



# Wisconsin Urban & Community Forests

A Quarterly Newsletter of the Wisconsin Department of Natural Resources, Forestry Division

## GPS and GIS— What's the Difference and Can They Help?

### Part 2

by Felipe Avila  
City of Fitchburg

In the last newsletter, we saw how GPS can be used to collect information out in the field. Getting the most out of the collected data is the next step.

Now that we have the data collected from a GPS receiver, what are we going to do with it? This is where GIS comes in. Geographic Information Systems, GIS, is a tool that can be used to analyze data. It is more than an easy way to make maps. By taking different data sets and overlaying them on top of each other, the user can look for trends and patterns in order to make management decisions. Although you can use GIS software to make maps for field crews or for reference purposes, the real power of this technology is in its use as a data analysis tool.

To illustrate the use of GIS in analysis, let's look at a hypothetical situation. The town of Temuco has had gypsy moths come into the area but there has not been an outbreak with major defoliation. The city forester wants to make plans for dealing with an outbreak that is expected to occur in the next two or three years. The forester has secured funding for aerial spraying of heavily affected areas, but that funding is limited so priorities must be set. To run a GIS analysis, the forester first needs to decide what data are needed. A street map of the town makes a good starting point for the study. This data layer has information about the street names and addresses. In addition this provides a simple way to determine where any infested trees might be. The next data layer is a tree inventory of the town. This layer contains information about individual tree location, species and condition. The third layer is created by the forester. It maps the areas that the forester has decided *must* be protected, areas the forester *would like to* protect, and areas that could be protected *if funds are available*. In the downtown area of the town

there are some large oaks around the courthouse and in a park nearby. The oaks are particularly likely to be defoliated and due to their age, to suffer dieback and death. Since they are located in the heart of town, protecting these trees will be the first priority. The neighborhoods on the southeast part of town consist mostly of green ash and locust trees, and since gypsy moths dislike ash and locust, this area will not need to be sprayed. Neighborhoods on the west side of town have a lot of lindens and crabapples and these trees are likely to be defoliated by an outbreak. The other areas of town have a variety of tree species, some that are susceptible to damage from the moths and some that are not. The areas' importance is color-coded and shows their perimeters on the data layer.

The first thing the forester checks before starting to analyze the data using GIS is making sure the three data layers line up properly. The layers must use the same coordinate system and be on the same datum. Using different datums and/or coordinate systems will cause the layers to misalign. Checking the metadata (literally data about data) will show what datum is being used for each layer and enable you to make any needed adjustments. Once the layers are aligned properly, our forester can look at the results and start making detailed plans about

how to deal with the problem. Now that the areas to be sprayed are known, a field crew can go out with a GPS receiver and get accurate coordinates for the areas to be sprayed. With the boundaries known, the square acreage of the area to be sprayed can be determined. Whether the forester chooses to apply for the state suppression spray or to treat individual trees, having accurate locations and specifically defined locations for the spraying will save money by avoiding waste. The extra money can then be used to treat areas that are not as high up on the priority list. This gives the forester a greater ability to alleviate the gypsy moth problem.



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# 2



**Community Profile**  
Tree City USA: Since 1994

Growth Awards: 6  
Population: 16,088  
Street Tree

Population: 7300  
Current Stocking Level: 91%

Parks/Conservancies: 22, for 685 Acres  
Street Miles: 60

**Program Profile:**

**Staff:**

Penni Klein, Public Lands Manager  
Henry Simon, Public Works Director  
Harry Libby, City Forester (part-time)

**Park, Recreation & Forestry Committee:**

Kurt Sonnentag  
Terry Ackerman  
Charles Cotter  
Laura Ganser  
Ron Grosse  
Douglas Zwank

**Conservancy Lands Committee:**

Herbert Garn  
Teague Prichard  
Patricia Trochlell  
Ken Potter  
Paul Helgeson  
Jim O'Brien

**Equipment:**  
chipper  
watering trucks  
2 power pole saws  
prescribed burn equipment

2003 Forestry Budget: \$18,000

## Community Profile:

### City of Middleton

by Harry Libby, City Forester

Middleton is located in an area of gently rolling, fertile land in south central Wisconsin that was once a popular campsite for the Algonquin Indians. They were known as "mound builders" and their efforts can still be seen today at various sites throughout the area. Later, the Ho Chunk Indians became the dominant tribe in this region.

The Middleton area first existed under the flags of France and then Britain, before becoming a part of the United States under terms of the Ordinance of 1787, but its control remained in dispute until 1815. The first settlers in Middleton were English, but later, Germans became the prominent nationality and a German language supplement appeared in the local newspaper.

Middleton was formally founded in 1856 with the arrival of the railroad. The first railway station between Lake Michigan and the Mississippi, "Middleton Station" was the hub of a wheat-growing agricultural community. The railroad provided farmers with a means of transporting their crops to distant markets. It also brought about the development of Middleton's business district, which included grain and feed elevators, a stone quarry, hotels and stores, a lumber yard, pickle factory, opera house, stockyard, blacksmith, wheelwright shop and other commercial buildings. After most of the downtown area was destroyed in a disastrous fire in 1900, Middleton was rebuilt and has since come to be known as the "good neighbor city," a thriving blend



Middleton High School kids plant a tree for Arbor Day.

Photo by H. Libby, City of Middleton

of comfortable living and diverse businesses. Middleton is also home to the state champion littleleaf linden tree.

Middleton's urban forestry programs are supported and made possible by an informed and active public, committee volunteers, city administrators, local nurseries, cooperative utility companies and local sports/resources groups. Forestry work gets done through excellent cooperation by city park and street crews and by contract work. DNR urban forestry grants have been instrumental in helping Middleton complete many of the following projects:

- create an inventory and management plan
- rewrite forestry ordinances
- develop a list of approved tree species for planting
- prepare an emergency storm response plan
- control oak wilt in city parks
- manage mature trees in older neighborhoods
- create a management plan for Pheasant Branch Conservancy
- expand Arbor Day programs
- produce a walking guide to the city's street trees
- give a tree care workshop to city engineers
- implement a Street Tree Education and Protection (STEP) program to protect city trees during construction projects
- initiate a firewood permit program with donations supporting Arbor Day

Most recently, Middleton received the Daniel L. Flaherty Excellence Award for its 2002 Arbor Day event from the Great Lakes Park Training Institute. 🌳



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Articles, news items, photos and ideas are welcome.

