Southern Region Forest Health Update

Wisconsin DNR, Forest Health Protection Unit

June 7th, 2013 Vol. 10 No. 4

Topics in this update

Articles in this newsletter were written by Mark Guthmiller, Regional Forest Health Specialist, unless otherwise noted. Thanks to all the contributors in this addition!

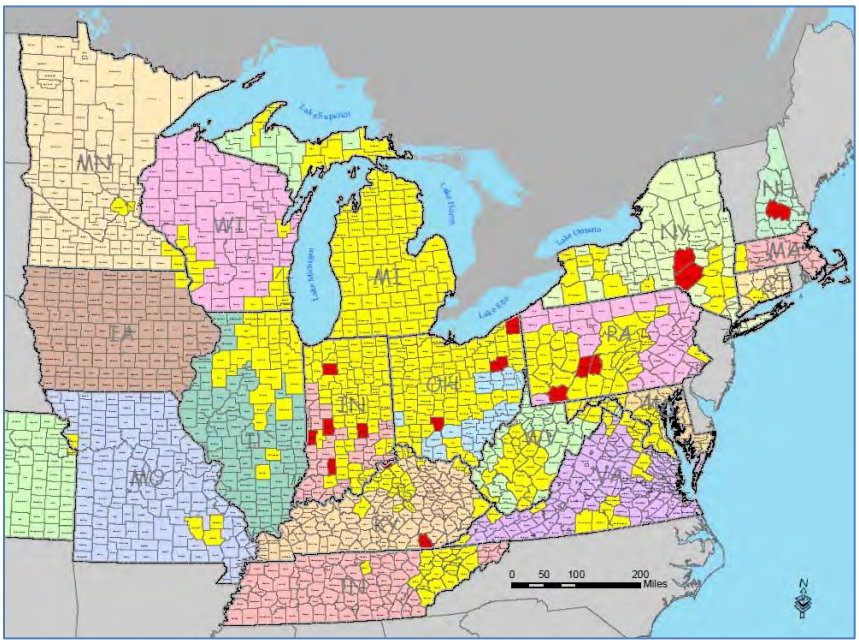
Emerald Ash Borer – Bill McNee

New Detections

Within the last two weeks, there have been several new EAB detections in counties already quarantined for EAB:

- Village of Fredonia (Ozaukee County)
- Town of Farmington (Washington County)
- Town of Salem (Kenosha County)

EAB adults are expected to begin emerging in southwest and south-central counties in early June. Emergence in areas closer to Lake Michigan is not predicted until mid-June. There is still time to apply some insecticide products this spring, if done very soon. For more information, visit www.emeraldashborer.wi.gov. It is too late in the season to apply others, so tree owners will have to examine their treatment options carefully.

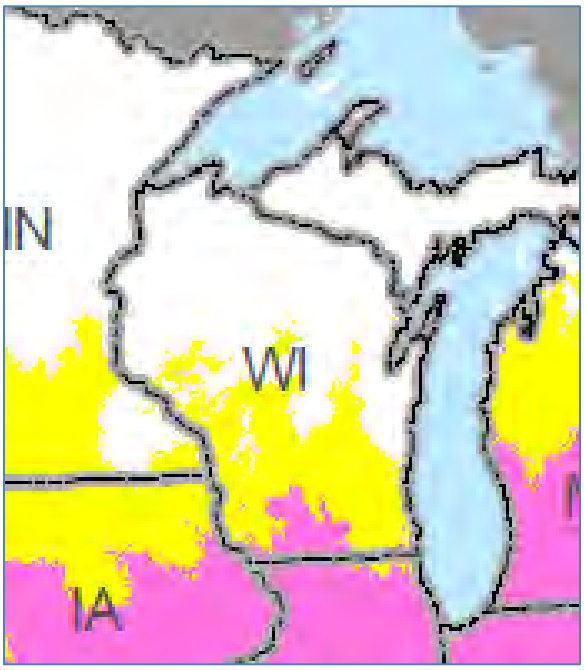


Counties with first EAB detections in 2013 (as of June 3) are shown in red. Counties shown in yellow had first detections in earlier years. Map by USDA APHIS PPQ.

