

## New Exotic Insect Pests in Wisconsin

by Bob Dahl  
State Nursery Inspector, DATCP

The last few years have seen a number of introductions of exotic insects into Wisconsin via commodities from China and other, primarily Asian, countries. An example is the Asian longhorned beetle (*Anoplophora glabripennis*) in Chicago and New York. Globalization of trade has allowed more and more hitchhiking pests to transit the globe. For instance, used, late-model Japanese cars are very popular in New Zealand. White-spotted tussock moth, *Orgyia thyellina*, was accidentally imported on some of these vehicles. An infestation was started from these hitchhikers and the New Zealand government treated large acreages up to 23 times in 1996 and '97 with the bacterial insecticide *Btk*. A January 1999 estimate put damage from non-native species in the US at \$123 billion annually (Harmful Non-Native Species: Issues for Congress III. A Congressional Research Service Issue Brief).

Many of these pests are intercepted at the final destination and backtracking must be done to find where the other merchandise was distributed. This tedious process takes a lot of time and personnel. Asian longhorned beetle was found in solid wood packing material from China at several US warehouse locations, but it took months before the final destination of many of the products was known. In this article we will update you on some recent Wisconsin finds of exotic insects.

### White-Spotted Japanese Citrus Borer

The white-spotted Japanese citrus borer (*Anoplophora malasiaca*), a cousin of the infamous Asian longhorned beetle, is one of the most serious pests of citrus in Japan. It came into Wisconsin on bonsai nursery stock from China or Korea. Fortunately, only one beetle emerged from the bonsai



Asian longhorned beetle,  
*Anoplophora glabripennis*

nursery stock although another exit hole of undetermined age was found in another piece of stock.

*continued on page 5*

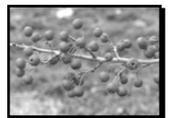
### Urban Forest Survey Inside!

The University of Minnesota has been contracted by the USDA Forest Service to conduct an urban forest research and education needs assessment. Stapled in the center of this newsletter is their Urban Forest Health and Condition Needs Assessment Survey. This survey will aid in the allocation of technology transfer funds as well as define major areas of research and education for several years. Your input is critical. Please complete the survey, fold into thirds, staple, place a stamp on the outside and return to the address on the last page of the survey. You also have the option of submitting the form on line by visiting <http://www.cnr.umn.edu/FR/extension/survey/survey.htm>. If you have any questions concerning the survey please e-mail [extfor@forestry.umn.edu](mailto:extfor@forestry.umn.edu) or call 612-624-3020.



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## Community Profile:

# City of Marinette

by Todd Lapacz  
Marinette City Forester

The city of Marinette is located in a beautiful part of northeastern Wisconsin, where it is bordered by both the Menominee River and Lake Michigan's Green Bay. Forces which dictated the development of the city included abundant forest resources and a navigable and readily accessible waterway. This waterway historically provided transportation for lumber to growing markets, including Chicago following the Great Chicago Fire.

Marinette currently has a population of nearly 12,000 residents and over 180 acres of public park land. The most impressive park is City Park, which is centrally located, with acres of towering 150-year-old white pine, red pine and red oak trees.

In 1993, with the help of a DNR urban forestry grant, the city hired a forestry intern who performed a street tree inventory and started an urban forestry management plan. The following year, the city hired full-time professional forester, Todd Lapacz, and created a forestry department and a city nursery. Those steps allowed Marinette to promote and expand an emphasis on a healthy urban forest by developing a solid management plan.

Similar to many other Wisconsin cities, Marinette streets were once lined with majestic American elms. These elms were lost when Dutch elm disease first passed through the area 25 years ago. The city of Marinette now contains 63 different tree species



Photo by Greg Anderson, WI DNR

City Forester Todd Lapacz receives Marinette's Tree City USA and Growth Award from DNR Secretary George Meyer and National Arbor Day Foundation's Tina Schweitzer.

which can tolerate our extremely sandy soil, and the city is considered 72 percent stocked. Maples make up about 59 percent of the street tree population. The city has been planting species such as ginkgo, Sterling Silver lindens, Kentucky coffeetrees and other varieties less familiar in the area to decrease the total percentage of maples growing along city streets.

Since the creation of the forestry department, the street tree population has grown from 3,930 to 5,130 trees. The city on average plants 250 to 350 two- to three-inch balled and burlapped trees during the spring and fall planting seasons. An additional 70 to 100 two-inch-caliper trees are transplanted from the city nursery each year.

Marinette has developed an aggressive tree maintenance and pruning policy and has a crew performing tree maintenance and pruning procedures year-round. Between 50 and 70 trees are removed each year due to declining vigor or an unacceptable level of risk. The forestry department is also active in monitoring gypsy moth activity, spraying the egg masses with emulsified soybean oil, and burlap banding for larvae on both private and public trees where populations have been located.

*continued on next page*

- Community Profile:**
- Tree City USA:** since 1992
- Growth Award:** 8 consecutive years
- Population:** 12,000
- Street Tree Population:** 5,130
- Street Miles:** 80
- Number of Parks:** 20
- Total Park Acreage:** 180

- Primary Industries:**
- Marinette Marine
- Ansul Fire Protection
- Waupaca Foundry
- Kimberly-Clark paper mill
- Rodman Industries
- Karl Schmidt Unisa, Inc.

- Program Profile:**
- Douglas Oitzinger, Mayor
- Brian Miller, Public Works Director/Engineer
- Mike Devroy, Public Works Superintendent
- Todd Lapacz, City Forester
- Randy Nemetz, Forestry Laborer
- Curt Mayou, Parks & Forestry Laborer

- Heavy Equipment:**
- 30' lift truck
- Vermeer 1250 Chipper
- Vermeer 672A Stump Grinder
- Larson Tree Spade

- 2001 Operating Budget:** \$176,000



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# City of New Berlin Urban Ecological Analysis

by David Haines, AICP, GIS Coordinator and Gregory Kessler, AICP, Director of Community Development, City of New Berlin Department of Community Development

The city of New Berlin integrates the best of two worlds—modern convenience and a wealth of opportunity, along with personalized hospitality and small-town charm. Located on the east edge of scenic Waukesha county, the city is advantageously situated near metropolitan, suburban and rural areas—offering residents an abundance of recreational, social, cultural and business opportunities. New Berlin’s 36 square miles makes it the sixth largest city in the state of Wisconsin in terms of land area. At present, the city is 40 percent developed and is the third most populated city in Waukesha county. The city’s 38,000 residents enjoy “city living with a touch of country.”

In 1999, the New Berlin Department of Community Development began a process to update the community’s comprehensive plan and zoning and subdivision ordinances. This process was called the Growth and Development Management Plan Update. In order to get meaningful public input, the plan commission created a sub-committee made up of citizens from a broad range of career paths and professions. Over the past ten years, New Berlin has experienced heavy growth pressures. The city embarked on this process not to discourage development, but to develop policies and regulations that would preserve the city’s character and natural resources. The GDMP project elements included a code diagnosis, land demand/land capacity analysis, growth management diagnosis, and reviewing and updating development and conservation subdivision policies.