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## Project Profile:

# Three Miracles and the 7000 Oaks Earth Art Exhibit

by Gordon E. Ellis, Village Administrator/Forester  
Village of Denmark

In the small northeastern Wisconsin community of Denmark, travelers seeking less-journeyed roads to Green Bay come upon a hillside that catches most people's eyes. At first, all they may see are trees. One hundred flowering crab trees extend a half-mile into the village's southern entranceway. Then they notice three stones placed on the eastern ridge of this treed boulevard. A small sign indicates they have ventured upon the *Three Miracles* Earth art exhibit.

This is a special place for trees and introspection. It is a place that is part of something much larger and more significant than just trees, stones and nature. The village's sign invites people to stop and discover more about a unique exhibit that is also a segment of a much larger international work of art.

Informational signs invite people viewing the stones to give some thought to our beliefs about whom or what we are (self) and the relationship we have with our surroundings. A few people take the invitation. With some thought, they're able to grasp the symbolic nature of the three stones. Others only see the trees and stones as objects in a field. The inert stones and living trees do have stable identities. They have names assigned by us as identity markers. But they still differ. While both the stones and trees exist, only the trees are alive. Finally, the contemplative travelers may come to realize that they, the viewers, were intended to be a part of the exhibit. They, unlike the stones and trees, are conscious of their surroundings. That's the miracle.

Some things exist (miracle one), some of the things that exist are alive (miracle two) and some of the things that exist are aware of their existence (miracle three). Human beings are conscious and this leads them to a host of hopes, fears, pleasures, knowledge, desires, introspection and creativity. People, with their ability to reflect, should realize they could protect and improve their environment. Each stone symbolizes one of the miracles. This understanding is what *Three Miracles* was meant to invite people to stop and wonder about.

*Three Miracles* was inspired by an earlier worldwide art project begun by German artist Joseph Beuys. With funding from the village of Denmark, Milprint Manufacturing and a Wisconsin Department of Natural Resources urban forestry grant, the village extended Beuys's project into Wisconsin.

Joseph Beuys was a German sculptor and artist who began an Earth art project entitled *7000 Oaks* in 1982 in Kassel, Germany. Beuys wished to change the relationship between asphalt, concrete, buildings and tarred lanes to the number of trees. He said, "A well-wooded town seems far better to me than a bad-administered one." Beuys's plan called for the planting of seven thousand trees, each paired with a columnar stone approximately four feet high above ground, throughout the city of Kassel.

Beuys intended the Kassel project to be the first stage in an ongoing scheme of tree planting to be extended throughout the world as part of a global mission to effect environmental and social change. Tree planting was to be continued in other places in the world. Beuys said, "Any place all over the world, wherever soil is left the need for trees is apparent." Sydney, Australia, City of New York, Zurich, Madrid and Paris have also paired trees with stones and extended the *7000 Oaks* project.

Beuys believed people needed to ponder on and think over their ways and how they might contribute to positive change. Beuys knew that continuation of his original tree planting would depend upon people consciously deciding to make positive changes occur within their respective communities. "Art is," he said, "a genuinely human medium for revolutionary change in the sense of completing the transformation from a sick world into a healthy one."

Village President Nancy Malewiski, Denmark School FFA students, the village administrator, Sanger Power crew members and village employees planted the one hundred crab trees and three oak trees at the *Three Miracles* site during the summers of 2001 and 2002. All trees were bare-root trees and are still healthy and growing. The three limestone stones protrude four feet out of the ground and a nearby homeowner humorously informs people, "The stones haven't been growing, perhaps we need to water them more." ❁

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The "Three Miracles" Earth art exhibit.

Photo by Gordon Ellis,  
Village of Denmark

## Gypsy Moth Information Available

An incredible number of educational resources on gypsy moth are available! Here are some of the best and how you can get them.

### Publications

All the following materials may be ordered through the DNR gypsy moth suppression coordinators listed below or the DNR service center near you. Publications may only be redistributed free of charge and may not be sold.

Green Bay – Bill McNee, 920-492-5930

Milwaukee – John Kyhl, 414-263-8744

Madison – Mark Guthmiller, 608-275-3223

other regions – Andrea Diss, 608-264-9247

FR-171b “Identifying and Managing Gypsy Moth Caterpillars” — A multi-page, color brochure that covers in detail identification and all methods of management of this pest.

FR-172 “Gypsy Moth: A New Pest” — A color brochure designed to accompany a skyline display, this publication covers identification of the pest, how to reduce gypsy moth populations at home and in the woodlot and how to contact regional suppression coordinators. This brochure is also available in black-and-white for mass mailings (FR-172B&W)

FR-157 “What to Do about Gypsy Moths in Your Backyard” — A black-and-white brochure on managing gypsy moth on yard trees.

FR-171d “Selecting a Pesticide for Gypsy Moth Control” — This brochure is designed to help a homeowner or landowner select the appropriate pesticide. In most cases an applicator will need to be hired for treating larger trees. Options described range from insecticidal soaps, biological insecticides, insect hormone mimics and chemical insecticides. Timing of treatment, speed of action, effects on non-targets and special characteristics of each pesticide are discussed.

FR-131, gypsy moth informational poster — Attractive, full-color poster showing all life stages of the gypsy moth on the front, and detailed information on its life cycle, impacts and management on the back. You may order up to 50 posters for free.

FR-212a (20”x30”), and b (11”x17”) “Gypsy Moth: Don’t Give It a Free Ride” — Poster comes in two sizes. This poster is useful for campgrounds, parks or public lands where there is a concern about transporting gypsy moth either into or out of the property.

FR-214 “Going Camping? Don’t Let Gypsy Moth Hitch a Ride!” — This brochure provides information to campers on how to avoid transporting gypsy moth

to uninfested areas or picking them up and bringing them home.

FR-213, gypsy moth stickers — There are five patterns of stickers arranged in repeating order on rolls of 500.

FR-218a, b and c, gypsy moth informational cards — These cards have a picture of the caterpillar (218a), the adult moths (218b) and the egg mass (218c) on the front. On the back, there is information on identification, basic management techniques and where to get more information. These cards are good for use with adults or children and are particularly good for fairs or training sessions as a substitute for more expensive brochures. Other cards are available on native species often confused with gypsy moth: the forest tent caterpillar (218e), eastern tent caterpillar (218d) and fall webworm (218f). All cards are available only in bundles of 100.

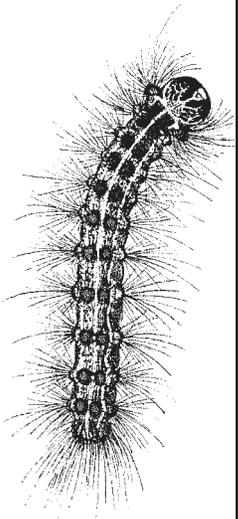
FR-156 “Guides for Predicting Gypsy Moth Damage for Forest Landowners” — A brochure on how to conduct an egg mass survey for gypsy moth and interpret the results in terms of defoliation level the following spring.