For a full list of Wisconsin communities where EAB has been detected visit: EAB Infested Wisconsin Communities as of May 31st

EAB Predicted Emergence

Emerald ash borer adult emergence can be predicted in a region based on accumulated growing degree days. The most recent analysis indicates emergence has likely started in south central Wisconsin and will soon be approaching first emergence in most of southern WI in the near future. **(NOTE: this map represents where EAB could be emerging if it were present in these areas and NOT where we know EAB is located).**

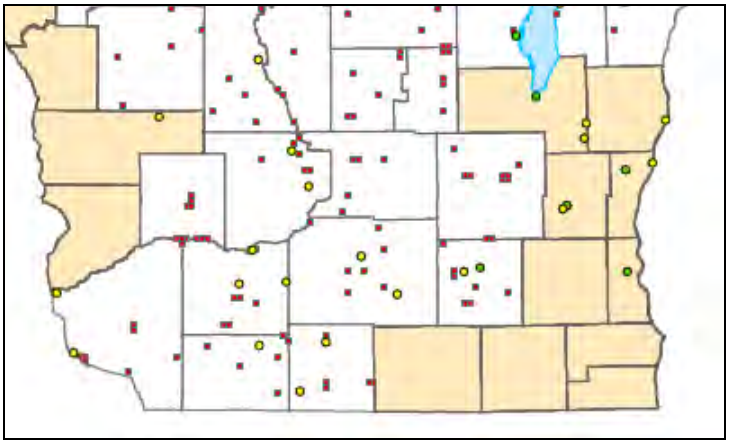


Degree Data by Dan Borchert, USDA APHIS.

EAB Trapping in Wisconsin

Two types of EAB detection traps will be used in limited numbers in southern Wisconsin this summer. Double-decker traps will be used at 18 sites on state parks and forests. The Wis. Dept. of Agriculture, Trade and Consumer Protection (DATCP) will be hanging standard purple traps at numerous high-risk sites. These standard traps are also being used by several communities doing their own EAB detection trapping.

EAB double-decker detection trap. Photo by Bill McNee, WI DNR.



EAB trapping locations in southern Wisconsin. Yellow circles = DNR properties; Green circles = municipal surveys; Red squares = DATCP high-risk trapping site. Map by Wisconsin DATCP.

EAB Wasp Releases

Releases of the tiny, stingless 'EAB wasps' will start soon in southeast Wisconsin, with the release of the larval parasitoid, *Tetrastichus planipennisi*. This species attacks EAB larvae beneath the bark. A second species that attacks EAB eggs, *Oobius agrili*, will be released later this summer. These two species have already been released near Newburg (Ozaukee/Washington Counties) and Victory (Vernon County), as well as at a number of sites in northern Illinois. It is expected that these wasps will help to reduce EAB populations and slow the rates of population buildup and tree mortality. The wasps are being released in the Root River Parkway (Milwaukee/Racine Counties), the City of Kenosha, and at Big Foot Beach State Park (Walworth County). By the end of 2013, these wasps will have been introduced into at least 15 states since they were first released in 2007. A third species (*Spathius agrili*) will not be released in Wisconsin this year because post-release surveys have found that this species does not establish very well in the colder upper Midwest states.

The *Tetrastichus* wasps are being introduced through the use of small ash bolts that have wasp-parasitized EAB larvae inside them. These are placed out in the woods at the appropriate time of year, and when the adult wasps are ready to emerge, they fly away and attack EAB larvae in their new environment.

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Tetrastichus planipennisi adult. Actual size is about ¼" in length. Photo by USDA APHIS

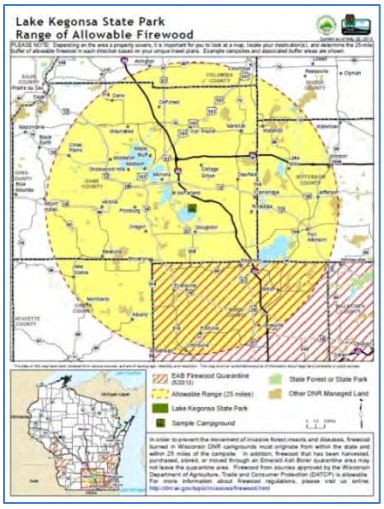
Ash log bolts used to introduce the EAB parasitoid, *Tetrastichus planipennisi.* Photo by USDA APHIS.

A new study done near Lansing, Michigan has found that the wasp, *Tetrastichus planipennisi,* is spreading and killing many EAB life stages since it was first released in 2007. By the fall of 2012, the proportion of infested trees containing the wasp increased from 33% to 92% in the plots where the wasps were released. EAB parasitism rates increased from 1% to 21% over the five year period. More information can be found online at: http://www.eurekalert.org/pub_releases/2013-06/esoa-cwa053013.php.

