

2007 Wisconsin EAB Activities Completed by Various Agencies

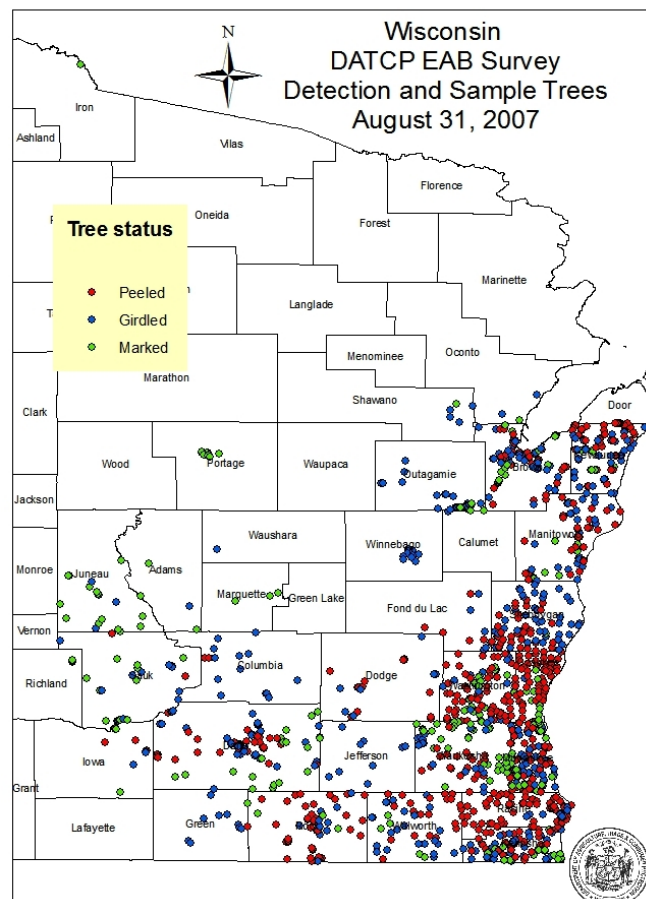
1) Department of Agriculture, Trade and Consumer Protection (DATCP) Survey Summary

Detection Survey Plan

DATCP's emerald ash borer detection efforts were focused on areas identified to be high risk by modeling done by the Wisconsin DNR, using risk factors identified in other states, including ash resource, number of campsites, number of second homes and population density. Following the lead of other states, DATCP's detection survey plan was to sample trees in the counties along the Illinois border at the density of 18 trees per township (1 per two square miles), and elsewhere in the survey area at a density of 9 trees per township (1 per four square miles). Since the effort was a new undertaking, the survey consisted of two types of trees: *sample trees*, which were trees peeled for larvae detection without prior stressing or girdling, and *detection trees*, which were trees girdled and left through the period of beetle flight. The survey effort focused on trees on public lands, generally in the right-of-way on state and county roads. Municipal foresters were enlisted as cooperators, to gain access to trees in urban areas. This was a very important component of the program.

