Health programs are planning a 229 acre gypsy moth treatment block this spring for Governor Dodge state park. This appears to be an isolated area where populations have blown up to damaging levels. For more information and to sign up for email updates on spray activities visit www.gypsymoth.wi.gov



Governor Dodge State Park Proposed Gypsy Moth Suppression Block (map by Courtney Klaus, WI DNR)

Emerald Ash Borer – Bill McNee Woodpecker Damage to EAB infested tree

Late winter is a great time to observe woodpecker flecking and potentially find new EAB infestations or expansions of known infestations. Several new or suspected infestations have recently been found in southeast Wisconsin, and a number of infestations have also seen an expansion of the known-infested area. Unfortunately, EAB populations in the southeast counties appear to be exploding and EAB impacts are likely to follow. For a current listing of detections visit:

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

Ash Silvicultural Recommendations Revised

The DNR silviculture team has revised our EAB silviculture recommendations, to reflect the dwindling of large-scale trapping projects. The new recommendations are available at: http://datcpservices.wisconsin.gov/eab/articleassets/Management_Guidelines_for_Wisconsin_Forests.pdf. Active management should be considered if a property is in a quarantined county, or outside of one but still within 15 miles of a known infestation.



Woodpecker flecking on an EAB infested tree

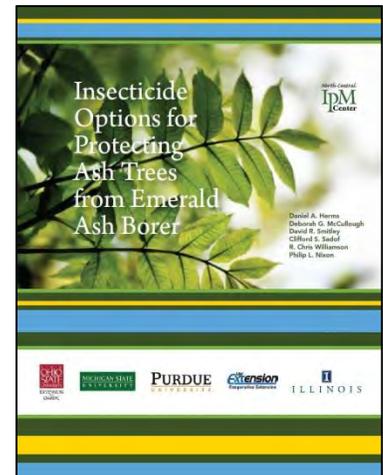
Revised EAB silvicultural guidelines

Community-Based EAB Detection Options Guide

The DNR Urban Forestry program has updated its recommendations for community-based EAB detection efforts. The document can be found online at:
<http://dnr.wi.gov/topic/UrbanForests/documents/EABToolBox/EAB-OptionsForLocalDetectionEfforts.pdf>.

EAB Treatment Information and Resources

In the upcoming weeks, property owners and local governments in quarantined counties should consider making arrangements for spring insecticide treatments of their high-value landscape ash that they wish to protect. A detailed brochure is available online at:
<https://datcpservices.wisconsin.gov/eab/articleassets/InsecticideOptionsForProtectingTreesFromEAB.pdf>. The current recommendation is to consider treating high-value trees with insecticide if within 15 miles of a known EAB infestation. 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.



Insecticide Options for Emerald Ash Borer' brochure.

Thousand Cankers Disease

Webinar Series Planned (March 28, April 25, May 30)

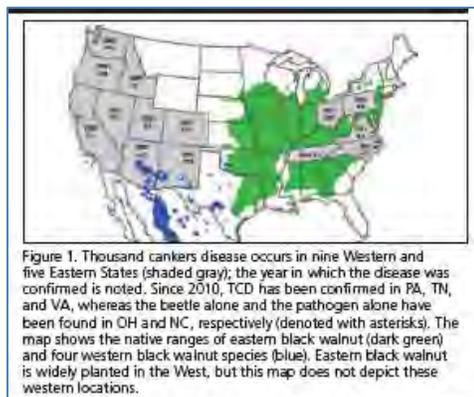
A series of three webinars are being offered this spring. The webinars are being brought to you by efforts of the USDA Forest Service State & Private Forestry and Forest Health Protection, Hardwood Tree Improvement & Regeneration Center at Purdue University, Purdue University Department of Entomology, and Walnut Council.

For more information on these seminars and Thousand Cankers Disease visit the link below. Note that if you are not able to attend the webinar dates the webinars will be available for later viewing:
<http://thousandcankers.com/>

Updated TCD Pest Alert

The USDA Forest Service has recently updated the pest alert document including an updated map of the current states where TCD has been detected. To view the full pest alert:

http://na.fs.fed.us/pubs/palerts/cankers_disease/thousand_cankers_disease_screen_res.pdf

The image is a USDA Forest Service Pest Alert for Thousand Cankers Disease. It includes a title "Pest Alert" and "Thousand Cankers Disease". The text describes the disease and its symptoms, including branch mortality, numerous small cankers on branches and the bole, and evidence of bark beetles. It also mentions the fungus Geosmithia morbida and the beetle Scolytus multistriatus. The alert includes a map of the United States showing the distribution of TCD, and two photographs: Figure 2 shows a winged black walnut in the fall stage of thousand cankers disease, and Figure 3 shows small branch cankers caused by Geosmithia morbida.