## Urban Ecological Analysis

Realizing a need to understand the environmental and economic benefits of trees and greenspace, the DCD decided to conduct an urban ecological analysis to determine these benefits as part of the GDMP process. In 2000, DCD staff applied for and received a DNR urban forestry grant to help fund the analysis. This analysis will aid staff by providing factual information showing the vital economic and environmental roles that trees and greenspace play. The information can be used to assist in revising the city’s zoning and subdivision ordinances, development policies and site planning guidelines. This analysis will estimate the impact of tree loss on stormwater management costs, measure the effectiveness of present tree/landscape ordinances, and model design scenarios for subdivisions, commercial and industrial development.

*continued on page 4*

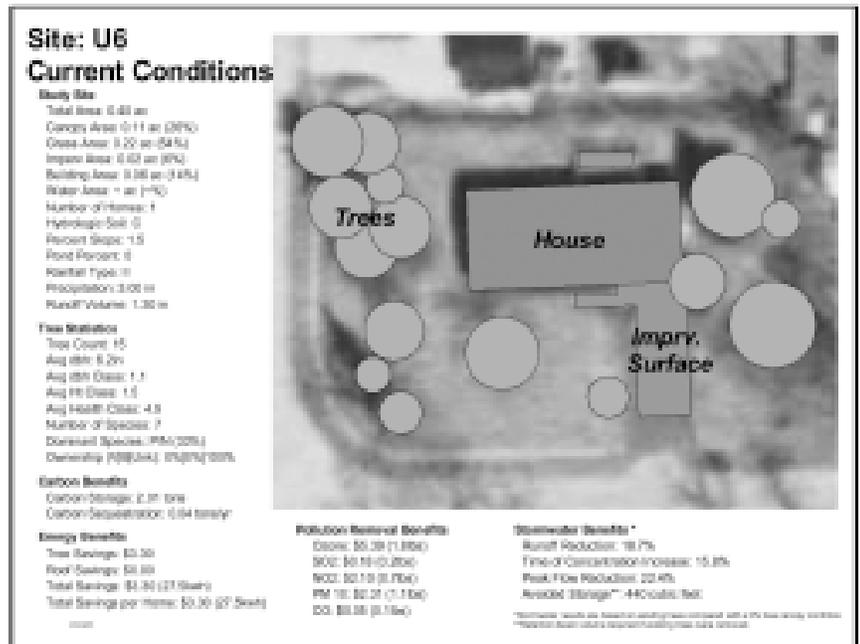


Figure 1: An example of a site data sheet.

## Marinette *continued from previous page*

The forestry department performs all landscaping and city beautification projects and has received a tremendous amount of help from the Marinette County Northern Lights Master Gardeners, Marinette Women’s Club, Boy Scouts of America and a host of other groups.

The Marinette City Forestry Department has a strong commitment to inform the public on the importance of trees in their community through press releases and a variety of public tree seminars conducted by the city forester. There is an ongoing commitment to educate our younger generation at seven local elementary schools, one middle school and two high schools each spring through the use of slide-show presentations, talks on tree biology and emphasizing the importance of trees. 🌿



# International Conference Comes to Milwaukee

The Wisconsin Arborist Association is hosting the 77<sup>th</sup> Annual **International Society of Arboriculture Conference and Trade Show** in Milwaukee, August 12–15, 2001. This is the largest conference on tree care, attracting over 2000 participants from around the world!



Registration materials are at press and should be out shortly, but you can view a preliminary program at the ISA web site, <http://www.isa-arbor.com/>. If you are not a member of the ISA you can request a copy of the registration materials at their website or by contacting the ISA at 217-355-9411 or [isa@isa-arbor.com](mailto:isa@isa-arbor.com).

The program boasts internationally known speakers, a huge trade show, pre-conference workshops and an outdoor field day featuring the International Tree Climbing Competition and the finish line for the 2001 Tour des Trees bicycle tour, a fund raiser for tree research.

There will also be a big need for volunteers before and during the conference and on the Tour des Trees. If you are interested in volunteering, contact Dick Rideout (see page 16).

So mark your calendar for the biggest tree care event you'll see in Wisconsin for many years and we'll see you in Milwaukee! 🌿

## New Berlin *continued from page 3*

The city worked with a local consultant, Geographic Marketing Advantage from Franklin, Wisconsin, to inventory a total of 15 study areas. Each of the 15 study areas was chosen from a series of identified ecostructures. These ecostructures were formed when land cover data were combined with other data representing land use, environmental corridors, habitat areas, soil groups, zoning, neighborhoods/planning concept areas and floodplains/watersheds. These ecostructures will stratify the city into basic ecological components (e.g., urban residential, wooded, etc.). Once these ecostructures were identified, sample study sites were randomly selected. The consultant then ground-truthed each site using aerial photography as a base. At each site, locations of all trees were identified on 1-foot-resolution color aerial photos. This method was found to be more locationally accurate than locating with GPS given the resolution of the aerial photos. Using data sheets, the consultant collected information on each tree including species, DBH, diameter class, height class, health, ownership, potential conflicts and ground cover.

When the data were collected and entered into a database, staff began performing the study area analysis using CITYgreen. Staff digitized the locations and sizes of each tree in the study area using the data sheets. Buildings and impervious surfaces were also identified using the aerial photos and drawn onto the study area. Soil type and the average slope of the site were queried using existing GIS data layers. Using CITYgreen, staff then computed storm water runoff statistics, carbon storage capacity, pollution removal rates and energy conservation rates for each site. (See Figure 1 for an example site data sheet.)

After all study area analysis was completed, staff combined the findings from the local analysis with the ecostructure classification map to extrapolate the analysis for the city. The UEA provides us with valuable and practical information about the city's urban forest. Communities should consider using UEA when adopting Smart Growth policies. 🌿

## Summary of Residential Sites

- Average canopy cover of New Berlin's residential areas is estimated at about 14 percent. This translates to a canopy cover of over 1,100 acres.
- On average, trees on one residential lot remove over 5 pounds of pollutants each year. Citywide this totals over 29 tons of pollutants: 11 tons of ozone, 8 tons of particulate matter, 5 tons of nitrogen dioxide, almost 3 tons of sulfur dioxide and 1 ton of carbon monoxide.
- Residential trees reduce storm water runoff by 12 percent. Peak flow is reduced by 15 percent. Without residential trees, 4.7 million cubic feet of storm water retention volume is needed to counteract the effect of trees. This is equivalent to an 11-foot-deep, 10-acre lake.
- The average cooling savings due to tree canopy for a single house is only \$0.58 per year (based on \$200 average annual cooling cost). This is largely due to New Berlin's status as a relatively newly developed city. Almost all sites were predominantly occupied by young trees. Even so, it does add up; over an estimated \$6,750 in cooling costs is saved by trees in residential neighborhoods. 🌿

# Wisconsin Utilities Achieve Tree Line USA

The National Arbor Day Foundation announced that **all** of the investor-owned utilities that serve Wisconsin have been named Tree Line USA utilities in recognition of their national leadership in caring for trees while meeting service objectives. Alliant Energy, Xcel Energy (formerly NSP), Madison Gas & Electric Company, Wisconsin Electric Power Company and Wisconsin Public Service Corporation join an elite few utilities nationwide that have received this distinction.