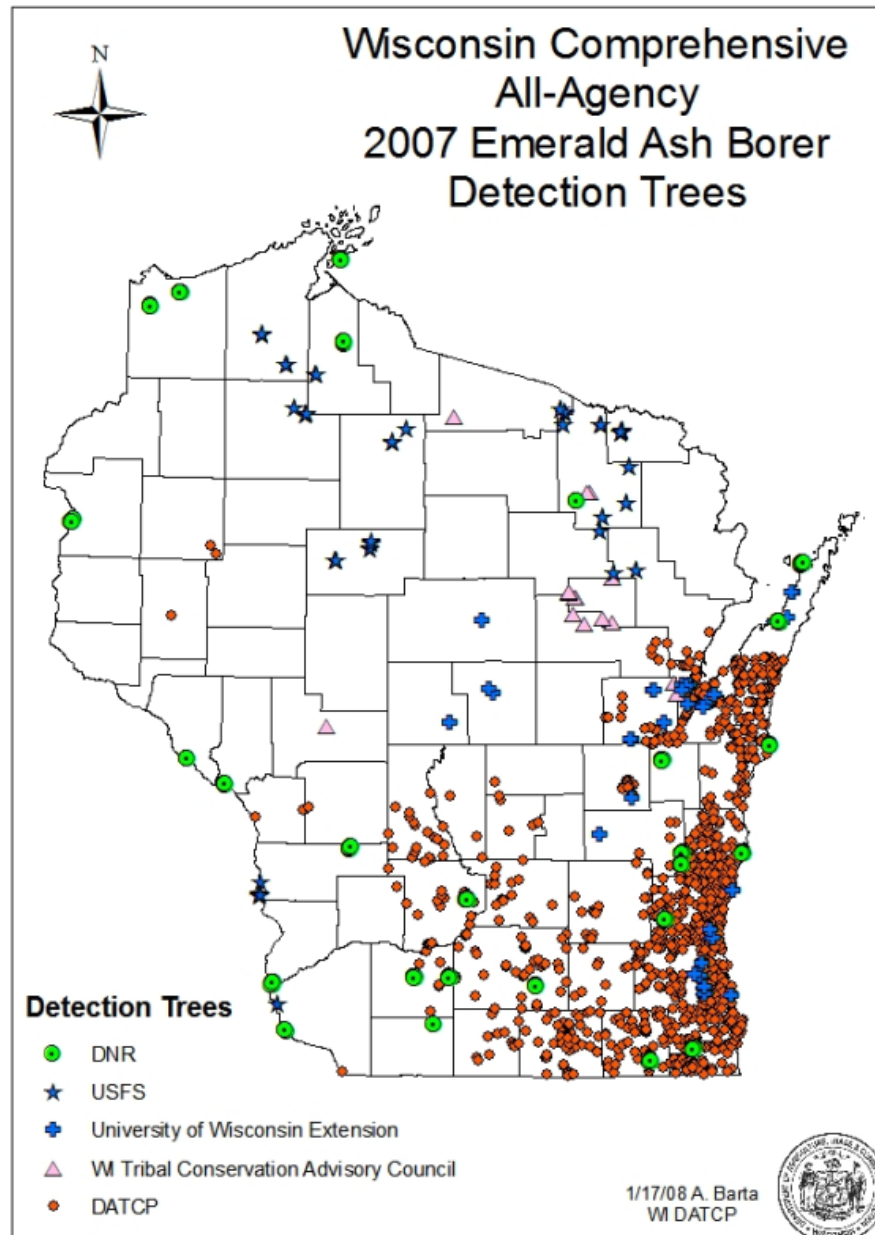
Survey Efforts

Sample tree peeling and detection tree establishment began in the middle of December, 2006. Crews were hired on a regional basis, with staff located in the Racine, Madison and Green Bay areas. Work assignments were provided by GPS uploads and tree sheets containing locations and notes on the marked trees. Maps were provided where possible, but limited GIS resources coupled with frequently-changing tree counts made the timely provision of current maps a difficult task. The permit agreement with WisDOT and the counties included a provision for site cleanup, including chipping of the tree and brush into the ditch and herbicide treatment of the stump. One team of the eight was assigned chipping and treatment duties in February, when chipper acquisition was completed.



The final corrected totals for the season are:

Marked (total trees)		2,983
Peeled (Sample trees)		924
Girdled (Detection trees)		1,223
Not used		382
106 Conflict (USDA APHIS)		76



Education & Outreach

EAB/Firewood Exhibits at:

Wisconsin Arborists Association annual event, Madison
Wisconsin Association of Land Conservation Employees event
Tri-State Forestry Convention
Wisconsin Association of Lakes event
Lake Home and Cabin Shows in Chicago and Milwaukee
Wisconsin Association of Campground Owners convention
Wisconsin Public Television Home & Garden Show
Milwaukee Area Realtors Home & Garden Show, Milwaukee

EAB Presentations for:

Household pest management company in Milwaukee
Wisconsin Arborists Association to roll out the EAB Community Tool Kit

Mailings:

To private campground owners, offering information about EAB and firewood that they could share with their visitors.
More than 33,000 postcards to property owners in Wisconsin whose primary residence is in an EAB-infested state.