FR-220a “Tree Defoliation in Forests and Woodlots” — This brochure explains the impact of defoliation on trees and forests and how they recover. It is useful for woodlot owners or on public lands that have experienced defoliation from any cause.

Forestry Facts No. 83 “Forest Management Strategies to Minimize the Impact of the Gypsy Moth” — Four-page publication that describes tree species favored by the gypsy moth, conditions that lead to high levels of mortality following outbreaks of the pest and silvicultural prescriptions to minimize losses. This publication is appropriate for most landowners.

FR-123 “Gypsy Moth Silvicultural Guidelines for Wisconsin” — This booklet is designed for foresters or others with some forestry background. Provides information on the gypsy moth, links the impact of the pest to habitat types and gives suggestions for forest management strategies to reduce damage from gypsy moth.

FR-144 “Alien Invader: The Gypsy Moth” — Instructional publication for educators. Publication emphasizes background instructional concepts on the history of the gypsy moth, the life cycle, impacts of defoliation and information on what can be done to reduce the spread of this pest. In addition, two classroom activities—with student worksheets, a glossary and additional resources—are included. The materials are aimed at adult educators and students in grades 6-12. These teaching materials are designed for use alongside FR-131-98, the gypsy moth poster.



The following publications from Michigan can be special ordered at no cost by contacting one of the gypsy moth specialists listed above. Please allow two weeks for delivery, though small numbers may be immediately available.

“Bt: One Option for Gypsy Moth Management” — Excellent information on the bacterial insecticide Bt, used in spray programs throughout Wisconsin. This publication is highly recommended for both the public and foresters.

“Common Oak Defoliators in Michigan (It’s Not Always the Gypsy Moth!)” — Lots of color photos with distinguishing traits. All species are found in Wisconsin. This publication is good for woodlot owners, foresters and others with some background with insects.

“A Comparison of the Gypsy Moth, Eastern Tent and Forest Tent Caterpillars” — Color drawings and a table showing distinguishing traits.

“Natural Enemies of the Gypsy Moth: The Good Guys” — A summary with photos of the predators, parasitoids and diseases of gypsy moth.

“*Entomophaga maimaiga*: A Natural Enemy of Gypsy Moth” — More information on this disease specific to gypsy moth and introduced throughout the range of gypsy moth in Wisconsin.

“Gypsy Moth and Your Shade Trees” — A good handout for homeowners.

“Barrier Bands to Suppress the Gypsy Moth” — How to use sticky barrier bands on yard trees.

“Cloth Banding Trees to Suppress the Gypsy Moth” — How to use burlap collecting bands to reduce the number of caterpillars in your yard.

“Pheromone Traps and the Gypsy Moth” — All about the traps used to monitor gypsy moth populations throughout Wisconsin.

## Displays

The DNR has three displays about gypsy moth: a tabletop display and two much larger skyline displays. These are available on loan by contacting the DNR gypsy moth suppression coordinators listed above.

Tabletop display, “Gypsy Moth, Invasive Alien” — This display is made up of several Velcro-backed pieces that can be assembled as desired. There are pictures of all life stages and information on physical control methods that can be used by homeowners.

The skyline displays are free standing, 7½ feet tall by 10 feet wide. They require use of a skyline support structure. These structures can only be used indoors.

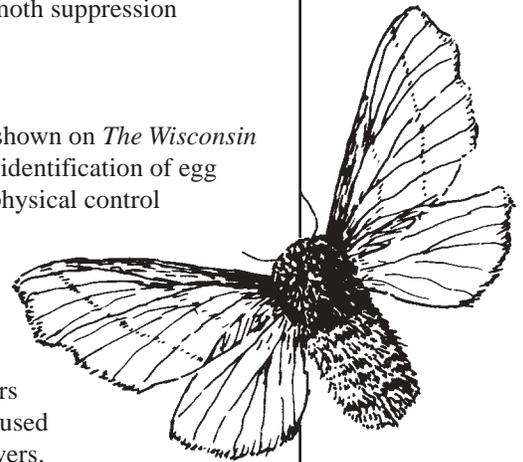
- “Gypsy Moth: A New Pest” — This display deals only with the gypsy moth. It includes information

and pictures of all life stages of the pest. It also has panels dealing with control options for homeowners and woodlot owners. A complementary publication is available for free. See ordering information for publications above. The inventory code for the brochure is FR-172.

- “Woodland Pests: What You Can Do” — This display has three panels: one on gypsy moth, one on forest tent caterpillar and one on oak wilt. This display was developed in 2002 and has maps of defoliation from gypsy moth and forest tent caterpillar from that year. Updated maps can be obtained from the gypsy moth suppression coordinators listed above.

## Video

A six-minute interview first shown on *The Wisconsin Gardener*. This video covers identification of egg masses and caterpillars and physical control methods that can be used by homeowners to reduce gypsy moth on their yard trees. This video is available from the gypsy moth suppression coordinators listed above and can only be used where no fee is asked of viewers.



## Web Sites

### *Maps of Trapping Results*

[www.ento.vt.edu/~sharov/stsdec/d20023/krig.gif](http://www.ento.vt.edu/~sharov/stsdec/d20023/krig.gif)

This site presents the results of the gypsy moth monitoring program for 2002. Results of the trapping program are updated in November of each year, and maps from past years are available by substituting the year between the /d\_\_\_\_3/krig.gif. For example, the map for 1999 can be found at .../d19993/krig.gif

### *Gypsy Moth Information*

[www1.uwex.edu/ces/gypsymoth](http://www1.uwex.edu/ces/gypsymoth)

This site is a joint product of Wisconsin DNR and UW–Extension. This site has extensive information on gypsy moth management for both homeowners and woodlot owners. The management section includes directions on how to determine if your property is at risk and how to do a survey to predict damage from gypsy moth the following spring. There is a page on identifying gypsy moth in all its stages and species with which it is often confused. There are lots of photos. The home page gives recommendations for action appropriate for the current month.

<http://gypsymoth.ento.vt.edu/vagm/management.html>

This site is from Virginia. It has excellent photos of gypsy moth and other caterpillars with which it can be confused. Information on control methods is good, though the timing is early for use in Wisconsin.

*continued on page 6*

## Urban Forest Insect Pests:

# 6

## Eastern Tent Caterpillar

by Linda Williams  
DNR Northeast Region Pest Specialist



Eastern tent caterpillars on their tent.