In his announcement, NADF President John Rosenow praised the utilities' efforts "in meeting Tree Line USA requirements—training your workers in quality



tree care practices and helping your customers to plant appropriate trees near utility lines." These activities "not only help to provide beautiful trees for the future, but also result in long-term operational savings," noted Rosenow. 🌳

## Exotic Insect Pests *continued from page 1*

### Brown Fir Longhorned Beetle

The brown fir longhorned beetle, *Callidiellum villosulum*, was discovered by a craft store owner in Marshfield, Wisconsin in the fall of 1999. Upon opening some boxes containing artificial Christmas trees the owner noticed some live beetles. The beetles were sent to the Smithsonian for identification. The first beetles were tentatively identified as the smaller Japanese cedar longhorned beetle (*Callidiellum rufipenne*), a quarantineable pest which has been found in Connecticut, but later identified as *C. villosulum*. The brown fir longhorned beetle is known to feed on *Cryptomeria spp.* (China fir), which is what the artificial Christmas tree center pole was made of. The same beetle was found at four other craft stores in Wisconsin and at several other locations in other states. Subsequent to these findings the USDA ordered all artificial Christmas trees with these same center poles to be fumigated prior to distribution. It is possible that *C. villosulum* could become a pest of junipers and arborvitae but little is known of this insect.

### Bamboo Tiger Longhorn (or Slender Black and Yellow Bamboo Longhorn Beetle)

The bamboo tiger longhorn, (*Chlorophorus annularis*), was found at a craft shop in Madison, Wisconsin earlier this year. The beetle was dead so the actual time it arrived is unknown. Although primarily a borer of dried bamboo its host range includes grape, citrus, pear and cotton. The USDA considers this to be a quarantineable pest. Again, little is known of this beetle other than that it is found in Southeast Asia, Australia, Japan, Korea and the Hawaiian Islands.

### Oriental Beetle

The oriental beetle (*Exomala orientalis*) is similar to Japanese beetle in the damage it causes in turf.



White-spotted Japanese citrus borer, *Anoplophora malasiaca*.

However, unlike Japanese beetle, oriental beetle is also a pest of containerized nursery stock; this is its primary means of long distance travel. The oriental beetle is a scarab beetle; the previous mentioned beetles were all Cerambycids or longhorned beetles. Several years ago the sex pheromone of the oriental beetle was isolated and then synthesized. The pheromone then became commercially available. In 1999 we trapped for oriental beetle for the first time in Wisconsin. Knowing that its distribution is confined primarily to the northeast we targeted trapping at nursery dealers

receiving stock from the eastern US. We trapped approximately 30 sites and two sites were positive, both in Milwaukee Co. Oriental beetle is not a federally quarantined pest so little effort has been done to stop its spread westward. Other states are also trapping for oriental beetle and we will soon get a better picture of this pest's current distribution. 🌳



# Winter King Hawthorn

## (*Crataegus viridis* 'Winter King')

by Laura G. Jull  
Dept. of Horticulture  
University of Wisconsin–Madison

**Native To:** Maryland and Virginia to Illinois, Iowa, Texas and Florida.

**Mature Height:** 20' to 25'

**Spread:** 25' to 30'

**Form:** Rounded form with vase-shaped, ascending branching; medium to fine texture; single to multi-stemmed.

**Growth Rate:** Moderate to slow

**Foliage:** Alternate, simple leaves, oblong-ovate to elliptic, 1½" to 3½" long, with toothed margins and wedge-shaped leaf base. Terminal portion of the leaf is shallowly lobed with an acute tip. Leaves are dark green and glossy above, smooth underneath except for soft hairs in the axils of veins.

**Fall Color:** Bronze, red, to yellow; usually not spectacular.

**Flowers:** Showy flowers, white, in late May before the leaves emerge; in 2"-diameter, flat clusters. Flowers have a disagreeable odor.

**Fruit:** Bright red to orange-red drupe in clusters; ¼" to ⅜" in diameter in fall; very persistent and showy. Fruit attracts cedar waxwings. Fruit does not become a litter problem.

**Bark:** Stem bark is smooth, gray-green to silver-gray with few, inconspicuous, 1½" thorns. Trunk bark is showy, scaly, silver becoming exfoliating with age to expose orange-brown inner bark.

**Site Requirements:** Prefers full sun, well-drained soil; pH adaptable; urban tolerant. Sensitive to road salt. Transplants best in the spring.

**Hardiness Zone:** 4b to 7

**Insect & Disease Problems:** Less susceptible to leaf rust than other hawthorns, however fruit can become infected with rust. Aphids, borers, lacebugs, caterpillars and leaf miners can infest foliage but are usually minor.

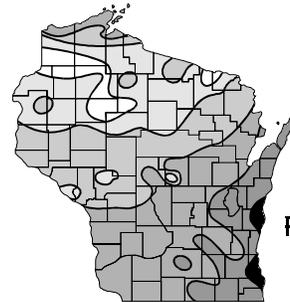
**Suggested Applications:** Winter King hawthorn is an excellent, small landscape tree that can be used under power lines or in planters. It can also be used as a specimen in small areas, screen, parking lot islands or as a street tree in wider boulevards.

**Limitations:** Lower branches can obstruct view of vehicles on streets and interfere with pedestrian traffic on sidewalks. Fruit may become infected with



Winter King hawthorn in full flower.

Photo by Dr. Laura Jull, UW–Madison



Plant Hardiness Zones for Wisconsin

\* Urban tree size and growth rate vary considerably and are strongly controlled by site conditions.

rust. Thorns can be a nuisance.

**Comments:** Its outstanding display of white spring flowers, persistent bright-red fruit and exfoliating bark provide multi-seasonal interest. It is also urban and high-pH tolerant. Improved over other hawthorns for pest resistance, fewer thorns and persistent fruit display.

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**Plants that Merit Attention: Vol. 1 Trees,** 1984, The Garden Club of America, Janet Meakin Poor, (ed.), Timber Press, Portland, OR.

**Street Tree Factsheets,** 1993, by Henry D. Gerhold, Willet N. Wandell, and Norman L. Lacasse, Penn State University, University Park, PA.

**Trees for Urban and Suburban Landscapes,** 1997, by Edward F. Gilman, Delmar Publishers, Albany, NY.

Photo by Dr. Laura Jull, UW–Madison



The persistent fruit of Winter King is a brilliant red.