Firewood Alert brochure to 250,000 people in their snowmobile and ATV registration packets.

Media:

Radio Campaign focused on EAB and limiting firewood movement...ran from May to Labor Day across the entire state.

Full page ad in the Wisconsin Association of Campground Owners campground directory.

2) University of Wisconsin

Thirty nine ash trees located at 30 golf courses in nine Wisconsin counties (Brown, Door, Marathon, Milwaukee, Outagamie, Ozaukee, Portage, Winnebago, and Wood) were girdled from January through June 2007. Peeling of these girdled trees will take place between October 2007 and May 2008. In addition, seven dead or dying ash trees located at respective golf courses were felled and peeled to determine presence of EAB larvae or adults as well as D-shaped exit holes or S-shaped larval feeding galleries; no EAB was detected. Survey rationale: Ash trees on golf courses did not fall within the survey plan that the Wisconsin State Department of Agriculture or DNR was conducting. Golf courses often plant new trees, which may have come from states infested with EAB. Even if the ash were local-grown trees, they may be stressed from planting or drought and good hosts for EAB to feed upon. Please see map on page 2 for survey locations.

3) Wisconsin Tribal Conservation Advisory Council (WTCAC) Activities

Working through a contractor, the WTCAC facilitated EAB survey on tribal reservations for the Ho-Chunk (1 site), Oneida Nation (2 sites), Menominee Nation (6 sites), Forest County Potawatomi (2 sites), Lac du Flambeau (2 sites), and Stockbridge-Munsee (2 sites).

Permission was requested to work on reservation properties or to work with tribal foresters on the survey. Once permission was granted, ash trees were girdled in the spring/summer of 2006 and felled and peeled during the winter of 2006/07. Additional permissions were obtained in 2007 and more trees were girdled in the spring/summer of 2007. Felling and peeling will occur from autumn 2007 to spring 2008. Sites were identified based upon risk of introduction, i.e. Pow Wow and ceremonial grounds, campgrounds, casinos, and river accesses. Training to identify EAB and to girdle and peel trees was given to the various tribal foresters and conservation departments. EAB is of great concern to the tribal nations as ash is an important cultural component in the art of basket making especially within the Midwestern and northern tribes of the U.S. and is a major component in tribal forested lands.

4) US Forest Service

The US Forest Service, Forest Health Protection (FHP) program has been assisting the state of Wisconsin in preparing for emerald ash borer for the past several years. In addition the FHP staff has been working directly with Federal land managers within the state to survey for EAB and to coordinate their activities with the state EAB program. Wisconsin has extensive federal lands including land managed directly by the Forest Service (Chequamegon-Nicolet National Forest), but also by the Corp of Engineers, US Fish and Wildlife Service, and the National Park Service.

The Forest Service has been directly funding trap-tree surveys on Federal lands in Wisconsin for the past 3 years. These surveys focus largely on recreation areas where camping and firewood use occurs. To date, no evidence of emerald ash borer has been found in these areas. In addition, extensive visual surveys have been conducted on federal lands to look for any signs of trees symptomatic for EAB infestation. In addition, the Forest Service has also provided cost-shared funding to the Wisconsin DNR to assist the state in surveys in state parks and state forests and in private campgrounds.

In 2007, the Forest Service FHP Program supported emerald ash borer research activities that dealt with new trap designs, biological control opportunities, insecticide evaluations, and spread models. These research findings are shaping new management recommendations that should assist Wisconsin communities in dealing more effectively with EAB. FHP also supported a web site at Michigan State University where the most up-to-date information can be found on a variety of topics related to EAB. That web site is found at <http://www.emeraldashborer.info/>

Firewood bans that mimic the state ban in state parks are in place on the Chequamegon-Nicolet National Forest and at Apostle Islands National Lakeshore.

