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.

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

<table>
<thead>
<tr>
<th>Disturbance Agent and Expected Loss or Damage</th>
<th>Prevention, Options to Minimize Losses, and Control Alternatives</th>
<th>References*</th>
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| 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.  
• 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.
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

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.

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:

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.

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:
Banded Elm Bark Beetle—Renee Pinski

Taken in part from 2012 DNR Forest Health Annual report:

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.

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

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.
“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:

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:

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.
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.

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!
Contacts for DNR staff, municipal foresters, and forestry cooperators

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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.]