# Eutypella Canker

by Glen R. Stanosz<sup>1,2</sup>, Ph.D., and Michael Amman, former undergraduate student<sup>1</sup>, Departments of <sup>1</sup>Plant Pathology and <sup>2</sup>Forest Ecology and Management, University of Wisconsin–Madison

Eutypella canker is a disfiguring and potentially lethal disease of trees in the genus *Acer* (the maples). Affected tree species include red, Norway, sycamore and black maples and boxelder, but Eutypella canker is most common on sugar maples. Eutypella cankers on urban trees can reduce growth, result in classification of trees as hazardous, and cause their premature death.

A canker is a localized dead area (surrounded by living tissues) on the branch or trunk of a tree. Eutypella cankers result from colonization of maple trees by the fungus *Eutypella parasitica*. This fungus produces spores in tiny, black fruiting bodies that develop in the centers of cankers that are at least five years old. During mild, moist weather, these spores are forcibly discharged and carried by the wind to other trees. Spores germinate and infection occurs through openings in the bark associated with branch stubs, sunscald, frost cracks or damage such as that resulting from storms or pruning.

After entry into maple stems, the pathogen begins a see-saw battle with the host tree. Each year, the fungus may advance several millimeters farther into previously healthy tissues around the infection site. The tree responds with the production of callus, temporarily halting expansion of the canker. The typical Eutypella canker has a flat or sunken center, often retaining the dead bark and surrounded by thick callus. The growth of cankers and surrounding callus over many years results in a swollen appearance. Eutypella cankers often occur within 10-12 feet of the ground and old branch stubs are common at the centers of cankers.

Eutypella cankers can easily be recognized with experience. The characteristic swelling or flare of the cankered tree trunk, sometimes resembling the hood of a cobra, has led to the nickname “cobra canker.” In addition to its small black fruiting bodies, *Eutypella parasitica* produces white fans of mycelium, that can be revealed by carefully removing the bark from canker margins. Assistance in diagnosing Eutypella canker can be obtained from your tree health professional or Dr. Brian Hudelson at the UW–Madison Plant Disease Diagnostics Clinic, 608-262-2863;

[bdh@plantpath.wisc.edu](mailto:bdh@plantpath.wisc.edu); <http://www.plantpath.wisc.edu/PDDC>.

Branches bearing Eutypella cankers can be removed by pruning, but there is no “cure” for a Eutypella canker on the trunk of a tree. If a canker occupies more than half the trunk diameter it is considered a potential hazard. Development of extensive decay by other fungi that enter trees at the sites of Eutypella cankers can further increase hazard. Trees considered hazardous should be removed if they endanger people or property, including other trees.

Avoid Eutypella canker by pruning during dry weather (when conditions are less favorable for infection) and minimizing the wounding of maple branches and stems. Encouraging good growth of urban trees by providing water and appropriate fertilization might help trees resist infection. These practices also might slow expansion of existing cankers. Trees other than maples might be favored in areas where Eutypella canker is very common.

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Swollen maple tree trunk with Eutypella canker.

Photo by UW Department of Plant Pathology

## What Damaged This Tree?

by Kim Sebastian  
DNR Southeast Region



Photo by Kim Sebastian, WDNR

Turn to page 15 to find out...



# Finding Resistance to the Birch Leafminer in White-barked Ornamental Birches

by William Hoch, Graduate Student  
and Brent McCown, Professor  
Department of Horticulture  
University of Wisconsin–Madison

stress and has been implicated in predisposing birches to fatal attack by the bronze birch borer, *Agrilus anxius*.

The birch leafminer, *Fenusa pusilla*, is a common and often serious pest of birch species throughout much of the northern United States and Canada. This European sawfly lays eggs exclusively into new expanding foliage, the larvae often mining nearly every leaf on a tree by late spring, seriously affecting the value of urban ornamental trees. Heavy leafminer attacks also force the affected tree to produce a second flush of leaves at the time of the tree's lowest energy reserves. Repeated defoliation is a significant

Presently, the only reliable means of control for this insect in urban conditions involves insecticides, either injected into the soil to be taken up systemically by the plant or sprayed directly on leaves. Attempts to introduce natural enemies of leafminers into North America have yet to provide consistent and widespread control of this pest. The development of birch selections with high insect resistance and urban tolerance would greatly improve the value and usability of these popular landscape plants.

Table 1. Level of leafminer resistance based on field tests, bronze birch borer resistance based on rhododendrol tests of Dr. Frank Santamour, and native range for the 13 birch species tested.

BETULA SPECIES	COMMON NAME	LEVEL OF LEAFMINER RESISTANCE	BRONZE BIRCHBORER RESISTANCE	NATIVE RANGE
<i>B. glandulifera</i>	bog birch	Susceptible	Susceptible	North America
<i>B. papyrifera</i>	paper birch	Susceptible	Susceptible	North America
<i>B. populifolia</i>	gray birch	Susceptible	Susceptible	North America
<i>B. maximowicziana</i>	monarch birch	Susceptible	Resistant	Japan
<i>B. platyphylla</i> var. <i>japonica</i>	Japanese white birch	Susceptible	Susceptible	Japan
<i>B. turkestanica</i>	Turkestan birch	Susceptible	Susceptible	Western Asia
<i>B. pendula</i>	European white birch	Susceptible	Susceptible	Europe
<i>B. ermanii</i>	Erman's birch	Susceptible	Susceptible	Eastern Asia
<i>B. costata</i>	elm-leafed birch	Variable Resistance	Resistant	Eastern Asia
<i>B. davurica</i>	Dahurian birch	Variable Resistance	Resistant	Eastern Asia
<i>B. alleghaniensis</i>	yellow birch	Highly Resistant	Resistant	North America
<i>B. grossa</i>	Japanese cherry birch	Highly Resistant	Resistant	Japan
<i>B. lenta</i>	sweet birch	Highly Resistant	Resistant	North America

In 1995, we initiated a program to develop ornamental white-barked birch selections resistant to the two main insect pests of ornamental *Betula* species, the birch leafminer and the bronze birch borer. Controlled interspecific crosses are being conducted, with the goals of combining these characteristics as well as providing a means of analyzing the genetic basis of any observed resistances. Historically, significantly more research has been performed on the physiology of resistance to the bronze birch borer, and the availability of resistance genes to this insect is relatively well defined.

*continued on next page*

## Coming Events



**May 1–2** — *Effective Urban Forestry Techniques for Engineering Design, Construction and Maintenance Operations*. A workshop for community engineers, planners and contractors. The Pyle Center, UW–Madison, Madison, WI. Contact Howard Rosen, Department of Engineering Professional Development, 800-462-0876 or [custserv@edp.engr.wisc.edu](mailto:custserv@edp.engr.wisc.edu) or <http://epdweb.engr.wisc.edu/courses/>.

**May 1–3** — *Urban Wildlife Management Conference*. Lied Conference Center, Nebraska City, NE. Contact the National Arbor Day Foundation, 402-474-5655 or [conferences@arborday.org](mailto:conferences@arborday.org).

**August 12–15** — *International Society of Arboriculture Annual Conference*. Midwest Express Convention Center & Hilton Hotel, Milwaukee, WI. Contact ISA, 217-355-9411 or [isa@isa-arbor.com](mailto:isa@isa-arbor.com).