5) Wisconsin DNR

WI DNR 2007 Emerald Ash Borer Survey Efforts

At the conclusion of 2007 we have still not found the emerald ash borer in Wisconsin. The insect's path of destruction has continued however, with new infestations in the states of Pennsylvania and West Virginia and numerous additional infestations just south of Wisconsin in the suburban Chicago area. During 2007, the Wisconsin DNR emerald ash borer survey program conducted its fourth year of detection surveys for this highly destructive insect pest. Three survey methods were used for emerald ash borer detection; including visual surveys, detection tree surveys and purple panel traps.

Visual surveys

Visual surveys were conducted in private and county campgrounds in 2007 (Figure 1). Private and county campground lands were the target survey area due to their increased risk for emerald ash borer introduction through firewood transportation. Currently, only state lands are monitoring the origin of incoming firewood and have constituted a permanent ruling requiring that all firewood originate from within a 50 mile radius of the camper's destination and from within the state of Wisconsin. For more information on the firewood ruling or the numerous pests that firewood transports, please visit <http://dnr.wi.gov/invasives/firewood/>.

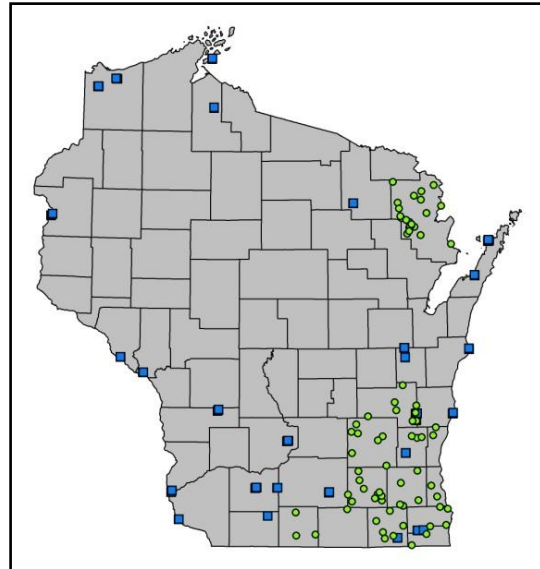


Figure 1: Map of 2007 EAB visual and detection tree survey locations conducted in WI. Blue squares represent detection tree locations (5-7 trees established per location) and green circles represent visual survey locations.

Survey sites and results

Visual surveys were conducted in 80 private and county campgrounds throughout southeastern Wisconsin and in Marinette County. Over 5600 campsites were surveyed, resulting in the evaluation of 2650 ash trees for the presence of the emerald ash borer or other ash pests and diseases. Our visual survey efforts detected no emerald ash borer infestations in the private and county campgrounds surveyed.

However, other commonly encountered, but non-threatening ash insect pests and diseases were detected during the surveys. Insect pests observed included the ash bark beetle, the clearwing moth and the redheaded ash borer. Diagnosis was determined by exit hole evaluation. Foliar and bud insects such as the ash flower gall mite, ashleaf gall mite and ash plant bug were observed as well. Diseases observed included anthracnose on the foliage and ash yellows brooms on the main stem. The anthracnose was widespread across all survey sites, however just a handful of trees exhibited the brooming associated with ash yellows.

Detection tree surveys

Upon completion of four years of visual survey work looking for the emerald ash borer in state parks and private campgrounds, it has not been detected in Wisconsin. However, scientific research has determined that visual survey methods are not effective at detecting emerald ash borer infestations unless the insect population is at a very high density. Additionally, scientific research recommends the use of detection tree surveys for detection of low density emerald ash borer infestations. In 2007, WI DNR extended its contract with Michigan Technological University for a second year pertaining to the establishment, monitoring and peeling of ash detection trees in Wisconsin's state parks and recreation areas. Private campgrounds did not have any detection trees established.



Figure 2: Emerald ash borer detection tree, complete with girdle and sticky band.

