

# Southern Region Forest Health Update

## Wisconsin DNR, Forest Health Protection Unit

August 12th, 2013 Vol. 10 No. 5

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

### Emerald Ash Borer– Bill McNee

Wisconsin has five new county detections of EAB so far this summer:

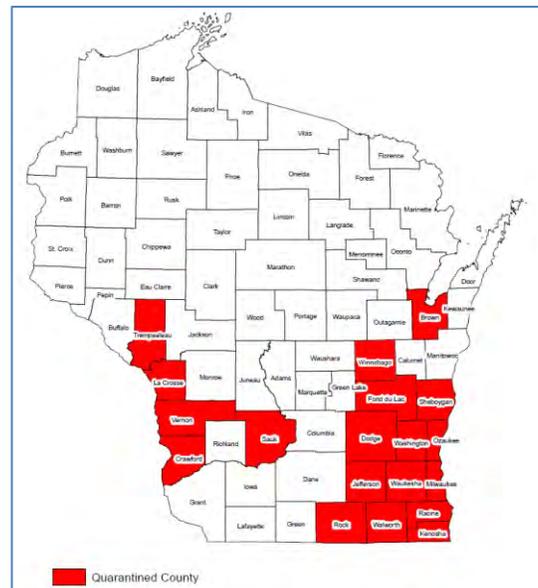
- Dodge County – EAB found in the City of Watertown
- Fond du Lac County – EAB found in the Kettle Moraine State Forest, at Mauthe Lake
- Jefferson County – EAB found in the City of Whitewater
- Sauk County – EAB found in the Mirror Lake State Park
- Winnebago County – EAB found in the Town of Black Wolf

In addition, we have had numerous detections in the previously-quarantined counties of southeast Wisconsin. There are too many to list here, but you can check out the complete EAB detection list online at:

<http://datcpservices.wisconsin.gov/eab/articleassets/ConfirmedEABFindsinWisconsin.pdf>.

These new EAB detections have expanded the area where ash trees should silviculturally be considered ‘high-risk’ trees. DNR EAB silviculture guidelines currently recommend that ash trees in a quarantined county, or those outside a quarantined county but within 15 miles of a known EAB detection, be considered ‘high-risk’ for forest management purposes. This would generally mean that salvage and pre-salvage timber harvests of ash trees would be conducted within this area. The silviculture guidelines are available online at:

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

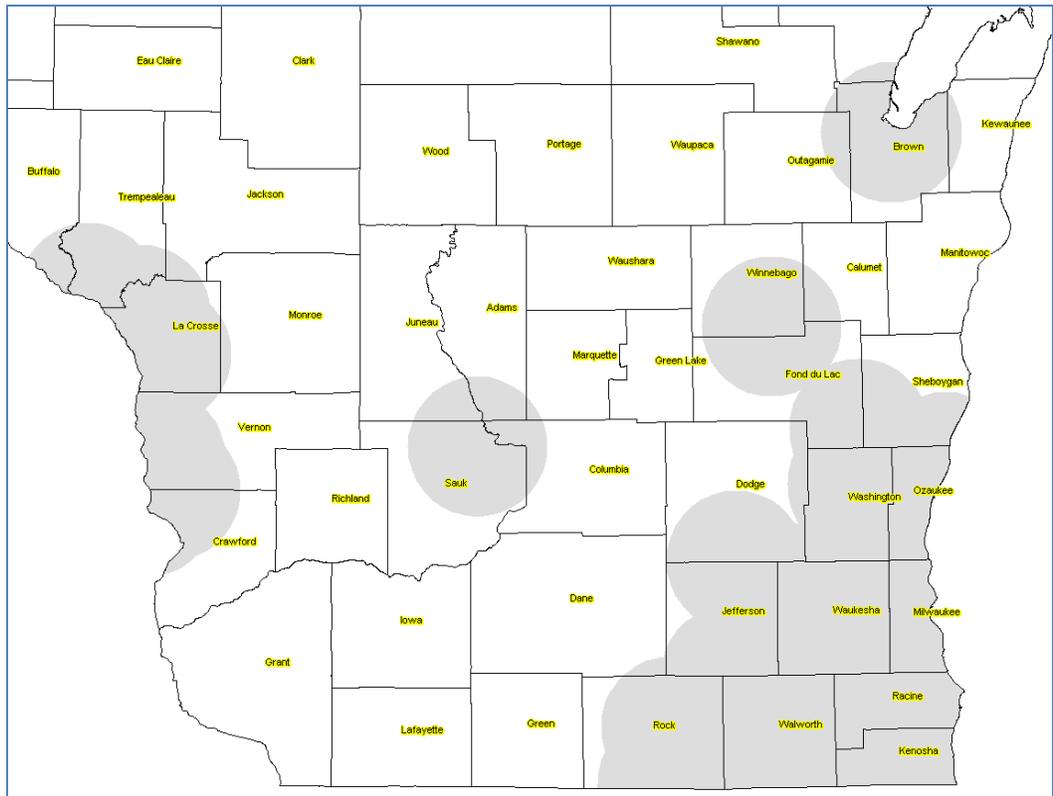


EAB-quarantined counties as of August 7, 2013.

In addition, property owners should consider treating high-value ash trees if within 15 miles of a known EAB detection if they choose to do so. UW Extension has revised its homeowner recommendations brochure, available online at:

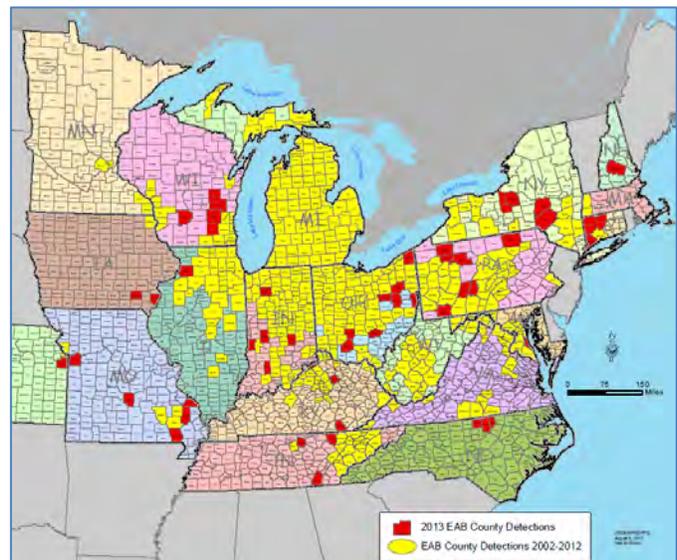
<http://hort.uwex.edu/sites/default/files/Homeowner%20Guide%20to%20EAB%20Insecticide%20Treatments%20May%202015,%202013.pdf>

Note: the 'high-risk' area for EAB will constantly change as new EAB infestations are detected.



Shaded areas are within 15 miles of a known EAB infestation as of August 7, 2013. Note: the 15 mile zone will constantly change as new EAB infestations are detected. Map by Bill McNee.

Nationwide, we have had 52 counties with first EAB detections so far in 2013. Last year at this time there were about 50. New Hampshire and North Carolina are new state detections in 2013.



National map of new county EAB detections in 2013 (shown in red). Source USDA, APHIS

## EAB Natural Enemy Introductions

This summer we have done several introductions of the natural enemy wasps, *Tetrastichus planipennis* and *Oobius agrili*, at three sites in southeast Wisconsin. The *Tetrastichus* wasps attack EAB larvae beneath the bark, and the *Oobius* wasps attack EAB eggs on the bark surface. These introductions are being done to help slow the spread and buildup of EAB populations, and to help delay tree mortality. The tiny wasps do not sting or bite, and the public is unlikely to know they are present. It is anticipated that the wasps will be introduced at additional sites in 2014.

*Tetrastichus* wasps are released in two ways: As adult wasps or as pupae inside small ash pieces that are nailed to ash trees. The wasps complete their development inside the small ash pieces, and then chew their way out to attack EAB larvae in their new environment. *Oobius* wasps are ‘introduced’ inside parasitized EAB eggs that are inside rain-protected plastic cups. The *Oobius* adults emerge inside the cups and fly away to attack EAB eggs in their new environment.