Photo by Linda Williams, WDNR

*Note: This is the debut of a new column for our newsletter. Our "Urban Forest Health Matters" column has focused for some time on tree diseases, but we realized that the insects were being ignored. Since the insects aren't ignoring our urban trees, we thought it appropriate to expand into entomology. If you have ideas on insects that you'd like to see covered here, let us know. - Editor*

If the small, hairy caterpillars on your trees are starting to make a web nest, then they are probably eastern tent caterpillars (*Malacosoma americanum*). These caterpillars emerge from the egg in early- to mid-May and begin feeding on the leaves. As the caterpillars grow larger they have to make their nest larger until

they abandon the nest to pupate in June. Eastern tent caterpillar nests are often seen in cherry trees, which are a favorite host, but the insect also likes apple and crabapple and will feed on a few other species. These caterpillars can completely defoliate a tree. Trees that are defoliated in early spring will often send out a second set of leaves to get them through the year. One caterpillar that is often mistaken for eastern tent caterpillar is the forest tent caterpillar, but forest tent caterpillars do not make web nests. The identifying characteristic of eastern tent caterpillar is a white/cream stripe down their back, while forest tent caterpillars have keyhole- (or footprint-) shaped markings down their back. Gypsy moth caterpillars have red and blue pairs of dots. If you just can't live with this caterpillar in your tree you can tear apart the nest or you can spray the nest with an approved pesticide or soapy water. There is no need to cut the nest out of the tree or burn the nest while it's in the tree—these practices cause more harm to the tree than to the insect population. ❁

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## Correction

In the listing of the 2002 Tree City USA Growth Awards in our last issue, we mistakenly omitted Whitewater. Our apologies. Congratulations Whitewater! ❁

## Gypsy Moth Information Available

continued from page 5

[www.ent.msu.edu/gypsyed/](http://www.ent.msu.edu/gypsyed/)

This site is produced by Michigan State University. It is a good resource for educators and has excellent information on management for homeowners and woodlot owners. Unfortunately there are few photos.

[www.kbs.msu.edu/extension/gypsy/index.html](http://www.kbs.msu.edu/extension/gypsy/index.html)

This site includes all the MSU publications, everything from how to make a barrier band to natural enemies.

<http://datcp.state.wi.us/arm/environment/insects/gypsy-moth>

This is the Wisconsin Department of Agriculture, Trade and Consumer Protection Web site on gypsy moth. It includes information on the gypsy moth quarantine and the Slow the Spread program.

### Applying for the Suppression Program

[www.dnr.state.wi.us/org/caer/cfa/lr/gypsy/moth.html](http://www.dnr.state.wi.us/org/caer/cfa/lr/gypsy/moth.html)

This site has all the forms needed for a county suppression coordinator to apply for treating gypsy moth outbreaks under the cost-shared suppression program. Contact phone numbers are included. The grant application instructions include frequently asked questions and a timeline and checklist for participation in the program. This site also has the administrative rules governing the suppression program.

### Educational Programs

[www.uwrf.edu/ag-education/resource/](http://www.uwrf.edu/ag-education/resource/)

This site contains nine gypsy moth lessons designed by high school educators for high school educators and students. This site also has a clip art library of black-and-white images of the gypsy moth and a PowerPoint presentation on the gypsy moth: its life history, spread, impact and management.

[www.dnr.state.wi.us/org/caer/ce/eeek/critter/insect/moth.htm](http://www.dnr.state.wi.us/org/caer/ce/eeek/critter/insect/moth.htm)

This page is located under the Alien Invaders section on the WDNR Environmental Education (EEK!) Web site for kids. The materials are designed as an interactive exchange for students in grades four through six. The lessons cover gypsy moth management, a gypsy moth time line for North America, a moth mania quiz and lessons on the life cycle of the gypsy moth. ❁



# Smooth patch

by Jerry E. Weiland, M.S., Graduate Research Assistant  
Glen R. Stanosz, Ph.D., Associate Professor  
Department of Plant Pathology  
University of Wisconsin–Madison

Sometimes the symptoms of a particular disease are cosmetic and appear far worse than any actual effect they may have on a tree. One such disease, smooth patch, is caused by the fungus *Aleurodiscus oakesii*. This disease causes older bark to slough off, but it *does not* adversely affect tree health. The smooth patch fungus is native to eastern North America and occurs from Alabama up into Canada. It is frequently seen in Wisconsin on white oak (*Quercus alba*) or occasionally on bur oak (*Quercus macrocarpa*). Smooth patch is also relatively common on ironwood (*Ostrya virginiana*). Other reported hosts include American elm, American hornbeam and sugar maple.

The symptoms of the disease are easily recognized by the striking contrast between affected and normal bark. Affected bark is light grey, smooth and slightly sunken (Figure 1) whereas normal bark tends to be darker, thicker and more furrowed. The smooth appearance is due to the decomposition of outer bark by the fungus followed by sloughing of this dead tissue. Colonized areas range in size from a few inches up to several feet in diameter and have an irregular, circular outline. Often, larger patches result from the coalescence of several smaller patches. Smooth patch rarely occurs higher than 20 feet on the trunk of any particular tree. Microscopic examination of affected bark has shown that colonization is limited to the outer bark of the tree. Living tissues are not affected.

The small, crust-like fruiting bodies produced by *Aleurodiscus oakesii* are white to tan, leathery, and irregular to disk-shaped with curled edges (Figure 2). The undersides are white and hairy. These are formed on the surface of colonized bark in which the fungus survives over winter. They are usually present in aggregate in the center of relatively small patches and occur along the periphery in older, larger patches. During extensive dry weather, the fungus may completely shrivel and become almost unnoticeable. Fruiting bodies can be present throughout the year and may be mistaken for lichens. Spores produced in these fruiting bodies are spread by wind and rain.

Smooth patch symptoms could allow it to be mistaken for a far more serious canker disease or as advanced wood decay. Canker fungi often produce discrete necrotic areas within the infected tissues and cause conspicuous stem deformity. In addition, the fruiting bodies of smooth patch are distinct from



Figure 1. Lower stem bark affected by smooth patch is lighter, smooth, and thinner than the normal darker, rougher, thicker bark above.



Figure 2. Small, irregular, crust-like fruiting body of the smooth patch fungus on the surface of affected bark.

those caused by canker pathogens. Wood decay, on the other hand, is usually associated with exposed wood and far larger fungal bodies (conks and mushrooms). If in doubt, a plant health professional can be contacted to determine whether smooth patch or something more serious is present.

Because the disease does not affect either tree health or structure, strategies for management are not recommended. However, because the affected area is thinner than normal bark, the patch may be more susceptible to mechanical damage. Mulching around your trees may limit access and damage caused by lawnmowers (or other lawn care objects) to the trunk of the tree.