Survey sites and results

A total of 141 detection trees were established in 26 state park and recreation areas during May 2007 (Figure 1). Each of the 26 sites had 2-4 previously established detection trees in place from the 2006 detection tree survey, resulting in a total of 5-7 detection trees at each site. Detection trees consist of a girdle around the main stem at waist height and the placement of an 18 inch wide sticky band just above the girdle (Figure 2). The sticky band is used to catch emerald ash borer adults during their flight season. Sticky bands were inspected for emerald ash borer adults biweekly, June through August. During the fall, after the adult flight season has ended, detection trees are felled and peeled in search of emerald ash borer larvae and galleries. During the fall of 2007, a minimum of four trees per property were cut and peeled. Trees selected were a combination of those girdled in 2006 and 2007. The remaining 2-3 trees per site were left standing for a second year and will be felled and peeled during fall 2008. No emerald ash borer life stages were found during detection tree surveys in 2007.

EAB purple panel traps

Purple panel traps were used as a survey tool in Wisconsin for the first time in 2007. To date, researchers still consider the use of detection trees to be the best detection method for low density emerald ash borer infestations, however, there are situations in which panel trap use may be favored over detection trees in order to prevent the loss of the tree. Such situations include surveying in areas where the tree may be considered a prize urban or campground shade tree or when surveying where the ash resource is limited, but risk still exists (e.g. firewood piles, mills and nurseries).

Trap description

Emerald ash borer panel traps are purple in color and made of a corrugated plastic board (Figure 3). Traps are triangle with an open center. Each panel of the trap measures 14 X 24 inches and is coated with glue on its exterior. Trap hanging is recommended on an open grown or edge ash tree



Figure 3: Emerald ash borer purple panel trap.



Figure 4: Properly hung EAB purple panel trap in an open grown ash tree. Photo provided by Bruce Slagoski.

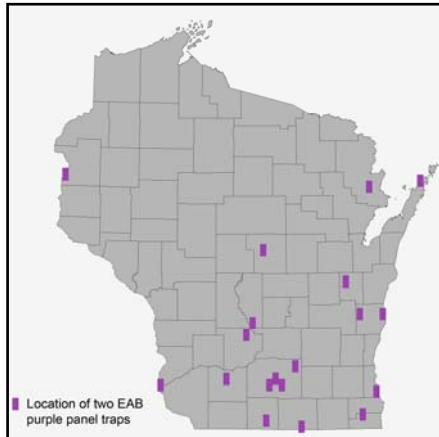


Figure 5: EAB purple panel trap locations.

at a height of 33-40 feet above ground (Figure 4). Research suggests that the emerald ash borer is visually attracted to the color purple used for the traps.

Trap locations

Purple panel traps were hung in 17 locations across central and southern WI (Figure 5). Trap locations included nine state parks and forests (Governor Dodge, High Cliff, Interstate, Kettle Moraine – North, Mirror Lake, Peninsula, Peshtigo River, Richard Bong Recreational Area and Rocky Arbor), two Dane County parks (Riley Depee and Fish Camp) and seven municipalities (Beloit, Fitchburg, Madison, Monroe, Oak Creek, Sheboygan and Stevens Point). Two traps were hung at each location early June through late August. After trap removal, traps were checked for emerald ash borer adults.



Figure 6: Four species of metallic wood-boring beetles were collected from the purple panel traps. Identification is in process.

Trap catch summary

No emerald ash borer adults were detected on purple panel traps. Other insects of interest that were collected include four other species of metallic wood-boring beetles (Figure 6) and another commonly encountered ash pest, the redheaded ash borer.

For more information on Wisconsin DNR emerald ash borer survey efforts, both past and present, please visit <http://dnr.wi.gov/forestry/FH/Ash/index.htm>. Additionally, Figure 7 depicts a summary of all emerald ash borer visual and detection tree survey efforts conducted by Wisconsin DNR 2004 – 2007.