*Tetrastichus* wasp released to help fight EAB.  
Photo by Bill McNee.



EAB natural enemy release methods: Ash pieces used to introduce *Tetrastichus* wasps, and ‘oobinator’ plastic cups used to introduce *Oobius* wasps. Photos by Bill McNee.

## Woodpecker Populations and Emerald Ash Borer

A new study conducted in Michigan has found that tree mortality from EAB resulted in increased woodpecker populations. The study attributed the increased populations to the abundance of food (EAB larvae) and increased nesting habitat in dead ash trees. Woodpecker flecking is one of the signs that a tree may be infested with EAB. Read more here: <http://phys.org/news/2013-08-woodpecker-populations-linked-feasting-emerald.html>.

This is typical appearance of woodpecker feeding activity on an ash tree, which is a sign of insect activity under the bark. Photo by Bill McNee



## **Mirror Lake State Park – Mark Guthmiller**

Emerald ash borer was detected for the first time this July in Sauk County at Mirror Lake State Park. Beetles were detected from sticky purple panel traps and subsequent infested trees confirmed at the check-in station at the park. Eighteen planted ash trees were in the immediate area, inter-planted among other tree species. Most trees were about 20 years old with infestation levels to the point where galleries could be found on the lower trunk of some trees. Due to the apparent isolated infestation, low natural ash resource, and condition of the trees the decision was made to cut and chip the ash in this area. Treatment was not a practical option due to damage level. Additional non-symptomatic planted ash are located elsewhere in the park and will be monitored and further evaluated this fall.



West central region forest health specialist, Mike Hillstrom, assists with branch peeling and EAB damage assessments (left). Based on damage levels and locations of galleries on the tree trunk (right), it is estimated the infestation may have been in the area for 3-5 years .

## **Gypsy Moth- Bill McNee**

### **Gypsy Moth Caterpillar Diseases**

The wet spring weather has greatly favored caterpillar diseases this summer, and we have had widespread reports of heavy caterpillar mortality from the *Entomophaga* fungus (and lesser reports of mortality from the NPV virus). Gypsy moth caterpillars killed by *Entomophaga* fungal disease (vertical caterpillars) and NPV virus (inverted ‘V’ caterpillars). See photo on right.



Disease killed gypsy moth caterpillars.  
Photo by Bill McNee.

## **Defoliation and Spray Program Prediction**

DNR staff observed only about 600 acres of gypsy moth defoliation statewide, in contrast to more than 14,000 acres last year. The Bayfield County outbreak collapsed and no defoliation was seen. With the exception of minor defoliation on individual trees, no defoliation was observed in southern Wisconsin.

So far this summer, we have not heard of any areas that are likely to need aerial spraying in 2014.

## **WI DATCP Gypsy Moth Trapping Update**

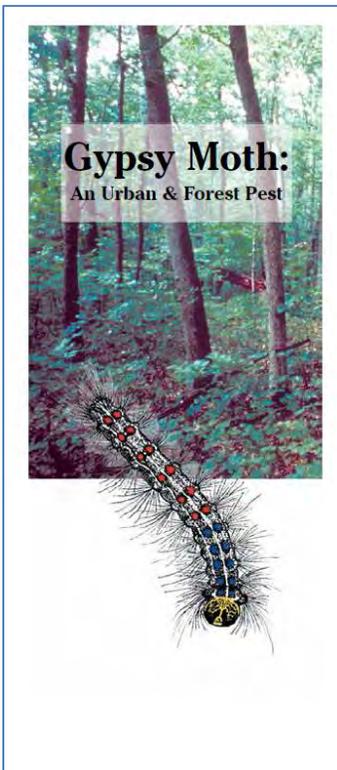
The flight of male gypsy moths is still occurring in southern Wisconsin but is winding down. According to the Wisconsin Dept. of Agriculture, Trade and Consumer Protection (DATCP), we are seeing some pretty good moth catches this year in Clark, Jackson, Juneau, Monroe and Sauk Counties. Trap takedown in southern Wisconsin is expected to begin around August 19<sup>th</sup>.