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## What Damaged This Tree?



Turn to  
page 15 to  
find out...

Photo by Dan  
Traas, Ranger  
Services, Inc.

# Stages of Organizational Growth

This article was adapted with permission from *Building Effective Partnerships in Wisconsin's Small Communities* by the Citizen Forestry Support System. - Editor



Groups generate a tremendous amount of energy when first formed. As the group matures it will go through stages of development similar to stages of individual growth: infancy, childhood, adolescence, adulthood and old age. Numerous classifications of group development stages exist. Bruce Tuckman and Mary Ann Jensen in "Stages of Small Group Development Revisited" identify the following five stages:

## Forming

Members are polite and may be reluctant to participate. Serious topics and personal feelings are avoided. At this stage the team needs to get acquainted, share personal information, explore similarities among themselves and orient themselves toward the task they've been assigned. To grow from this stage to the next, team members must be willing to confront threatening topics and risk the possibility of conflict.

## Storming

Group members begin asking questions such as: Who is responsible for what? What are the rules? Are there hidden agendas? During this stage, boundaries are tested and power struggles or conflicts may develop. Some members may remain silent while others attempt to dominate. To grow as a group, members must be willing to give up personal preferences in favor of the requirements of the total group. Members need to listen, be non-defensive, confront others in a positive way and be willing to influence and be influenced.

## Norming

The group starts to become more cohesive; there is more cooperation and understanding. The team has negotiated roles, managed differences of opinion and recognized the need for interdependence. The group is now ready to begin the real work and make effective decisions. Unfortunately, many groups do not make it to this stage because they were unable to establish positive relationships or to resolve earlier conflicts.

## Performing

This stage is characterized by a high level of trust, and members are encouraged to use their unique talents. However, in some groups that have existed for a long time and are highly cohesive, they may fall prey to "group think." Group think occurs when members lessen their criticism of other ideas so that the group can reach agreement with minimal conflict. As a result, the group will make fewer thoughtful decisions.

## Adjourning

In this final stage, the group prepares to disband because the work is complete or group members no longer feel challenged by the task. ✱

# Coming Events



**June 13, 2003** — *Electric Hazard Awareness Program Workshop*, Pierce Park, Appleton, WI. Contact FISTA at 800-551-2656 or [fista1@newnorth.net](mailto:fista1@newnorth.net).

**July 16, 2003** — *Wisconsin Arborist Association Summer Conference*, Rotary Gardens, Janesville, WI. Contact Brian Cassity, 262-886-5224 or [casitree@hotmail.com](mailto:casitree@hotmail.com).

**August 3-6, 2003** — *International Society of Arboriculture Annual Conference*, Montreal, Quebec, Canada. Contact ISA at 217-355-9411, [isa@isa-arbor.com](mailto:isa@isa-arbor.com) or [www.isa-arbor.com](http://www.isa-arbor.com).

**September 17-20, 2003** — *National Urban Forestry Conference*, Adams Mark Hotel, San Antonio, TX. Contact Donna Tschiffely at 703-904-6932 or [donna@amfor.org](mailto:donna@amfor.org) or visit [www.americanforests.org/graytogreen/conference/](http://www.americanforests.org/graytogreen/conference/).

# Plan Now or Pay Later

*Note: The following was taken from a tip sheet created by American Forests, PO Box 2000, Washington, DC, 20013, 202-955-4500.*

It's no wonder so many organizations don't plan. Planning takes time. Meetings must be prepared for and conducted, participants surveyed to assess organizational needs, and planning documents written and revised. All this must happen not once, but every year. Planning is difficult. You must ensure that the right people participate, the right information is gathered and the right decisions are made.

## Why Bother?

It's simple: plan now or pay later. Strategic planning allows an organization to determine a course of action by answering where it wants to go and describing how it wants to get there. Good planning helps an organization communicate its message and convince donors to contribute their resources.

## Nine Steps of a Strategic Plan

### 1. Gather a Team

While the full board approves the plan, the work may be done better or more efficiently by a committee or team. Before beginning, there should be understanding and agreement on the steps, time involved and who is responsible for what assignments.

### 2. Determine the Ideal Future

Describe what the organization will look like three to five years from now.

### 3. Take Stock

Gather information about the organization, starting with its mission, history and achievements.

### 4. Confirm the Mission

If the organization has no formal mission statement, now is the time to develop one. If a mission statement exists, have participants review it in light of the new information revealed in steps 2 or 3.

### 5. Identify Critical Issues

Focus attention on what is truly important for the survival and effectiveness of the organization.

### 6. Develop Strategies

What broad approach has the greatest potential for success in addressing the critical issues?

### 7. Formulate a Plan

Carefully craft a document that describes how the organization intends to carry out the chosen strategy. Outline all steps including goals, objectives and resources.

### 8. Review and Approve the Plan

Anyone (or everyone) responsible for carrying out the plan should review it. After receiving feedback, the planning team must agree on changes before the plan is submitted for full board approval.

### 9. Implement

While the strategic plan is being implemented, the team should closely monitor and evaluate progress. This creates a continuous feedback loop.

## Start Planning

Planning helps evaluate and revise an organization's programs—a process essential to health and growth. An organization won't necessarily fail if it doesn't plan its future, but in a nonprofit world that gets more competitive each year, lack of a strategic plan may leave your organization's future in somebody else's hands.



**September 24–27, 2003** — *30th Natural Areas Conference*, including the *Invasive Plant Symposium*, Monona Terrace Convention Center, Madison, WI. Contact Natural Areas Association, 541-317-0199, [naa@natareas.org](mailto:naa@natareas.org) or [www.naturalarea.org](http://www.naturalarea.org).

**September 29–October 1, 2003** — *Building for Greener Communities National Conference*, Arbor Day Farm/Lied Conference Center, Nebraska City, NE. Contact the National Arbor Day Foundation at 402-474-5655, [www.arborday.org/programs/Conferences.html](http://www.arborday.org/programs/Conferences.html) or [conferences@arborday.org](mailto:conferences@arborday.org).

**October 5–8, 2003** — “*Complete Urban Forest Management*,” *Society of Municipal Arborists Annual Conference and Trade Show*, Santa Monica, CA. Contact SMA at [urbanforestry@prodigy.net](mailto:urbanforestry@prodigy.net) or 706-769-7412. 🌿

*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.*

# Tree Labels, Placards and Memorials

by Don Kissinger  
DNR West Central Region

Trees are labeled for many reasons—for tracking and monitoring, for public education and awareness, or to commemorate births, deaths and everything in between. This article will explore some varied ways trees are labeled, and the mechanisms and associated costs of each.