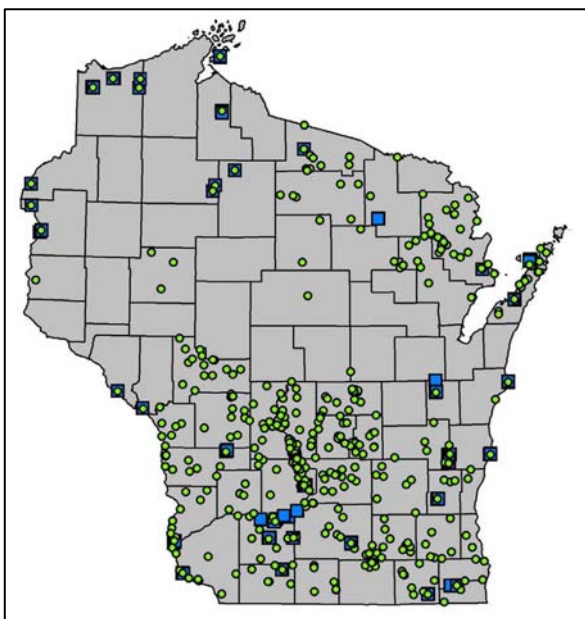


Figure 7: Map depicting WI DNR EAB survey efforts 2004 – 2007. Blue squares represent detection tree locations (2-11 trees established per location) and green circles represent visual survey locations.

What You Should Know About Moving and Burning Firewood in Wisconsin

Don't move emerald ash borer with your firewood!

Anyone who uses firewood for a campfire or as fuel in a fireplace, stove or furnace has heard the message: "Don't Move Firewood" – particularly firewood that was cut outside of the state into Wisconsin. The message has been communicated in stories in the news media and in brochures and fact sheets and public service announcements.

As of January 2008, EAB has not been discovered in Wisconsin. But EAB has continued to move through Illinois and Michigan's Upper Peninsula and other states east of Wisconsin. Based on the experience of other states, firewood restrictions appear to be one of the most effectual and cost-effective ways to prevent the spread of EAB.

The "Don't Move Firewood" message is more than a common-sense piece of advice. A combination of federal and state regulations and, in some counties, local ordinances regulates the transport of firewood in Wisconsin. Regulations that may seem like an inconvenience to some play an integral role in protecting the health of state's forested areas and urban trees from invasive pests like the emerald ash borer (EAB).

The current focus of firewood movement regulations is the emerald ash borer, an insect that has destroyed more than 30 million ash trees in other states since it was first discovered in Detroit, Michigan in 2002. But scientists have understood for some time that firewood can harbor many different kinds of invasive pests and diseases that are harmful to trees in public forested areas, on privately owned woodlots, and in neighborhoods. Since 2002, a majority of recent EAB finds have been associated with firewood. EAB moves short distances by flying. EAB moves longer distances through the movement of infested ash trees or wood—such as the transport of ash pallets, firewood or ash nursery stock. But movement of firewood is the most common way EAB is being spread today.

Wisconsin has adopted a number of requirements concerning the movement of firewood coming into the state and the movement of firewood within the state's borders. In December of 2006, the Wisconsin Department of Natural Resources (DNR) adopted an administrative rule (NR 45.05(1) (g)) that regulated firewood that could be brought onto state-owned properties. Allowable firewood is either,

- harvested from within a 50-mile radius of the state forest, park, or other state-managed property where it will be used and from within Wisconsin
- or, is obtained from a dealer certified by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP).

Another section of the rule defines what types of scrap wood may be used as firewood. Acceptable scraps for firewood are those from untreated or unpainted dimensional lumber such as 2-by-4's. Minimally processed wood, such as full or partial pallets, skids, or slabs or any wood that has been painted or treated with preservatives as well as composite wood such as chipboard and plywood may not be burned at state campgrounds.

It is relatively easy to comply with the firewood restrictions.

- Leave your firewood at home. It is the easiest way for campers to follow federal, state, and/or local regulations. Leaving firewood at home is particularly important for out-of-state campers. Wood from beyond 50 miles of the campground will not be allowed onto state property unless it is from a state certified dealer.

- If possible, purchase firewood at or near your campsite. Ask for – and keep – a receipt for the firewood purchase. The receipt can be proof that the firewood bundle was from within 50 miles of a state-operated campsite.
- You may want to call the campsite you are visiting or visit their website to determine the availability of firewood at a particular property.
- If you are worried about the availability of firewood at your camping location, think of reducing your need for an open fire altogether by cooking over gas or charcoal.