**September 5–8** — *National Urban Forestry Conference*, “Investing Natural Capital in Urban Places.” Washington, DC. Contact American Forests, 202-955-4500 or <http://www.americanforests.org>.

# Planning for Gypsy Moth This Summer

by Andrea Diss, PhD  
DNR Division of Forestry

This summer, many communities in eastern Wisconsin will have their first experience with gypsy moth outbreaks. While this foreign pest has been present in counties along the shore of Lake Michigan from the early '90s, the populations are only now building to levels where the insect becomes noticeable and starts to cause significant damage.

There is a DNR grant program to help reduce outbreaks of gypsy moth below levels where they can cause damage. This suppression program includes an aerial spray of Btk and cost sharing for both treatment and county administrative costs. Grants are available to counties that make the application for treatment on request from landowners. While it is too late to participate in this May's treatment, the application procedure for treatment in May of 2002 starts this summer and fall.

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## Birch Resistance *continued from previous page*

Therefore, we concentrated our studies on leafminer resistance.

Leafminer resistance tests were performed in field test plots (Picture 1), using laboratory-reared adult leafminers placed in bags tied over the new shoots. Thirteen *Betula* species were tested to identify potential parental species or individuals possessing high levels of leafminer resistance. The information presented in Table 1 (page 8) represents the findings of these tests.

Three categories of birch species were evident based on their relative resistance/susceptibility: 1) susceptible (many larvae surviving in all plants tested), 2) highly resistant (no larvae surviving in all plants tested), and 3) variable resistance (intermediate

The first step is for counties to record calls from landowners requesting consideration for treatment. This list should include the name, address, phone number and an indication of the extent of the gypsy moth problem. It would be a good idea to have a central record for treatment requests in place by June this summer, as many residents will first notice gypsy moth in this month and become concerned. With this list, a county will then have a rough idea of how many requests for assistance it will receive this fall and be able to plan for the workload involved in participating in the suppression program. Municipalities should also consider keeping such a list since many residents will approach their municipal government rather than the county. The list could then be given to the county for processing.

Proposed permanent rules governing the suppression program cover criteria for eligibility, level of reimbursement and public notification requirements. A copy of the proposed rules is available on the DNR web site at <http://www.dnr.state.wi.us/org/land/forestry/fh/insects/permanentrule100600.HTM>. 

and/or variable survival). Interestingly, in these resistance assays, leafminers laid eggs into every *Betula* individual tested, thus none of the birches repelled the insect.

*continued on page 11*



Picture 1. A birch tree field test plot at the West-Madison Agricultural Research Station.

Photo by Bill Hoch, UW-Madison

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## Events, cont.

**October 11–13** — *Community Open Space Partnership Summit*. Paper Valley Hotel, Appleton, WI. Contact the Urban Open Space Foundation at 608/255-9877

**October 14–16** — *Tree Structure & Mechanics International Conference*. DeSoto Hilton, Savannah, GA. Contact Dwayne Carter, 336-789-7766 or fax 336-789-0202 or <http://www.isasouthern.org/Savannah.htm>.

**October 21–24** — *Society of Municipal Arborists Annual Conference and Trade Show*. Holiday Inn, Fargo, ND. Contact SMA Executive Director Norma Bonham, 314-862-3325 or [nbonham@stlnet.com](mailto:nbonham@stlnet.com).

**November 5–8** — *The Wildland-Urban Interface: Sustaining Forests in a Changing Landscape*. University of Florida, Gainesville, FL. Contact Dr. Mary Duryea, 352-846-0896 or [mlduryea@ufl.edu](mailto:mlduryea@ufl.edu) or <http://conference.ifas.ufl.edu/urban/#info>. 

*If there is a meeting, conference, workshop or other event you would like listed here, please contact Dick Rideout at 608-267-0843 with the information.*

## Coyotes in the City

by Ricky Lien  
DNR Urban Wildlife Specialist

*I received a phone call the other day from a nice person. She wanted to report a pack of wolves that she'd been seeing lately. No, she wasn't up at her northern cabin—she'd been seeing them out the window of her home in Milwaukee. While I didn't travel out to this lady's home to check on the situation personally, I'm fairly confident that she was seeing coyotes, not wolves.*

Urban coyotes are not a new situation. In 1866, the *Janesville Gazette*, as cited in *Mammals of Wisconsin* by H.H.T. Jackson, reported, "Another prairie wolf [coyote] has been caught within the city limits of Milwaukee." An increasing amount of attention is being focused on coyotes. This may be due to an actual increase in the number of coyotes in urban/suburban areas that provide great habitat and plenty of food for coyotes. Coyotes are scavengers, able to take advantage of many available food sources. And much of the new urban sprawl on the landscape is well suited to coyote habitation—large, well-landscaped lots located in rural or semi-rural areas. These areas are usually home to healthy rabbit, gopher, squirrel and other rodent populations, along with fruit trees, pets and pet foods, and discarded human food items available for coyotes to eat. And yes, there are even people out there who go out of their way to feed coyotes intentionally. I talked with a person a few months ago who told me she bought extra pork chops each week to throw into her backyard for the coyotes!

Another factor that may have a role in how many coyotes are reported is the restriction on hunting and trapping that often goes with living in urban and suburban areas. Unharvested populations of coyotes can become less afraid of humans. That lack of fear may make them more noticeable. Some humans don't share that lack of fear. Many of the people who call me to tell me about a coyote they just saw want to know how they can get rid of it (or how I'll get rid of it for them) because they're worried about being attacked. Is their concern justified? To date there has been no confirmed attack on a human by a coyote in Wisconsin. On the other hand, consider how many people have to be treated each year for dog bites. How many dogs do you encounter compared to coyotes? Still, coyotes are wild animals and as such should not be taken for granted. There have been people injured by coyote attacks in other states.



Photo by WDNR

Reports of coyotes in urban areas are increasing in Wisconsin.

If you are concerned about coyotes on your property or in your neighborhood, the following tips can help address these concerns. First, do not feed coyotes! Discard edible garbage items in secure containers. Do not put meat scraps in compost piles. Remove bird feeders and outside pet food containers. Coyotes will prey upon small mammals that are attracted to bird seed and pet food.

Don't allow your pets to run free. Keep your dog on a leash if you take it for a walk. Coyotes may see your dog as a threat to their territory and attack if it's running free. Cats and small dogs may be seen as food. I like to point out to people that cats seem to be high on the list of coyotes' favorite snack items. Accompany your pets outside, especially between dusk and dawn when coyotes are most active. And if you have animals that stay outside, provide them with secure shelters.

Actively discourage coyotes from visiting your property and reinforce a fear of humans. If you see a coyote, turn on your outside lights and make loud noises. Don't be submissive in your actions.

Finally, encourage your neighbors to participate in your efforts. It can be a waste of your time if you take all these precautions and actions, but your next-door neighbor is the lady who's feeding them pork chops!