## **Gypsy Moth Physical Controls and Updated Brochure**

If you see a white, female moth sitting on a tree trunk or other object, crush it with a stick. Egg masses within reach can be scraped into a can and drowned in soapy water, or sprayed with an egg mass oil to suffocate them. If an area is thinking of participating in the DNR suppression program to spray in 2014, oil the masses or wait until this December to remove them so that surveyors can determine if an area should be sprayed.



Female gypsy moth laying an egg mass.  
Photo by Bill McNee



'Gypsy Moth: An Urban and Forest Pest' brochure has been revised and can be downloaded.

An updated 'Gypsy Moth: An Urban and Forest Pest' brochure is now available and can be downloaded at this location:

<http://dnr.wi.gov/topic/forestmanagement/documents/pub/FR-172.pdf>.

## Aerial Damage Survey Summary

An aerial damage survey was conducted at the end of June looking for signs of defoliation, mortality, and other tree health concerns. Over all there were no major areas of concern detected in south central Wisconsin. Some of the observations and ground assessments are mentioned below:

### **Flooding and Chlorotic Foliage**

Scattered low areas along the Wisconsin River showed tree canopy's with chlorotic foliage due to extended high water this spring and early summer. Additional high water observations were also made on the Pecatonica and Rock River. River levels have receded and I am not anticipating major tree health issues. If you are conducting woodland management in flood prone areas here is a link to more information you may find useful:

[http://www.na.fs.fed.us/spfo/pubs/n\\_resource/flood/cover.htm](http://www.na.fs.fed.us/spfo/pubs/n_resource/flood/cover.htm)



High water levels along the Wisconsin River back in June.

### **Forest Tent Caterpillar**

Early ground observations indicated that we were likely to see similar levels of defoliation in Grant and western Iowa Counties as last year. Minor defoliation was evident in these areas prior to aerial survey. Populations must have crashed out as no visible forest tent caterpillar defoliation was observed from the air this year.



Late instar forest tent caterpillars observed in Grant County earlier this season.

### **Scattered Pockets of Mortality**

After ground checking a number of observed areas with localized mortality it was routinely determined to be symptoms of suspect oak wilt or Dutch elm disease causing the damage. A few samples were taken to confirm these observations.

### **Red Pine Shoot Moth**

An interesting observation was made flying over red pine stands, particularly between Avoca and Blue River, in Iowa and Grant Counties. An off color tone was observed from the air in the red pine stands and subsequent ground checks indicated extensive shoot damage to red pine from the red pine shoot moth, *Dioryctria resinosa*. Red pine shoot moth has previously caused damage in this area and other parts of Wisconsin, with the previous outbreak starting around 1989 and peaked in 1990 with populations subsiding in 1991. During the outbreak in 1990, trapping trial tests were conducted to confirm sex pheromones of this shoot moth as well as for the red pine cone borer, *Eucosma monitorana*, under the leadership of Dave Hall. Damage by this insect can include height and radial growth loss, deformed “flat topping” appearance, and reduced cone production. For more information: [http://www.na.fs.fed.us/spfo/pubs/howtos/ht\\_redpine/redpine.htm](http://www.na.fs.fed.us/spfo/pubs/howtos/ht_redpine/redpine.htm)

The ability of Diplodia (*Sphaeropsis*) shoot blight to colonize shoot moth killed shoots was also studied by Dr. Glen Stanosz lab at UW-Madison. There may also be some level of increased damage to red pine from this disease related to previous year shoot damage by the shoot moth. For more summary details of the study visit: [Association of \*Sphaeropsis sapinea\* with insect-damaged red pine shoots and cones](#)



Multiple red pine shoots killed by the larval stage of the red pine shoot moth.



Pulling back the needles at the base of the dead shoot reveals the red pine shoot moth larval entrance/emergence hole.



Breaking off the shoot also reveals a hollowed out shoot. This is a good way to differentiate this from Diplodia shoot blight killed shoots.