Updated Firewood Allowed Maps for DNR Properties

The DNR has produced updated maps showing the 25 mile area from which hardwood firewood is allowed into state parks and forests, available at: DNR Property Firewood Maps Hardwood firewood being brought into a state park or forest must be all of the following:

1. from within Wisconsin;
2. from within 25 miles of the state property; and
3. from outside a quarantined area, unless the property is also within a quarantine.



Sample map showing the area where non-certified hardwood firewood is allowed in a state park.

Gypsy Moth – Bill McNee

Mature gypsy moth caterpillar.

Wisconsin's first gypsy moth hatch was seen on May 6 in Rock County. This a fairly late hatch in comparison to average years, and especially late when compared to the warm spring of 2012, when the first hatch was seen on April 2 in Green County.

Southwest and south-central Wisconsin should have inch-long gypsy moth caterpillars present as of early June. Most caterpillars should be about ¾" to 1" in length in these areas, and smaller in the cooler counties near Lake Michigan. Preparing burlap collection bands on ornamental host trees (oak, birch, crabapple, etc.) would be appropriate at this time if they have not already been prepared. Check the burlap each afternoon and destroy or use soapy water to drown any caterpillars found. Insecticide treatment of individual trees is another control option if caterpillars are very numerous. More information can be found at: www.gypsymoth.wi.gov.

As of June 5, we have received a handful of caterpillar reports from northern Wisconsin, but have not received any reports from southern counties. If populations are high enough, feeding damage and nuisance caterpillars should become much more apparent over the next two weeks.

Nuisance caterpillars and defoliation can be reported to local community governments or to the DNR gypsy moth hotline, 1-800-642-MOTH. Reports can also be emailed to: dnrfrgypsymoth@wisconsin.gov.

The Wisconsin DNR Gypsy Moth Suppression Program had only one treatment block this season. Aerial spraying was completed at Gov Dodge State Park on May 21. Wisconsin Department of Agriculture continues treatments in western Wisconsin as part of the national "Slow the Spread" program. For updates visit: www.gypsymoth.wi.gov. You can also sign up for e-notifications if interested at this site.

Two young teenage boys have written a song, "Gypsy moths all ova da place," available on YouTube: http://www.youtube.com/watch?v=zaKcUF4L5Ec&feature=youtu.be .

Walnut Twig Beetle and Thousand Cankers Surveys

(From Becky Gray, DNR forest health team supervisor)

The WI DNR forest health program is continuing to monitor and survey for "thousand cankers disease" of black walnut. This is an insect and fungal disease complex that has been killing walnuts in the western US for a number of years. In 2010 the disease was confirmed for the first time in the native range of black walnut in the state of Tennessee. Since then, the disease was confirmed in other eastern states such as Pennsylvania (2011), Virginia (2011) and North Carolina (2013). Evidence of the walnut twig beetle has also been reported in Ohio, but no diseased walnut trees have been identified.

DNR Forest Health trapper, Scott Schumacher, sets a 4-funnel trap for walnut twig beetle.

For this upcoming growing season we are alerting municipal staff that we are interested in getting reports of municipal terrace and park black walnut trees that are showing signs of decline or have recently died. Reports from homeowners regarding private walnut trees should be referred to an arborist or UW-extension program.

For more information and identification of "thousand cankers disease" visit:
http://dnr.wi.gov/topic/ForestHealth/ThousandCankers.html

To direct homeowners with concerns of their private trees, they can be directed to:
UW Extension county offices: http://www.uwex.edu/ces/cty/

and/or

UW Plant Disease and Diagnostics Lab: http://labs.russell.wisc.edu/pddc/contact-us/

Additional resources regarding thousand cankers disease:
http://thousandcankers.com/

Annosum Root Rot

I have followed up with a couple pine plantation site visits with suspect annosum root rot recently. Annosum fruiting bodies (conks) are perennial in nature and go dormant over winter and start growing the following season. New forming conks are referred to "the popcorn stage" and may now be commonly observed in infested stands. You may also still see old deteriorated conks from last season. Breaking off a conk and looking at the underside may show the new bright white pore surface starting to grow again. With abundant spring moisture, this has so far been a good year for conk formation. By early fall you may see large conks on infested stumps and trees. Report any new suspect annosum infested stands to your forest health specialist.

Hard to spot annosum conk at base of a dead standing red pine.

New pore surface forming on previous year conk growth.