I don't want to leave the impression that coyotes should be an unwelcome neighbor whenever they show up in an urban setting. Wisconsin is fortunate to have John Olson as the Wisconsin DNR furbearer specialist. From his Park Falls office where he coordinates Wisconsin's trapping seasons and oversees research and management of our furbearing species, John provided me with the following comments regarding coyotes.

- We care about coyotes as important members of our natural systems. They are found in and have adapted well to a wide variety of ecological landscapes throughout Wisconsin.

*continued on page 15*



## Birch Resistance: *continued from page 9*

Two species, *B. davurica* and *B. costata*, displayed intermediate resistance and a greater range of response. In some highly resistant individuals of *B. davurica*, all eggs became surrounded by an area of discolored and dead tissue; the eggs simply dried and did not hatch. The reaction observed in these *B. davurica* individuals resembles the programmed cell death associated with what is called a *hypersensitive response* (Picture 2). The hypersensitive response is a mechanism commonly utilized by plants to defend against attack by microbial pathogens, but has rarely been identified with resistance to insect pests. The detailed mechanism underlying this response in resistant individuals of *B. davurica* is presently a focus of study in our laboratory.

A second form of resistance was observed in all the other resistant individuals and species. This resistance is characterized by the death of the leafminer larvae shortly after hatching and feeding for a few hours. This type of resistance, which is much more common than the hypersensitive response, is characteristic of a chemical compound(s) produced by the plant that is toxic to the insect larvae.

River birch, *B. nigra*, a common landscape tree, was excluded early in the project primarily because it showed a very limited ability to hybridize with other *Betula* species. The initial leafminer assays performed on *B. nigra* gave no indication of any appreciable level of resistance in this species. Had the river birch remained in this study, it would have likely been classified as susceptible.

For this project, all of the individuals used were of wild-collected origin. The collection of birch from native populations is the best means of obtaining true-to-type material. We have recognized that a significant amount of conflicting information concerning insect resistance in birch may be due to incorrect identification of observed trees, especially in urban and non-native environments. In a 1992 presentation to the International Dendrology Society, P.C. Jong



Picture 2. A lesion associated with leafminer resistance in some *B. davurica* individuals. The female leafminer laid an egg in the center of the lesion that in turn induced what appears to be a “hypersensitive response” or a death of the leaf cells surrounding the egg. The egg thus failed to hatch and no further damage occurred to the leaf.

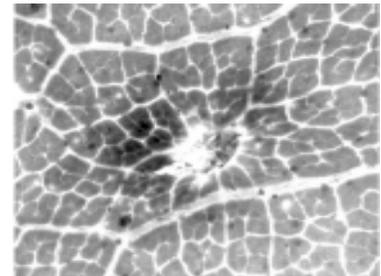


Photo by Bill Hoch, UW-Madison

estimated that less than 50 percent of the birch in arboreta and botanic gardens are correctly labeled. The fact that *Betula* are wind-pollinated species and freely hybridize in cultivation only compounds this problem.

The resistance to birch leafminer observed in this study forms the theoretical basis for combining leafminer resistance, borer resistance and ornamental white bark into birch by use of controlled interspecific crosses. In addition, such crosses may provide useful information as to the genetic basis of such resistances.

*continued on page 12*

## Deadlines and Datelines

**Weyerhaeuser Family Foundation Sustainable Forests and Communities Initiative** offers grants ranging from \$5,000–\$30,000, now available to new and recently started projects in the Pacific Northwest, Minnesota, Wisconsin, and the South working to enhance the ecology, economy and community in forested landscapes. Submissions of **cover sheets are due May 1** to Judith Healey at 332 Minnesota Street, Suite 2100, Saint Paul, MN 55101-1394. Telephone: 651-228-0935.

**2002 National Tree Trust Community Tree Planting Grant Program** provides up to 1000 tree seedlings to local governments and qualifying 501(c)(3) nonprofit organizations to plant on public property using volunteers. Species are appropriate to your general planting region and seedlings may be containerized, direct planted or lined out. Contact the National Tree Trust at 800-846-8733 for a year 2002 application packet or check out their website at <http://www.nationaltreetrust.org>. **Part One: Seedling Request Form deadline is May 31, 2001.**

### Urban Parks and Recreation Recovery

The National Park Service has announced the availability of \$28.9 million in FY '01 funds to rehabilitate existing neighborhood recreation areas and facilities through the UPARR Program.

- objective: Funding this year is limited to rehabilitation projects that have deteriorated to the point that either the community's recreational services are impaired, or the health and safety of residents is endangered.
- eligibility: urban jurisdictions with an approved Recovery Action Program on file with NPS (Applicants that do not have a RAP on file may submit one.)
- funding: NPS will make grants of up to \$500,000 each with a 30 percent match required for each project.
- fund uses: to remodel, rebuild or develop existing outdoor or indoor recreation areas and facilities
- **deadline: June 18, 2001**

For more information visit <http://www.ncrc.nps.gov/uparr/index.htm> or contact the National Park Service Midwest Region, 1709 Jackson Street, Omaha, NE 68102-2571. Telephone: 402-221-3358. 

## Organization Profile:

# Wisconsin Landscape Federation (WLF)

By Don Kissinger  
DNR West Central Region



The Wisconsin Landscape Federation is an umbrella group of professional associations. It started in 1972 with three organizations, the Wisconsin Landscape Contractors Association, Wisconsin Nursery Association and Wisconsin Arborist Association, which has since left the federation. Current members now include the Commercial Flower Growers of Wisconsin, Gardens Beautiful garden centers, Grounds Management Association of Wisconsin, Wisconsin Landscape Contractors Association, Wisconsin Nursery Association and Wisconsin Sod Producers Association. These member groups are separate and autonomous organizations representing specific disciplines of the "green industry." Collectively, the WLF represents just under 700 member companies and individuals.



WLF was initially formed to attract additional green industry members and to be heard and understood by the state legislature. Today, this nonprofit organization still seeks legislative advocacy with its cadre of lobbyists as well as through the monitoring of new laws and regulatory issues that affect its six member organizations. It also seeks to educate its member associations with an annual state conference and co-sponsorship of the Mid-Am Horticultural Trade Show in Chicago each year. The MidAm has grown to be one of the top five green industry trade shows in the nation, where upwards of 11,000 people come to see over 600 exhibitors.

Since the mid 1970s, the WLF has produced a newsletter entitled *Green Side Up*. This monthly

newsletter is produced for the member organizations to avoid duplication of information and effort. The newsletter keeps WLF members in the loop regarding new initiatives and laws, research, industry profiles and marketing strategies.

The WLF sponsors grants and scholarships to University of Wisconsin researchers and students, while cultivating a strong working relationship with Milwaukee Area Technical College and many other Wisconsin vocational and community colleges. To help consumers, the WLF is currently updating and expanding their web site, [www.wislf.org](http://www.wislf.org), to allow people in any county to find businesses nearby that will provide requested services. This updating should be complete by May 1, 2001. The web site will also educate consumers and keep members current with activities and events to assist with professional advancement.