United States Department of Agriculture Forest Service Northeastern Area State and Private Forestry 616-19-02-02 Revised February 2012

Thousand Cankers Disease

Dielack and mortality of eastern black walnut (*Juglans nigra*) in case of Western States have become more common and severe during the last decade. A tiny bark beetle is creating numerous galleries beneath the bark of affected branches and the main stem, resulting in fungal infection and crown formation. The large numbers of cankers associated with dead branches and the stem suggest the disease's name—thousand cankers disease.

The principal agents involved in this disease are a newly identified fungus (*Geosmithia morbida*) and the walnut twig beetle (*Phytobius juglandis*). Both the fungus and the beetle only occur on walnut species and a closely related tree called wingnut (*Protoraxys sp.*). Infested trees can die within 3 years of initial symptoms.

Thousand cankers disease has been found in nine Western States (Figure 1). Since 2010, the fungus and the beetle have also been found east of the Great Plains. This disease is expected to spread in eastern forests because of the widespread distribution of eastern black walnut, the susceptibility of this tree species to the disease, and the capacity of the fungus and beetle to invade new areas and survive under a wide range of climatic conditions in the West.

Disease Symptoms

The three major symptoms of this disease are branch mortality, numerous small cankers on branches and the bole, and evidence of bark beetles. The earliest symptom is yellowing foliage that progresses rapidly to brown wilted foliage, then finally branch mortality (Figure 2). The fungus causes distinctive circular to oblong cankers in the alburnum under the bark, which eventually kill the phloem and cambium (Figure 3). The bark surface may have no symptoms, or a dark amber to black stain or cracking of the bark may occur directly above a canker. Numerous tiny bark beetle entrance and exit holes are visible on dead and dying branches (Figure 4), and bark beetle galleries are often found within the cankers. In the final stages of disease, even the main stem has beetle attacks and cankers.

Geosmithia morbida

Members of the genus *Geosmithia* have not been considered to be important plant pathogens, but *Geosmithia morbida* appears to be much more virulent than related species. Aside from causing cankers, this fungus is monophagous. Currently, neither cultured on an agar

Figure 1. Thousand cankers disease occurs in nine Western and five Eastern States (shaded gray); the year in which the disease was confirmed is noted. Since 2010, TCD has been confirmed in PA, TN, and VA, whereas the beetle alone and the pathogen alone have been found in OH and NC, respectively (denoted with asterisks). The map shows the native ranges of eastern black walnut (dark green) and four western black walnut species (blue). Eastern black walnut is widely planted in the West, but this map does not depict these western locations.

Figure 2. Winged black walnut in the fall stage of thousand cankers disease.

Figure 3. Small branch cankers caused by *Geosmithia morbida*.

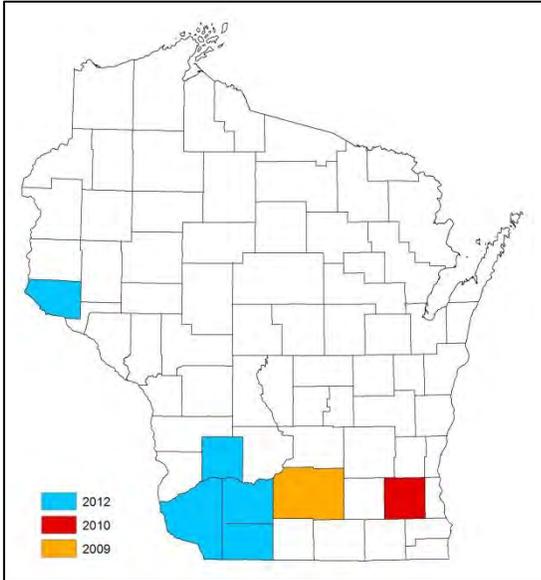
New USDA Forest Service pest alert on TCD, with revised map including new detections (Grey shaded states)

Banded Elm Bark Beetle-Renee Pinski

Taken in part from 2012 DNR Forest Health Annual report:

<http://dnr.wi.gov/topic/ForestHealth/documents/AnnualReport2012.pdf>

The banded elm bark beetle, *Scolytus schevyrewi*, (BEBB, Figure 1) is an exotic bark beetle native to northern China, central Asia and Russia. Although the beetle was first identified in North America in 2003, museum collection specimens confirm its presence as early as 1994. The host range of BEBB in the U.S. includes American, Siberian, English and rock elm.