## Oak Wilt

In recent weeks it has been common to see pockets of wilting oaks, with symptoms indicative of oak wilt.. Samples have been sent in to the forest health lab for confirmation of woodland oak wilt pockets. In a couple cases we are culturing suspect oak wilt that also was confirmed with two-lined chestnut borer. Keep in mind that last year's drought was very conducive for two-lined chestnut borer so one should not jump to the conclusion of oak wilt when determining cause of dying oaks. Consider testing for oak wilt if you are planning any management practices such as trenching or fungicide treatments. For a lot of information on this disease visit: <http://dnr.wi.gov/topic/ForestHealth/OakWilt.html>



A wilting oak tree adjacent to a dead oak is indicative of underground root to root disease transmission of oak wilt.



Numerous brown leaves dropping below the tree raises suspicion of oak wilt.



A “bronzing” oak leaf also raises suspicions of an oak wilt infected tree. It is best to conduct a lab test for confirmation prior to conducting management activities.

### Swamp White Oak Wasp Galls

Some samples were received from a Brownsville area landowner that had what he referred to as “Brussels sprout” like growths on his young swamp white oaks. Cutting into these gall growths revealed a number of small cynipid wasps from what I suspect is the noxious oak gall maker, *Neuroterus noxiosus*. I found this short write up from Minnesota dated back in 2004.

<http://www.extension.umn.edu/yardandgarden/YGLNews/YGLN-Sept0104.html#gall>



Swamp white oak leaf with “Brussels sprout” like growth (left & middle) and an example of numerous small cynipid wasps (right) found inside the gall believed to be the noxious oak gall, *Neuroterus noxiosus*.

## Bristly Locust and Locust Leafminer

While at a forest health staff training session in Waupaca County, the invasive plants folks pointed out an exotic tree called bristly locust, *Robinia hispida*. It looks like black locust but with bristly hairs. It is alien and appears to be invasive, especially on sandy sites. I have not seen this tree in southern Wisconsin but would be interested in getting reports of it if you see it showing up in woodlands. For more information:

<http://www.uwgb.edu/biodiversity/herbarium/trees/robhis01.htm>



Bristly locust with bristly hairs on stem.

I also found the leaf miner attacking this bristly locust interesting with the unique gallery pattern. I suspect this is the locust leafminer, *Odontota dorsalis*, and it is not only a pest of black locust but apparently also has a host range including honey locust, apple, birch, cherry, elm, oak and hawthorn. The damage is more dramatic looking than problematic when in full outbreaks according to this pest alert:

[http://na.fs.fed.us/spfo/pubs/pest\\_al/l/miner/l/miner.htm](http://na.fs.fed.us/spfo/pubs/pest_al/l/miner/l/miner.htm)



Locust leafminer galleries in bristly locust leaf

## Miscellaneous

### Speaking of Patterns- Can you name this pattern?



- a) Aerial view of Dalhart, Texas?
- b) Hackberry Island Chlorosis?
- c) Emerald ash borer mosaic virus?

See the end of the newsletter for the answer.

## **Deer Pee and Northern Forests**

<http://www.foxnews.com/science/2013/06/06/too-much-deer-pee-changing-northern-forests/?intcmp=HPBucket>

## **Lone Star Ticks**

Last year, Iowa county forester, Tom Hill, had a resident from the town of Ridgeway in Iowa County bring in a tick sample that was confirmed as a lone star tick. A recent news release from the University of Wisconsin Entomology Department suggests the lone star tick may be established in southern Wisconsin.

<http://www.news.wisc.edu/releases/18054>

The CDC website states this tick is not a carrier of the Lyme's disease bacterium but is associated with a rash illness referred to as STARI. The cause of STARI is unknown. For more information visit: <http://www.cdc.gov/stari/disease/>

For approximate distribution map and some of the associated tick borne diseases visit:

[http://www.cdc.gov/ticks/geographic\\_distribution.html](http://www.cdc.gov/ticks/geographic_distribution.html)



2012 photo of lone star tick sent by Iowa County forester, Tom Hill.