For more information on this disease visit:
DNR Topic Annosum Root Rot

To see where annosum has been detected and to determine risk and guidance on preventative stump treatment visit:
Annosum Root Rot Treatment Guide

A white stringy root rot indicative of annosum root rot on a downed tree.

Reporting Invasive Species – Nisa Karimi, Invasive Plants Specialist

Please Report Invasive Species Occurrences!
Reporting invasive species occurrences is critical to better understanding species distribution patterns across the landscape, predicting species migrations, and providing us the information needed to rapidly respond to and control invasive species before they spread into new areas. For example, Kudzu (*Pueraria lobata*), an invasive species sometimes referred to as "the vine that ate the south" is currently found in Illinois, but is reported to be migrating north.
Depending on your technological preference, there are 3 easy ways to contribute to the invasive species tracking and reporting effort in the state:

1. **SmartPhone App.** The Great Lakes Early Detection Network (GLEDN, http://www.gledn.org/), in collaboration with the Early Detection Distribution and Mapping System (EDDMapS, http://www.eddmaps.org/), has recently developed a smartphone app for the iPhone and Android operating systems. This app utilizes your device's internal GPS capabilities to send location information directly to the network, along with images for verifiers to confirm the species. Data is then added to the network to help track the invasive species across the country.

   You can download the free app from this site: http://apps.bugwood.org/mobile/gledn.html.
2. **Online Reporting.** Visit the Great Lakes Early Detection Network (GLEDN) website at http://www.gledn.org/. No registration is needed. Simply click the button *Report An Invasive Species* and provide the latitude and longitude coordinates or use the interactive map to pinpoint an accurate location. Include a photograph and site description.

   For early detection species, submit reports via the DNR Invasive Plant Report Form on our website at: dnr.wi.gov; keyword: "report invasives." This form allows DNR staff to track more detailed information including invaded habitat type descriptions, size of populations, and phenology notes. Please include photographs.

3. **Send an Email.** You can also send a report via email to invasive.species@wisconsin.gov. Include a detailed geographical location and a photograph. Any other information regarding the invaded habitat type (forest, grassland, wetland), and the size of the population is helpful.

"Early Detection" Invasions – Himalayan Blackberry - Have You Seen This Species?
Be on the lookout for Himalayan blackberry! An emerging threat in the state of Wisconsin is *Rubus armeniacus*, also known as Himalayan blackberry. An abundant source of blackberries sounds like a pie-makers dream, but this species creates impenetrable thickets of thorns and inhibits native plants survival and establishment. This new species potentially poses a great threat to Wisconsin's many native species of raspberries and blackberries, and greatly impacts forest health. Currently, this species has only been reported in isolated areas in Vernon County; however, it is highly likely that this species exists elsewhere. To the untrained eye, it may be difficult to distinguish this plant from our many native species. Here are a few ways to help identify Himalayan blackberry versus native species:

- Stems or canes are greenish to reddish and woody. Stems are distinctly angular or have edges, while many native species have rounder stems. Native species also often contain a whitish powdery residue on the stems, while the non-native does not.
- Fruits typically ripen much later in the season than native species.

- Stems die back each year; however, the previous year's thick stalks remain standing throughout the winter, making them easier to spot. Erect stalks reach greater lengths than our native species, often double in size than the surrounding native *Rubus spp*.
- In western United States, where this species has resulted in serious economic and ecological consequences, the underside of the leaves are silver in color, with the upper leaves green; however, this has not yet been observed in the Wisconsin populations.

Please report this species! Include photographs and the exact location. Send the report to: invasive.species@wisconsin.gov.

Native blackberry species: many of the native species can be distinguished from the invasive Himalayan blackberry by their rounder stems and whitish powder.

Invasive Himalayan blackberry: notice the distinct angles or edges on the canes of Himalayan blackberry.

Invasive Himalayan blackberry: alternate, palmately compound leaves occur in clusters of 3-5 toothed leaflets.

Invasive Himalayan blackberry: the large dried canes remain erect into the following growing season, making them easy to spot year-round.

Invasive Himalayan blackberry: dried fruit receptacles remain visible into winter.

Anthracnose and Rhizosphaera Needle Cast

The long cool wet spring weather this year has been very conducive for some fungal diseases. Anthracnose is a general term applied to a number of fungal species that cause mainly leaf necrosis to hardwood trees. Specific fungal species impact certain tree species and some tree species are more susceptible than others. The same weather conducive to anthracnose will also be conducive to needle cast diseases and we should expect to see continued problems with spruces in particular. Rhizosphaera needle cast is the primary needle cast disease on spruce although other fungi may be involved.