Recent 2012 detections of BEBB from traps
(blue counties)



Banded elm bark beetle adult. Adult beetle size is 3-4 mm. Photo courtesy of Pest and Diseases Image Library, Bugwood.org.

In 2012, BEBB specimens were collected from pheromone-baited traps used to survey for the walnut twig beetle in Grant, Iowa, Lafayette, Pierce and Richland Counties.

Severe infestations of BEBB have been found to kill drought-stressed trees. Banded elm bark beetles are also suspected to vector the fungal pathogen causing Dutch elm disease, *Ophiostoma novo-ulmi*. In Wisconsin, banded elm bark beetles are often found at seemingly low population levels and intermixed with higher populations of the smaller European elm bark beetle, *Scolytus multistriatus*.

The impact of BEBB on the elm resource in Wisconsin is uncertain. However, good sanitation practices are always recommended in order to keep elm bark beetle populations low. Remove and destroy infested trees or materials by debarking, chipping or burning. Dead trees with the bark no longer attached are not a threat. Avoid moving firewood long distances and cover freshly-cut elm firewood with plastic sealed at the bottom with dirt. This will prevent new attacks to fresh cut wood and may reduce emergence from infested firewood. Additionally, during a prolonged dry spell consider watering yard trees to fend off threatening invasions.

Miscellaneous

“Oaks in the Red” news article

This is an interesting article on oak decline in Missouri and gets into impacts of drought and other issues. One discussion point that should be of interest here in Wisconsin was:

“They found that mortality usually lagged 2 to 3 years behind a single drought event. Their data also showed that the cumulative impact of droughts on red oak decline and mortality might last up to 10 years, and can play a major part in the large-scale decline and death of red oaks.”

To read the full article:

http://www.srs.fs.usda.gov/compass/2013/03/05/oaks-in-the-red/?utm_source=rss&utm_medium=rss&utm_campaign=oaks-in-the-red

Asian Longhorned Beetle Eradicated in New Jersey

After an 11 year battle with the Asian Longhorned Beetle in New Jersey, USDA and state officials have finally declared the pest to have been eradicated (eliminated) from the state. Read more at:

http://www.nj.com/middlesex/index.ssf/2013/03/nj_is_free_of_a_sian_long-horne.html.

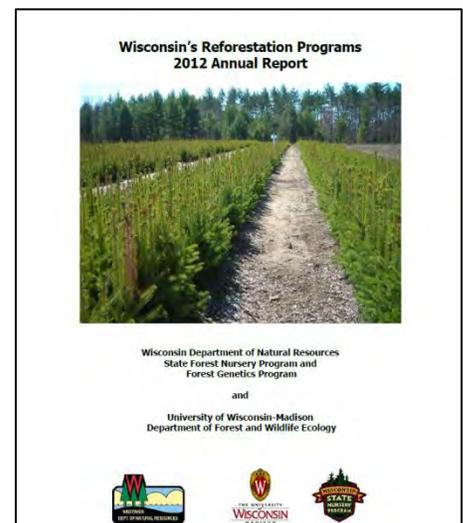


Asian longhorned beetle adult.
Photo from www.forestryimages.org

Wisconsin’s Reforestation Projects 2012 Annual Report

From the report introduction: The Wisconsin Department of Natural Resources’ (WDNR) reforestation efforts consist of three linked programs; 1) the Tree Improvement Program, a WDNR collaboration with the U.W. - Madison Department of Forest and Wildlife Ecology which works to ensure WDNR tree seedlings are well adapted to Wisconsin growing conditions and have a high potential for survival and growth; 2) the State Forest Nursery Program which produces and ships native forest tree seedlings for reforestation projects from facilities in Boscobel, Wisconsin Rapids and Hayward to customers throughout Wisconsin; and 3) the Reforestation Monitoring Program which monitors out-planted seedlings to assess seedling survival, growth, and long-term health.