When I first began my urban forestry career, I worked on the tree crew for the city of St. Louis Park, Minnesota. In this community of 40,000 people we had a street tree population of 13,000. All of our trees were labeled as part of the inventory process. By doing this we could check, with the click of a button, the year planted, nursery source, maintenance history, species, size, dollar value...essentially whatever we deemed necessary. In order to keep a handle on the trees in the field, we used aluminum tags labeled with the corresponding house and tree number. Whenever we performed any maintenance on a tree, we cata-

logged this number and on rainy days it was my responsibility to enter this data into our computer system. These tags cost about \$.20 each, thus it was a pretty economical way to keep track of trees.

With newly planted trees we put cable ties through punched holes in the tags and attached them loosely around the upper limbs, as these limbs would not be removed until after several training

prunes. After the tree got large enough, we attached tags by staple gun to the bark. Two problems sporadically occurred using this method. First, tags sometimes popped off the trunk due to tree growth. Second, inquisitive squirrels occasionally chewed the tags off.

I spoke with several communities (many more than are listed) that create tree labels, guides or monuments for specific events, to educate their citizenry, to recognize past work performed by others or as a way to stimulate more tree planting. The following are samples of the varied projects.

## **Brown Deer**

About six years ago, the village began labeling their Arbor Day plantings using one-page laminated sheets of paper adhered to music stands stuck into the ground. The local high school was tossing a number of old music stands because of flimsy bases. The village removes the bases and just sticks the stands into the ground next to the tree. Information about the tree species, why they were planted and who donated them is listed. The stands are kept in the ground for about six weeks and are only used for park plantings. It is a no-cost method to educate and recognize, all at the same time. For more information contact Larry Neitzel at 414-357-0120.

## **Burlington**

Trees have been donated to commemorate a Swiss tour group's visit to the city's "Chocolate Festival," the passing of a former city official or simply for a friend or loved one. Plaques acknowledging the tree are either mounted flush with the ground or screwed into boulders. "People are usually very specific about wording on plaques and the areas in parks where the trees should be planted," said superintendent Larry Gobel. He spends plenty of time working with the donors to make sure their wishes are met. At one time, there were the beginnings of a "Presidents Walk" where all the US presidents would have a tree indigenous to their home and a plaque commemorating their achievements. The project has since fizzled out due to development of the area, but Gobel hopes to start it again in the future. For more information contact Larry Gobel at 262-763-7117.

## **Chilton**

A ten-foot-tall tree silhouette greets citizens as they enter the lobby of Chilton's city hall. Erected in 1999, the trunk lists color-coded sites where donated memorial trees have been planted. On the crown of the tree are the corresponding colored leaves with names of the tree donors and species planted. This new system was instituted because of continual wildlife damage to the wooden placards used in the past. The cost to donors is \$150 for each 2- to 2½"-diameter tree, with an additional \$22.50 for the velcro-backed leaf affixed to the tree silhouette in city hall.

The Chilton tree board waits until it has an order of about ten trees, then purchases them from local nurseries and plants them in the fall with help from the city crew. Chilton also has a species tree planting in four of the city's five parks. There are currently more than 40 different species and varieties of trees, all designated by a 4-by-4-inch metal plaque, for folks to find information about trees they may wish to plant in their own yards. The tree board has a bro-

Photo by Larry Neitzel, Village of Brown Deer



*A recycled music stand serves as a temporary sign post.*

chure that lists all of the parks with their memorial and species tree plantings. For additional information contact the city clerk at 920-849-2451 to talk with a tree board member.

### **Lake Geneva**

To commemorate past Arbor Day celebrations the city uses flush-mounted granite markers for their ease of installation, maintenance (you can mow right over them) and because they are virtually vandal proof. Director of Public Works Dan Winkler thought this classy way to acknowledge Arbor Day could also be used to inform, educate and prompt people to plant trees on their own properties.

As part of a 2003 DNR urban forestry grant, the city purchased 50 markers, which measure 20" by 12" by 4" and weigh 80 pounds, and laid them next to new group plantings (just dig to its four-inch depth and drop it in place). The markers list the tree's common and Latin name, include laser-engraved leaf and seed illustrations, and note if it is a Wisconsin native. The city not only wanted people to learn about each tree, they wanted people to be able to compare them, thus the groupings might have up to six different types of trees. A group might have utility-friendly, low-growing trees or trees with compound leaves. These new plantings and markers have been put along a new recreational trail, readily available to bikers and hikers.

This concept could easily be taken a step further by having residents identify exotic or uncommon tree species in their front yards. A community-wide guide could then be developed for folks to view these trees at their leisure from the sidewalks. The city solicited quotes from local funeral home and monument companies. Each marker cost \$195 and came in either gray or red granite. For more information contact Dan Winkler at 262-248-2311.

### **New London**

Not all tree labeling need be elaborate. Take the city of New London's Hatten Park Nature Trail for example. This 120-acre park, which began in 1935, has a three-mile wood-chipped trail system with 27, 4-by-4-inch beveled and numbered wood markers listing the many attributes of the park, including 19 different trees. A 44-page trail guide discusses each marker and further defines and depicts via line drawings the various types of tree branching and leaf structure, along with wildlife that inhabit this ecosystem. This trail guide, updated in 1999 by the New London Tree Board, is available at city hall, the chamber of commerce, public library and the indoor pool. For more information contact Gerald Reger at 920-982-8521.

In other communities, very economical means are used to acknowledge tree donors or community service provided by citizens. In Fox Point, Village Forester Judy Shirley need only spend \$10 to have plastic placards produced that list past village presidents, their years of service to the community and the species of tree planted in their honor. In the north-central Wisconsin community of Gilman, the tree board had vinyl placards engraved by a local trophy shop and attached them to vinyl stakes which were installed in the ground next to donated trees for only \$12.

If you just have to have that arboretum look, you can get the metal or engraved plastic nameplates or placards in several sizes, from 1" by 3" up to 24" by 40." They typically come in two thicknesses, 1/16" or 1/32." These plates can be purchased attached to stakes of all heights that you can place in the ground next to the specimen. If you prefer to attach them, you could either screw them into the bark of mature trees (with spring spacers that allow for growth) and unscrew a little each year to compensate for growth, or put wire through a punched hole to fasten them around limbs of young trees. Search the Web or contact your local arboretum to find companies that supply these products. ❁



Photo by Dan Winkler, City of Lake Geneva

*Granite makes a more permanent marker.*

## Organizational Profile:

# *Northeast Wisconsin Urban Forestry Work Group*

by Tracy Salisbury  
DNR Northeast Region

What do you get when you bring together municipal foresters, park and recreation directors, utility foresters, consultants, UW-Extension specialists, public works directors, street superintendents and DNR specialists? You get the Northeast Wisconsin Urban Forestry Work Group (NEWUFWG). This group is made up of professionals that are responsible for the care of trees in their respective communities.