Here is a nice write on anthracnose fungi from UW Extension:
http://hort.uwex.edu/articles/anthracnose

Oak Anthracnose

Oak anthracnose is a common fungal disease of oaks, especially white oak, which is most susceptible. Symptoms may often alarm a landowner who might suspect oak wilt. With this disease one would expect to see browning necrotic leaves worse in the lower canopy and the inner crown where conditions are more conducive to fungal growth. Oaks growing in low areas, dense plantings, and areas with minimal wind movement may be more susceptible. For the most part this disease is mostly cosmetic. However, severe and multiple years of defoliation by anthracnose could be an added stress to the trees.

Suspect oak anthracnose on white oak leaf. Pay attention to leaf symptom patterns in the crown. See links below. Photo submitted by Todd Kenefick, Richland County.

For more information on oak anthracnose visit Minnesota Extension:
UMN Extension Oak Anthracnose

Here is a nice comparison article between oak wilt and oak anthracnose:
UMN Extension Comparison Oak Wilt and Oak Anthracnose

For a nice picture of oak wilt showing marginal necrosis on a white oak leaf see photo #5 on page 3:
Iowa DNR Oak Wilt Publication

Ash Anthracnose-Bill McNee

Lately we have been receiving frequent calls and samples that turn out to be caused by ash anthracnose, a fungus that causes cosmetic damage to ash leaves (frost damage could also be a cause of leaf damage this spring). The cool, wet spring weather has greatly favored this disease. Heavily-infected trees drop their leaves, but this is unlikely to cause tree mortality or long-term problems. It is too late to do anything this spring, and trees should refoliate within a few weeks.
Tree owners interested in treatments can rake and remove fallen ash leaves in the fall (bury, compost, or burn where allowed). Fungicide treatments can be done in the spring and should start at bud break. Multiple treatments are often done as the leaves develop. More information can be found at UW Extension Horticulture Anthracnose.

Individual ash leaves from a leaflet showing browing and curling indicative of ash anthracnose. Photo by Mark Guthmiller, WI DNR

Rhizosphaera Needle Cast of Spruce

Rhizosphaera needle cast, a common fungal needle disease of spruce, has been observed in recent years causing a fair amount of damage to lower and mid branches on spruce trees in southern Wisconsin. Other fungal species may also be involved but so far Rhizosphaera needle cast has been considered the main culprit. With the wet spring weather we will likely continue to see problems on this tree species. Often lower branches and the previous year's needles are lost. Infected needles still hanging on often have a slight purplish appearance. For homeowners with concerns recommending low branch pruning or thinning dense stands of spruce plantings to allow air movement may reduce risk. If timed properly, preventative fungicides can also be a consideration for highly valued trees. Contacting a certified arborist may be the best course of action in this case.

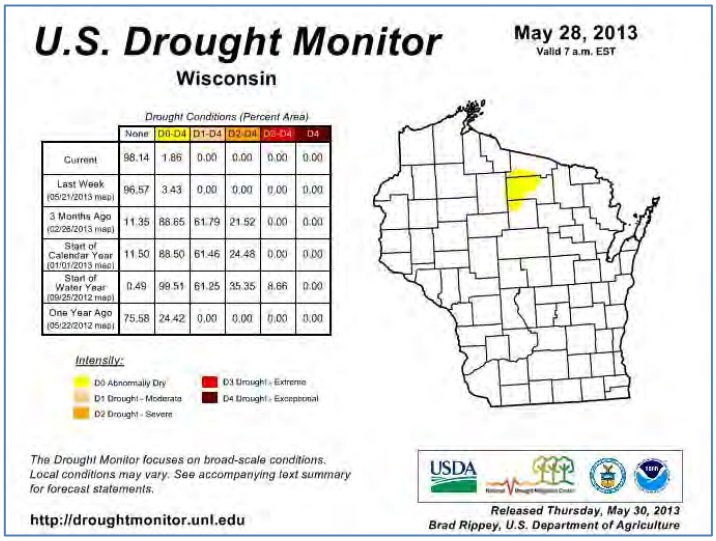
A photo submitted by forester, Mike Sieger, in 2011. Here a spruce tree is showing symptoms of Rhizosphaera needle cast on previous years needles. If disease is severe enough the lower branches will die.