## **Imprelis Update**

This Michigan State University article gives an update two years after the turf herbicide, Imprelis, was found to be damaging trees. The article covers notes regarding tree recovery, chemical residuals in plants and soil, and the settlement process.

[http://msue.anr.msu.edu/news/imprelis\\_update\\_for\\_spring\\_2013](http://msue.anr.msu.edu/news/imprelis_update_for_spring_2013)

## **Cicada Killer**

The melodic hum of the dog day cicada has always been a melancholy sound to me which sparks memories of the care-free summers of my childhood in South Dakota. The humming informed me to take notice that summer was coming to an end and that the start of a new school year was pending. Last week this melodic hum abruptly stopped nearby as I was sampling some trees at Nelson Dewey State Park. I heard the humming quit in the tree above, and a sudden flutter of activity, with the dull buzz of struggling wings come crashing down. A cicada landed next to me and atop this large sap sucking hemipteran was the cicada killer, a large wasp that parasitizes the cicada and uses it for food for their newly hatching young. It was an amazing site to watch this



wasp take down the cicada and then regroup and grab and haul the bug while climbing up the tree. Why it hauled the bug up the tree I don't know as they are ground nesters. For more information on cicada killers:

<http://www2.ca.uky.edu/entomology/entfacts/ef004.asp>

Speaking of Patterns- Can you name this pattern?



And the answer is:

- a) Aerial view of Dalhart, Texas?
- b) Hackberry Island Chlorosis**
- c) Emerald ash borer mosaic virus? (no such thing)

Hackberry Island Chlorosis is apparently caused by a virus after once thought to be caused by a phytoplasma. For a short note on this topic visit:

<http://hyg.ipm.illinois.edu/pastpest/200807c.html>

On a related note, if you like interesting patterns take a look at the Google earth satellite map view of Dalhart, Texas and zoom in and out. I was reading a book on the dust bowl and was curious where Dalhart was. It is an amazing pattern with all the irrigation systems now in use in that area of the country.



The Prairie Stump Stag of Southwestern Wisconsin

# SOR Forest Health Assistance

## Wisconsin DNR, Forest Health Protection Unit

### August 2013

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

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

visit the website: <http://emeraldashborer.wi.gov>

**Report Gypsy Moth:**

by phone at 1-800-642-6684

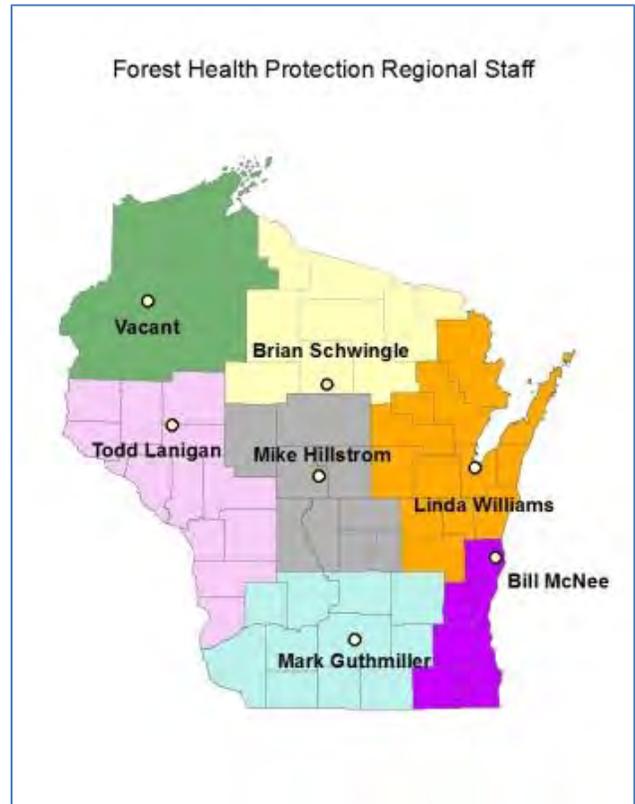
by email: [dnfrgypsymoth@wisconsin.gov](mailto:dnfrgypsymoth@wisconsin.gov)

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.]