Firewood is also regulated by the federal government. Federal laws prohibit the movement out of states quarantined for EAB of firewood of *all* hardwood species (including ash, oak, maple, and hickory). The quarantine restrictions also apply to ash nursery stock and ash material such as unprocessed wood and chips. This quarantine affects all individuals and businesses that move firewood. Substantial fines have been imposed on individuals who violated the quarantine. Go to emeraldashborer.wi.gov and select “Where is EAB” for a map of the states quarantined for EAB.

A growing number of counties are also passing ordinances that regulate the firewood transport and use at county-owned parks and recreational areas. Private campgrounds are also starting to regulate wood that may enter their properties. Call ahead to find out what the regulations are for the campgrounds you will be staying at or avoid the issue by leaving your firewood at home.

Wisconsin’s firewood regulations have been in effect for a relatively short amount of time. A variety of education, outreach, and regulatory efforts have been undertaken.

- Campers who register for spots at state-managed properties receive information from the State of Wisconsin about the firewood regulations. Information has also been sent with snowmobile and ATV registrations.
- Out-of-state residents of quarantined states who own property in Wisconsin have been alerted to the federal quarantine and asked not to move firewood to their Wisconsin residence.
- DATCP has put in place a procedure to certify firewood vendors whose wood can then be allowed onto any state property. The process is a voluntary one for firewood sellers, with vendors certified for one year following an inspection by DATCP personnel. The rule includes a list of the methods to be followed to ensure firewood is free of invasive pests.
- Numerous news reports and public service announcements have been used to inform the public about the firewood regulations.

In addition to directly contacting a campsite, you may want to visit the Emerald Ash Borer website at <http://emeraldashborer.wi.gov/> or call the DNR’s toll-free Firewood Information Line at 877.303-9663 (877.303-WOOD). Information about EAB and about the firewood regulations can also be found at the DNR’s website at <http://www.dnr.wi.gov/invasives/firewood/>.

Organization of State EAB Program

In August 2007, the Secretaries of the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) and the Department of Natural Resources (DNR) signed a joint letter outlining the state EAB program organizational structure and how this structure will function. The structure provides oversight and direction to the State's interagency preparations for the arrival of and eventual response to EAB. Prior to the development of this structure, the partners were coordinating efforts in a more informal manner. The structure provides for increased coordination in strategy development and implementation and involves agency managers in developing recommendations to Secretaries and the Governor and coordination with partners and key stakeholders.

The EAB program structure consists of a six person Advisory Group made up of managers from the DATCP, DNR, University of Wisconsin, UW-Extension, USDA-APHIS and USDA-Forest Service. The Advisory Group will advise state agency senior management and the Governor on state policy, seek funding, and develop management plans for EAB program activities and response. The Advisory Group will also be the state's formal conduit to the National EAB Management Team and the National Science Panel. Each member of the Advisory Group is assigned as a liaison to one or more key partner or stakeholder groups and is responsible for keeping them informed about EAB program direction and issues. Beneath the Advisory Group are three working groups: Outreach and Communications, Operations, and the Science Panel. The working groups are sponsored by and report to the Advisory Group and at a minimum have representation from both DATCP and the DNR. These groups have specific charges and assignments and provide input and recommendations to the Advisory Group.

WI DNR EAB Education and Outreach 2007

Mailings:

- More than 130,000 postcards were mailed to registered campers to remind them of the new firewood restrictions on DNR properties (only wood from within the state and within 50 miles allowed) and encourage them to buy firewood at their destination.

Website updates (<http://dnr.wi.gov/invasives/firewood/>):

- The DNR firewood website was updated to more clearly explain the risk of firewood movement and the rules associated with bringing wood on state properties. Pictures of allowable (e.g. dimensional lumber) and prohibited types of wood (e.g. split firewood and pallets), updated 50 mile radius maps, and contact information were added.