This organization started in the fall of 2000 when a group of forestry professionals met to discuss gypsy moth issues. At the end of that meeting the group agreed that a lot of information had been shared and it would be nice to keep this forum alive to discuss common urban forestry issues, hence the beginning of NEWUFWG.

NEWUFWG meets every other month with members taking turns hosting the meetings. Whoever hosts the meeting facilitates it and provides refreshments. Members are asked to submit agenda ideas they wish to discuss or requests for information.

Meetings have covered a wide range of urban forestry topics that have included: ordinance development, contract growing, Electrical Hazard Awareness Program, hazard tree assessment, insect and disease problems, safety issues, computerized inventories, tree availability, pruning specifications, budgets and tree protection during construction. Meetings have also included a tour of the Ashwaubenon village nursery, the downtown Appleton street reconstruction project and a bus tour highlighting the city of Marinette urban forestry program.

As tree care managers, it's important to be able to share ideas and information. NEWUFWG allows this interaction and has been beneficial to the group as well as a nice chance to network with others in urban forestry.

NEWUFWG also provides an important opportunity for communities to communicate with professionals outside their immediate location but within the region, thus making urban forestry in northeast Wisconsin a more tightly knit group.

If you would like more information about NEWUFWG please contact Tracy Salisbury at 920-492-5950. If you are interested in forming a similar group in your region, contact your DNR regional urban forestry coordinator (see page 16). ❁

Photo by Linda Williams, WDNR



The NEWUFWG tours the village of Ashwaubenon nursery as part of a bi-monthly meeting.

## Research Notes:

# *Trees Are Not the Root of Sidewalk Problems*

by T. Davis Sydnor, David Gamstetter, Joan Nichols, Bert Bishop, Jammie Favorite, Cherelle Blazer and Leslie Turpin

Trees are assumed to be major contributors to sidewalk failure, but a study conducted in Cincinnati, Ohio, showed just the opposite. Locations with defective sidewalks containing various soil types were compared around the city. Soil types can have a profound effect on infrastructure items such as sidewalks and roads. Soil factors such as strength and frost action susceptibility can vary among soil types.

This study showed that sidewalks did not fail at higher rates where trees were present. Sidewalks greater than 20 years old failed more than any other age group. Sidewalks less than five years old were not affected by trees regardless of soil type. The study identified a variety of factors that led to the failure of sidewalks. Trees certainly can displace sidewalks, but are not the principal reason for sidewalk failure. Trees only play a minor role in sidewalk longevity. Extending the life of walks will require cooperation of urban foresters, landscape architects and engineers.

Ref. *Journal of Arboriculture* 26(1):20-29 ❁

# The Idea Exchange...

compiled by Jessica Schmidt  
DNR Northeast Region

## The Green Industry Survey is Coming!

The Green Industry Survey, being coordinated through the Wisconsin Landscape Federation (WLF), will soon be mailed to horticulture businesses of Wisconsin. This survey will show the economic impact that the green industry has in Wisconsin. Right now there is no valid estimate of the influence the green industry has on Wisconsin's economy. WLF contracted with the Wisconsin Agricultural Statistics Service to develop and perform the survey. It is important for participants to know that the information reported is not public data and the information submitted will remain strictly confidential, as will the listings of participants. The second part of the project, planned for later this summer, consists of a survey of consumers and one of the public sector. Four industry associations are funding the project through a grant from the USDA: Commercial Flower Growers of Wisconsin, Wisconsin Christmas Tree Growers Association, Wisconsin Nursery Association and the Wisconsin Sod Producers Association. When you receive the survey please complete it so your information can be included.

Questions should be directed to Brian Swingle, WLF Executive Director, at 414-529-4705 or Dr. Laura Jull, Project Coordinator, at 608-262-1450.

## TreeKeepers: A Community Forestry Model

Each fall, Forest ReLeaf of Missouri offers a free TreeKeepers course through the St. Louis Community College system. This course is designed to educate citizens about trees, their benefits and care, while at the same time recruiting and training volunteers for community forestry projects. The highly successful program is funded in part by the Missouri Department of Conservation and coordinated by Scott Wagner, the staff forester with Forest ReLeaf. The course consists of four sessions, two indoor and two outdoor field sessions. Topics include: benefits of urban trees, tree identification, basic tree biology, soils, proper planting and pruning, and an overview of tree pests. During the field sessions, participants have the opportunity to identify trees and practice skills learned in class. Upon completion of the course, TreeKeepers are asked to give back 24 hours of community service over the following year through tree-care projects coordinated by Forest ReLeaf or

through public forestry efforts in their own communities. Forest ReLeaf has developed an extensive TreeKeepers manual that may be reproduced for use in other communities.

Info: Contact Michelle Johnson at Forest ReLeaf, toll-free at 888-473-5322.

## Tree Cops

Can your landscape help deter crime? Everyone is familiar with how uncontrolled vegetation can provide areas to hide. Is it possible for trees and shrubs to actually help improve surveillance, access control and territoriality? Joseph Murray has received funding from the Virginia Department of Forestry to begin researching the role that landscapes can play in crime prevention. Virginia is one of only two states forming a special committee specializing in crime prevention through environmental design (CPTED). Joe is working with the committee to update existing landscape recommendations and to suggest additional ways landscapes can help in crime prevention.

To learn more about the role of landscapes in CPTED, visit [www1.br.cc.va.us/murray/research/cpted/default.htm](http://www1.br.cc.va.us/murray/research/cpted/default.htm).

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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.



## ***Council Sponsors Successful Conference Workshop***

*by Jeff Edgar, Chair  
Wisconsin Urban Forestry Council*



*Council Chair  
Jeff Edgar*

*Photo by Silver Creek  
Nurseries*

As most of you know, the annual DNR urban forestry conference/Wisconsin Arborist Association conference and trade show was held in Green Bay this past January. The Wisconsin Urban Forestry Council sponsored part of the Sunday program—the *Tree Procurement Workshop*, offering several methods of acquiring trees for municipal needs. Tracy Salisbury, DNR Northeast Regional urban forestry coordinator, put the successful workshop together. The program covered three different considerations in the tree buying process for municipalities.