Membership costs range from \$125–\$300, depending on which member organization is joined. Other benefits include group insurance (health and liability), discounted fuel programs, an annual membership directory and the opportunity to submit news articles and information to *Green Side Up*. The WLF also has a green industry Hall of Fame that soon can be visited at the Olbrich Botanical Gardens in Madison.

For more information on the Wisconsin Landscape Federation or any of its member associations, contact Executive Director Joe Phillips at 414-529-4705 or [torriad@execpc.com](mailto:torriad@execpc.com). 



## Birch Resistance *continued from page 11*

For more detailed information on this study see: Hoch, W.A., E.L. Zeldin and B.H. McCown. 2000. *Resistance to the Birch Leafminer, Fenusa pusilla (Hymenoptera: Tenthredinidae), within the Genus Betula*. J. Econ. Ent. 93:December, 2000. – or contact William Hoch at [wahoch@students.wisc.edu](mailto:wahoch@students.wisc.edu) for a reprint of this or other papers related to this study.

### Acknowledgements

We thank the organizations whose funding made this research possible: the Horticultural Research Institute, International Society of Arboriculture, Wisconsin Arborist Association and the Wisconsin Nursery Association. In addition, this project was supported by the USDA McIntire–Stennis program, the College of Agriculture and Life Sciences, UW–Madison, and the National Science Foundation Fellowship to William Hoch. 

# The Idea Exchange...

Compiled by Dick Rideout  
DNR Division of Forestry

## **\$50 Million Donation for DC Trees**

Philanthropist Betty Brown Casey announced an unprecedented private gift in support of tree planting and care for the city of Washington, DC—\$50 million to create a maintenance and planting endowment for the city trees. This is the largest single donation of this kind in US history. See the complete article at <http://www.washingtonpost.com/wp-dyn/articles/A71-2001Feb27.html>.

## **NUCFAC Creates National Urban Forestry Awareness Campaign**

The National Urban and Community Forestry Advisory Council, in cooperation with the USDA Forest Service Communications Department, is

funding the creation of a national urban forestry awareness campaign. The ads, to be in print as early as April 2001, will appear in national publications targeted at a general readership. NUCFAC is paying for national outreach and is seeking community partners to promote the series in local media markets. The ads may be customized with tag lines from local organizations. To learn more contact Suzy del Villar at [delvr@lodelink.com](mailto:delvr@lodelink.com) or call 209-536-9201.

## **ACT Launches Electronic Newsletter**

Members of the National Alliance for Community Trees invite you to subscribe to *Urban Forest Community News*, an e-mail newsletter that focuses on national/regional news for community organizations engaged in urban and community forestry. To add your name to the mailing list or submit an article, e-mail [alice@actrees.org](mailto:alice@actrees.org).

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*Does your community or organization have an idea, project or information that may be beneficial to others? Please let your regional urban forestry coordinator know. We will print as many of these as we can.*

*If you see ideas you like here, give the contact person a call. They may be able to help you in your urban forestry efforts.*

# The Wisconsin Conservation Corps: A Great Resource for Urban Forestry Projects

By Don Hammes

WCC Communications Coordinator

No matter what kind of urban forestry project you need completed, the Wisconsin Conservation Corps can help you get it done quickly and efficiently. A WCC crew can plant, prune or remove trees and shrubs in your community. They can build boardwalks through wetland areas or bridges across creeks and rivers. They can conduct tree inventories. They can even help develop urban forestry educational programs that may include field trips and educational seminars. Or they can prepare educational materials such as informational kiosks, bulletin boards and signs.

WCC is a state agency that employs young adults, age 18 to 25, who are interested in learning new job skills and finding a new career opportunity. Each WCC crew is made up of five to seven corps members who are sponsored for one year by one or more government agencies, nonprofit organizations or a combination of the two. A trained crew leader supervises each crew. After spending one year in the corps, members are eligible to receive a \$2,800 tuition grant from WCC and an education grant of up to \$4,725 from AmeriCorps. Those who do not wish to pursue higher education receive a \$500 cash bonus.

WCC sponsors provide work projects, materials, equipment and transportation. WCC provides supervision, training, wages, worker's compensation

and safety equipment. Most project applications contain multiple sponsors so the work a crew might do for any particular sponsor doesn't have to be long-term. There are presently 55 WCC crews working on conservation and community development projects throughout the state.

Becoming a WCC project sponsor can be extremely cost effective. For example, if you have a DNR urban forestry grant, most expenses associated with the average WCC urban forestry project such as mileage, tools and materials, can be charged to the grant. Only corps member wages, which are paid by the state, are not eligible grant costs. Even without an urban forestry grant, sponsoring a WCC crew can substantially reduce your project costs.

WCC is continually recruiting new project sponsors, so it's never too late to sign up. Since most sponsors do not have 52 weeks of work, many crew work plans contain work projects for several sponsors who have projects that may take anywhere from a few days to several months to complete. With 55 crews working at different locations all across the state, the chances are good that WCC can fit your project into an existing work plan or a plan under development. If you have enough work for just part of



Corps member removing tree from retaining-wall construction site.

Photo by WCC

*continued on page 14*

*Council News:*

## Council Honors State Parks

Madison, WI – On Thursday, December 7, 2000, a very special tree was planted at the gates to the governor's residence. In honor of the Wisconsin State Park System's 100<sup>th</sup> anniversary, a young sugar maple, Wisconsin's state tree, was ceremoniously lowered into the ground that is to be its home for the next 100 years and beyond. Alongside the Centennial Tree a bronze plaque commemorating the Centennial Year of Wisconsin State Parks will be mounted. Donated by the Wisconsin Urban Forestry Council, the Centennial Tree at the governor's residence is also representative of the state's commitment to bringing the beauty of nature into the heart of Wisconsin's cities. Pictured at right, Wisconsin Urban Forestry Council Representative Greg Lancaster, State Urban Forestry Coordinator



Photo by Bob Queen, Wisconsin DNR

Dick Rideout and Wisconsin State Parks Director Sue Black stand with the newly planted Centennial Tree and plaque outside the governor's residence. ❧

## 2001 National Urban Forest Conference

### September 5–8, 2001 in Washington, DC

The 2001 National Urban Forest Conference theme is *Investing Natural Capital in Urban Places: A Green Revenue Stream for Metro America*. Unlike any time in the past, the gray infrastructures that support urban America are overextended, creating costly and complex management problems for community leaders. There are too many impervious gray surfaces that increase stormwater management costs and lower air quality, and too little green infrastructure—trees, open space and natural areas—that function in a natural way to improve air and water quality.

Conference attendees will learn about new techniques to measure green infrastructure and to calculate the benefits it provides using the latest computer technology. The conference will also highlight public policies designed to increase natural capital and action programs that engage communities in rebuilding the green infrastructure. Conference participants can use these strategies to turn their communities' gray infrastructure into a brighter shade of green.