For more information on Rhizosphaera needle cast visit:
[UW Extension Horticulture Rhizosphaera Needle Cast]

Miscellaneous

Spring Temperatures and Precipitation – Bill McNee

So far this spring we have had an April where average daily highs were several degrees cooler than average, and a May where average daily highs were slightly warmer than average. Average daily highs in Madison and Milwaukee were 3-6 degrees higher in April and May of 2012, compared to the current year.
The wet winter and spring has resulted in very little of Wisconsin remaining under drought conditions. As of late May only a small area in north central Wisconsin remained abnormally dry. One year ago, 75% of the state was under some form of drought. Now only about 2% is.



Manhatten and Staten Island, N.Y. Declared Free of the Asian Longhorned Beetle

For more information visit: [USDA APHIS ALB Bulletin]
For more information on ALB control program activities visit: [USDA APHIS ALB Programs]

Invasive Plants Stories in the News

Battling the Invasion of Non-Native Plants

This article regarding garlic mustard and other invasive plants appeared in the "Kenosha News"
Battling the Invasion of Nonnative Plants in the News

DNR forester, Steve Holaday, uses this educational moment to teach local staff about invasive garlic mustard. His potted "house" plant generated a number of inquiries.

Goats May Save Us from Alien Invaders

This is an interesting article on an alternative invasive plant management control technique.
Goats and Invasive Plant Control

Locally, the Pheasant Branch Conservancy in Middleton is using goats for invasive plant management. Here the goats are resting after a busy day of control work. Photo submitted by John Daly.

And finally…The Ultimate Dilemma:

Bark Up or Down? Firewood Splits Norwegians.

(Thanks to Kristin Peterson for sharing!)
http://www.nytimes.com/2013/02/20/world/europe/in-norway-tv-program-on-firewood-elicits-passions.html

And the solution is…WI Forest Health Specialists are here to solve problems!

SOR Forest Health Assistance
Wisconsin DNR, Forest Health Protection Unit
June 2013

Contacts for DNR staff, municipal foresters, and forestry cooperators

Mark Guthmiller Forest Health Specialist Wisconsin DNR 3911 Fish Hatchery Road Fitchburg, WI 53711 Phone: (608) 275-3223 Email: Mark.Guthmiller@wisconsin.gov **Columbia, Dane, Dodge, Grant, Green, Iowa, Jefferson, Lafayette, Richland, Rock, and Sauk**	Bill McNee Forest Health Specialist Wisconsin DNR 1155 Pilgrim Rd. Plymouth, WI 53073 Phone: (920) 892-8756 x3043 Email: Bill.McNee@wisconsin.gov **Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth, Washington, and Waukesha**

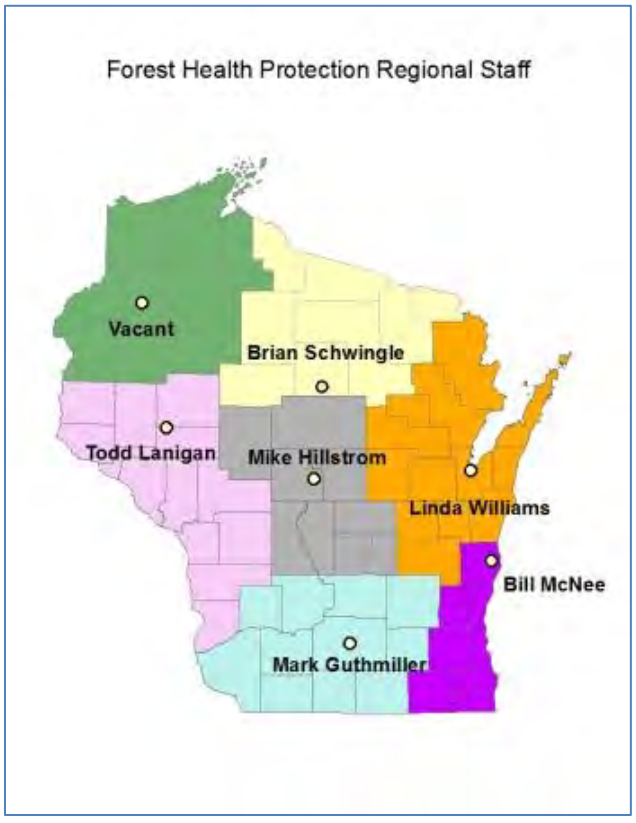
For a statewide forest health staff list:
http://dnr.wi.gov/topic/ForestHealth/staff.html

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: dnrfrgypsymoth@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.]