Media Releases:

- "What's Hiding in Your Firewood" and "Burn it Up by April" messages in March
- "Know the Firewood Rules Before You Camp this Season" May 22nd
- "Emerald Ash Borer Awareness Week" for Forestry Reporter in May
- "State Firewood Restrictions Relaxed For Dimensional Lumber" June 19th

Print:

- Various articles were written detailing firewood restrictions for State Park newsletters.

- Brochure on ash management guidelines for forest landowners, <http://dnr.wi.gov/forestry/FH/Ash/eab-management.htm> .

EAB/Firewood Display at:

- Dane County Farmer's Market, Madison, one Saturday in June

Reserve America:

- Continued partnership with our state reservation vendor, Reserve America, to educate campers about firewood restrictions on DNR properties prior to their arrival. Firewood restrictions are highlighted during campsite registration as well as in registration confirmations online and over the phone.

Urban Forestry Program Efforts

- 1) Produced the "Emerald Ash Borer Toolkit for Wisconsin Communities" in both a binder, CD and web based format, this guide has 110 documents to help communities prepare for EAB. The Toolkit was rolled out in February at the Annual Urban Forestry Conference where approximately 170 participants attended, 300 total hard copies of the toolkit were produced.
- 2) The DNR UF EAB Toolkit Web page has received approximately 450 visitors who have viewed or downloaded 2,900 pages or files from the toolkit.
- 3) Included four EAB related articles in the *Wisconsin Urban & Community Forests* quarterly newsletter which reaches an audience in excess of 5,000.
- 4) The *Urban Forestry Insider* an electronic newsletter with circulation of several hundred readers featured 80 EAB related articles from throughout the Midwest.
- 5) Four of the five Regional Networking groups had DATCP Surveying Supervisors give presentations regarding EAB biology, life cycles along with demonstrating cut and peel efforts to determine EAB's presence, thus giving knowledge to these communities to conduct surveys on their own if they choose.
- 6) In Southeast Region a listing of approximately 30 mills, timber buyers or portable sawmill operators interested in working with urban ash wood was provided to the community forestry contacts.
- 7) In August, the majority of the WI-DNR Urban Forestry Working Group (UFWG) met with, conversed and received advice from both Michigan and Ohio community contacts, as well as commercial arborists and staff from both states, Department of Natural Resources, county programs, as well as their Extension Services. From this three day trip several efforts were developed:
 - A document entitled "Lessons Shared, Learning how Communities are Responding to EAB" was compiled. The document lists 11 journal entries consisting of 21 pages of information from the many sites and conversations the working group partook in. This journal has been added to Section 11. of the EAB Toolkit.
 - Photographs taken during the trip were compiled into a 135 image presentation to be shared with stakeholders.
 - A presentation was given to the two dozen member Wisconsin Urban Forestry Council.
 - A display featuring trip findings was developed and used at both the DNR Statewide Conference and the Urban Forestry Annual Conference in 2008.

- 8) Provided 14 Tree Risk Assessment & Emerald Ash Borer Workshops throughout the entire state where 530 people participated.
- 9) Provided technical assistance/input on local EAB readiness plans and public awareness/education products.
- 10) In June the Dane County Tree Board, utilizing a DNR grant, coordinated an EAB fact finding bus trip for 45 municipal forestry folks to Campton Forest Preserve in Kane County, Illinois. The participants had the opportunity to practice bark peeling and hear first hand how local and state officials in Illinois are managing EAB when it is found.
- 11) Southeast Region Urban Forestry Coordinators provided EAB information at a DNR exhibit at the Milwaukee Irish Fest in August as part of an EAB outreach pilot program organized by Keep Greater Milwaukee Beautiful. Over 500 people visited the DNR exhibit during the three day festival, including many out-of-state folks.
- 12) The UFWG initiated a second revision to the EAB Toolkit, which will be in circulation by spring of 2008.
- 13) Provided funding for 31 EAB related projects of the 42 total WI-DNR UF Grants funded for 2008, these projects have EAB either as the entire project focus or a major component there of.