“Growing Your Own Trees Can’t Be That Hard, Right?” was run by Dave Liska, city forester for Waukesha, Mark Freberg, city forester for Green Bay and Tim Bauknecht village forester for Ashwaubenon. Both Tim and Mark outlined their programs of growing some of the trees needed by their cities. Slides of both nursery operations were also shown. By the way, Green Bay has been operating its own nursery since the late 1930s and Ashwaubenon has been operating one since 1982. Dave Liska offered thoughts on the purpose, siting considerations, what plants to grow and ideas of what it may actually cost to run a nursery.

“Buying the Trees Your Community Needs,” was presented by Scott Johnson of Johnson’s Nursery in Menomonee Falls and Rod Schmidt, city forester from Eau Claire. Rod outlined his city’s program of pre-qualifying growers by sending out plant lists early in the season and creating a listing of who has

what. Scott gave some ideas to consider when putting together plant lists. He also had some thoughts on what is most important to a grower when it comes to the bid process and the actual purchasing and delivering of the trees.

“Innovative Alternatives for Tree Procurement,” was presented by Jeff Edgar, Silver Creek Nurseries in Manitowoc, and Eric Muecke, assistant city forester for Green Bay. Eric and I teamed up to offer ideas on growing contracts and group purchasing. Eric went on to outline a successful tree-purchasing program that is being used by several Chicago-area municipalities.

Dan Traas of Ranger Services in Appleton, moderated the program. After the individual talks, the presenters also conducted a question-and-answer period. Handouts were available at the talk. If anyone is interested in the information given in the workshop, please contact Tracy Salisbury at 920-492-5950.

The Wisconsin Urban Forestry Council is responsible for putting together a program to be included in the annual conference. If anyone has ideas or topics they think the council should address in future programs, you can contact any of the regional urban forestry coordinators (see p.16), any of the urban forestry council members or myself, at 920-684-1225 or [trees@silvercreeknurseries.com](mailto:trees@silvercreeknurseries.com).

Of course, after the serious stuff was over we all retired to hallways of the KI Center to watch the Super Bowl. The food was great and the comradeship was even better. What a great way to cap the day and launch the conference! ♣

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## ***Mid-State to Expand Urban Forestry Education***

Congressman Dave Obey has secured \$500,000 in US Department of Education funds to double enrollment in urban forestry education at Mid-State Technical College campuses in central Wisconsin. Obey included the funds for MSTC’s Urban Forestry Technician program in the new federal budget for FY 2003, recently adopted by Congress. The new federal funds will enable MSTC to expand enrollment in this two-year associate degree program by 100 percent from nearly 40 full-time students to 80 students over

the next two years. Funds will be used for faculty salaries, instructional supplies and capital equipment. It is the only program of its kind in Wisconsin as well as the only career program in urban tree care with a formal transfer agreement to the forestry program at the University of Wisconsin–Stevens Point. The program-to-program transfer allows urban forestry students to continue their studies toward completion of a bachelor’s degree from UWSP following graduation from MSTC. ♣

## ***Urban Forestry Resources:***

*compiled by Cindy Casey  
DNR West Central Region*

**Forest Communities, Community Forests**, compiled and edited by Jonathan Kusel and Elisa Adler, 2002.

This collection of 13 community forestry case studies examines the link between community well-being and forest ecosystem health in both urban and rural communities and in different regions of the United States. Copies of the report can be downloaded at [www.fcresearch.org/cfbooktoc.html](http://www.fcresearch.org/cfbooktoc.html) or purchased for \$6.00 from Forest Community Research, PO Box 11, Taylorsville, CA 95983.

### **Community Forestry Education Project**

Cornell Cooperative Extension of Monroe County, New York, has a number of very useful on-line community forestry resources available at [www.cce.cornell.edu/monroe/cfep/factsheets/index.html#](http://www.cce.cornell.edu/monroe/cfep/factsheets/index.html#). The site features a set of 33 fact sheets on various aspects of community trees and their management, a sample street tree ordinance, and both Excel- and Access-based tree inventory templates. ❁

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### ***GPS and GIS—What’s the Difference and Can They Help?***

*continued from page 1*

Computer technology is creeping into all aspects of modern life and forestry is no exception. GIS and GPS can be very valuable tools in helping to manage an urban forest. Just having the equipment, though, will not solve all of your problems. When setting priorities for spending it would be very beneficial to learn how to use GIS and GPS before the equipment purchases are made. Learning how to use the equipment is paramount to getting the most out of it. By having the training first, communities can make smarter decisions about what they need to buy and how much to spend. At UW–Madison, the Geography and Civil & Environmental Engineering Departments offer introductory classes in GIS and GPS. Other schools in the UW system offer similar classes. Several city engineering departments are also using this technology and may be able to answer questions. Like all things the more time spent using the equipment the more skilled the person using it will become. Training and education may also allow a community to save money. If most of your GIS work doesn’t require pin-point accuracy, rather than buying a powerful \$5,000 GPS receiver, buy two middle-of-the-road \$1,000 GPS units and use knowledge of differential GPS (see part 1) for those times greater precision is needed.

Learning how GIS and GPS work can show you how your community can benefit from it. The more you learn about how the technology works and what it can and cannot do the more you can reap the benefits of GIS and GPS. ❁

From page 7.

### ***What Damaged This Tree?***

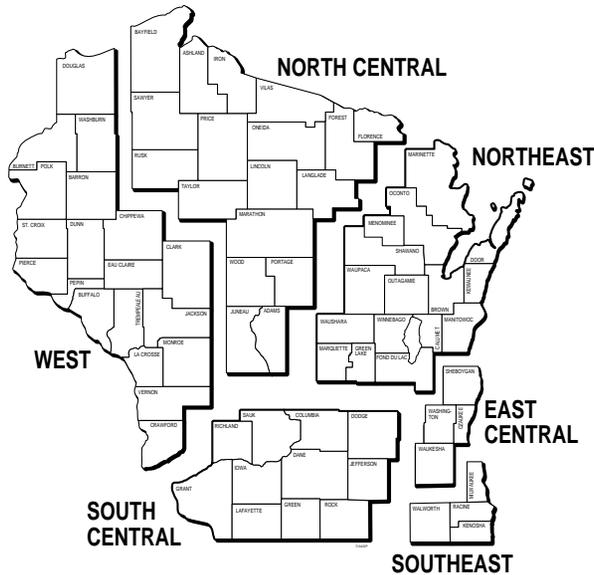
**Answer:** An “ice shove!”



*Photo by Dan Traas, Ranger Services, Inc.*

*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



World Wide Web Site: [www.dnr.state.wi.us/org/land/forestry/uf/](http://www.dnr.state.wi.us/org/land/forestry/uf/)

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