<http://dnr.wi.gov/topic/TreePlanting/documents/treeImprovement-2012.pdf>



Wisconsin’s Reforestation
Programs 2012 Annual Report

Timber mats in the news..timber what? Timber mats: Potential Conduit for Invasives

Carmen Hardin, Science Section Chief, forwarded staff this interesting Minnesota article on a potential pathway for introduction of invasive plants and forest pests.

<http://www.dnr.state.mn.us/fid/february2013/timbermats.html>

Central States Forest Health Watch

This publication is a cooperative effort between the states of Illinois, Indiana, Iowa, Missouri and the USDA Forest Service.

<http://na.fs.fed.us/fhp/fhw/csfhw/2013/130304-feb-csfhw-feb26version1.pdf>



Caffeine Buzz...literally

New research has found that even bees like their jolt of caffeine. Some plants have been found to produce caffeine in their nectar as a way to improve the memory of bees, and make the bees more likely to return to their flowers and increase the plant's pollination.

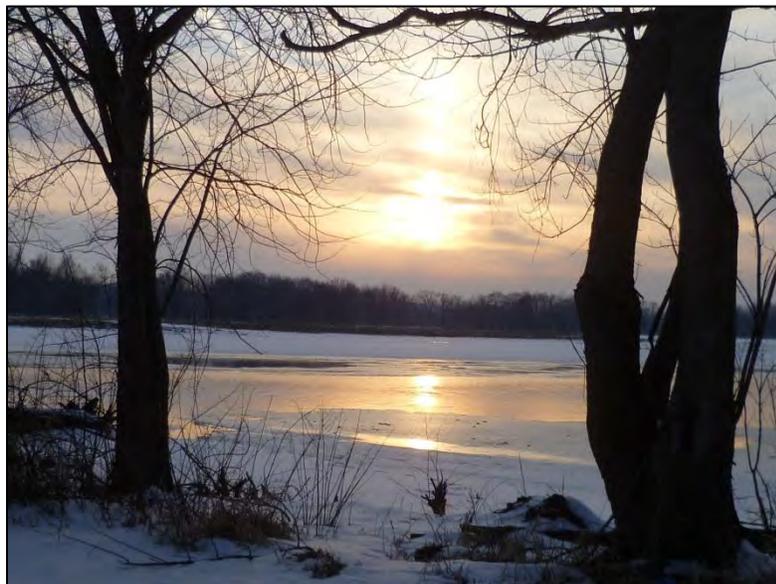
Read more at: <http://www.nytimes.com/2013/03/08/science/plants-use-caffeine-to-lure-bees-scientists-find.html?hp&r=0>.

Pesticide Applicator Certificate Training Reminder-Kyoko Scanlon

This is a reminder that Pesticide Applicator Certificate Training for Forestry will be held in Weston on 3/29. You can still sign up for it on-line at https://patstore.wisc.edu/secure/browse_cat.asp?category_id=8. The class will review materials in the training manual, and there will be a certificate test at the end. The registration fee is \$25. Since there is only 10 days left, if you decide to sign up for the class on 3/29, please try to obtain the training manual as soon as possible. You need to read the manual prior to the session to get the most out of the training (and pass the test).

Also, another Forestry training session was recently added. There will be a session in Ashland on April 10, 2013. You can sign up for it on line as well. More information about the training sessions (starting time, directions, etc.) can be found at <http://ipcm.wisc.edu/pat/13-trainingschedule/>. For general information about the pesticide applicator training, please visit UW PAT website at <http://ipcm.wisc.edu/pat/>.

I can't stress enough that you need to read the training manual to pass the certificate test. Decades of life experience, common sense, instinct, and luck all combined are often not enough to pass the test. But reading the manual does work. Good luck!



SOR Forest Health Assistance

Wisconsin DNR, Forest Health Protection Unit

March 2013

Contacts for DNR staff, municipal foresters, and forestry cooperators

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Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington, and Waukesha

DNR Forestry is structured under districts and Forest Health coverage is structured under regional boundaries.

For a statewide forest health staff list:
<http://dnr.wi.gov/topic/ForestHealth/staff.html>

Additional Program Web-based Resources:
 WI DNR Forest Health web site:
<http://dnr.wi.gov/topic/ForestHealth/>

Report Emerald Ash Borer:
 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://gypsymoth.wi.gov>

(It is also recommended to report gypsy moth to your local government)

Please direct public inquiries regarding yard tree concerns to UW county or state extension offices: <http://www.uwex.edu/ces/cty/>

[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.]