The conference will be held at the Omni Shoreham Hotel in Washington, DC. Discounted room rates are \$139 (plus tax), single or double, per night. These special room rates will be available the nights of September 2 through September 10. Registration and exhibitor materials will be available in January at the

American Forests web site, <http://www.americanforests.org> (click on Trees, Cities, and Sprawl, then on 2001 conference) and also through the mail. One-day and half-day tours and workshops will be offered on September 5<sup>th</sup>. The main conference program will be held on September 6–8. For logistics and program information, contact Cheryl Kollin, [ckollin@amfor.org](mailto:ckollin@amfor.org). For registration information, contact Kasey Russell, [kaseyrussell@citynet.net](mailto:kaseyrussell@citynet.net). ❧

### WCC *continued from page 13*

a year, but there is no current project crew in your area, WCC will work with you to find additional sponsors to complete a 52-week application.

WCC's goal is to provide a top-notch community resource and youth development service to as many project sponsors and young adults as possible. Participating as a WCC project sponsor represents a wise, cost effective investment in your community's natural and human resources and it is an investment that will yield many short- and long-term benefits.

If you are interested in learning more about the program, visit the WCC web site at [www.dwd.state.us/wcc](http://www.dwd.state.us/wcc) or contact the Wisconsin Conservation Corps at 30 West Mifflin Street, Suite 406, Madison, WI 53703. Telephone: 608-266-7730. ❧



## Urban Forestry Resources:

Compiled by Cindy Casey  
DNR West Central Region

### **Pest Management Web Sites**

The following sites provide useful information on integrated pest management for those who work in the urban environment. Check them out! (adapted from Minnesota Dept. of Agriculture newsletter, *Overstory*)

### **Insects on the WWW from Virginia Tech**

Everything there is to know about bugs...and more!  
<http://www.isis.vt.edu/~fanjun/text/>.

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### **Coyotes** *continued from page 10*

- Coyotes are predators and play an important role in maintaining healthy prey populations. They also are important as carrion consumers, reducing the amount of decomposing sources of potential disease vectors.
- Coyotes are wonderful examples of adaptation to humans and our altered habitats.
- Human acceptance and tolerance of coyotes has increased over the years as more and more people move away from rural, agriculture-based lives. Interestingly, as development spreads into rural areas, concern about coyotes may be growing. But instead of being based on a concern over coyote threats to livestock, it's based on a concern over pet safety.

As a member of the community of animals that capably inhabit urban areas, coyotes seem to elicit the same response we discussed in previous articles about Canada geese and deer—some people don't want anything to do with them, some people relish seeing them and many don't know or care that they're around. If you do happen to have one in your neighborhood, please treat them with respect, as they are wild animals. But by taking the precautions previously mentioned it's usually possible to coexist peacefully.

In those rare instances when something does need to be done about coyotes causing problems, they are a legal game animal in Wisconsin and can be hunted year round. There is a designated fall trapping season. In addition, the owner or occupant of any land and any member of his or her family may hunt or trap coyotes on their land without a license at any time (except the day before the gun deer season or in areas in northern Wisconsin designated closed to coyote hunting during the gun deer season). In many urban settings you'll need to check local ordinances to learn if any restrictions are placed on these activities. 🐾

### **National IPM Network from the USDA's Cooperative State Research, Education and Extension Service**

The NIPMN is the result of a public-private partnership dedicated to making the latest and most accurate pest management information available on the World Wide Web. Participating institutions have agreed to a set of standards which ensure science-based, unbiased pest management information. The backbone of this network consists of web servers for each of the USDA regions—Southern, Northeastern, North Central and Western. Participating institutions within these regions provide state-specific or subject-specific information. <http://www.reeusda.gov/agsys/nipmn/index.htm>.

### **Biological Control: A Guide to Natural Enemies in North America from Cornell University**

This guide provides photographs and descriptions of biological control (or biocontrol) agents of insect, disease and weed pests in North America. It is also a tutorial on the concept and practice of biological control and integrated pest management (IPM). <http://www.nysaes.cornell.edu/ent/biocontrol>.

### **AgriGator Worldwide Agriculture Sites from the University of Florida**

This is a collection of Internet sites and resources that provides agricultural and biological information. You can link to many University web sites from this site.  
<http://www.ifas.ufl.edu/WWW/AGATOR/HTML/AG.HTM>. 🐾

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*From page 7 -*

## **What Damaged This Tree?**

by Kim Sebastian  
DNR Southeast Region

**Answer:** The maple petiole borer is an introduced species that can cause large numbers of green leaves to drop to the ground in June. The larvae bore inside the leaf stems (petioles) which usually break off near the leaf blade. The breaking point is often darkened in color. The disorder usually affects only sugar maples and often occurs very suddenly. Occasional outbreaks can appear, however, leaf drop rarely exceeds 25 to 30 percent of the leaves on a tree. Chemical treatment is generally not recommended because the attacks occur infrequently and are unpredictable, but you can reduce the populations if you pick up and destroy the infested leaf stems (especially the short sections without leaves) about 7 to 10 days after leaf drop.

For more information see UWEX publication #A2699, Maple petiole borer. 🐾

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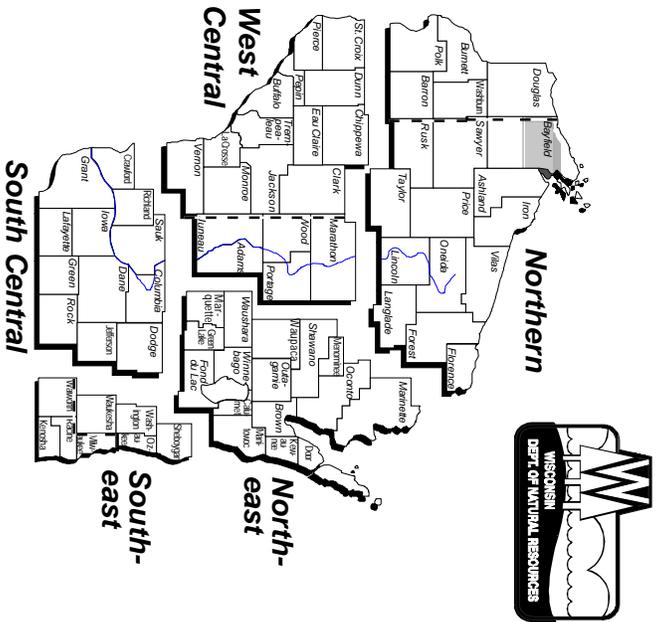
*Do you have pictures of tree damage others ought to know about? Send them to Kim Sebastian (address on page 16) and we'll print them here!*



**Wisconsin  
DNR Urban  
and  
Community  
Forestry  
Contacts**



Printed on  
Recycled Paper



**West Central Region - W $\frac{1}{2}$   
Northern Region - W $\frac{1}{2}$**

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**Southwest Region - North  $\frac{1}{2}$**

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(Sheboygan, Washington,  
Ozaukee & Waukesha Counties)



**Wisconsin Department of Natural Resources  
Bureau of Forestry  
P.O. Box 7921  
Madison, WI 53707**

**ADDRESS CORRECTION REQUESTED**

Visit our World Wide Web site at: <http://www.dnr.state.wi.us/org/land/forestry/wf/>

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