Tree Evaluation and Appraisal

By Don Kissinger
DNR West Central Region
and
John Van Ells
DNR Southeast Region

An errant driver jumps the curb and mows down a couple of recently planted boulevard trees. A homeowner desires a larger yard and better view of the adjacent park so he clears out several trees from the wooded portion of the park. In celebration of the Minnesota Twins 1987 World Series victory, 13 2-inch-caliper green ash are snapped off at 4 feet.

What do all these scenarios have in common? 1) They really happened; 2) They occurred on municipal property; 3) All three situations had to be remedied; 4) A dollar value had to be established to aid in replacing the trees.

No matter whether a tree is newly planted, long established or naturally occurring, it has value. With increasing competition for land use, the opportunity for accidental or intentional damage or loss to landscape plants increases, and so does the need for appraisals. Tree appraisals are used in situations such as: settlement for damage or death of plants through litigation, insurance claims or direct payment; loss of property value for income tax deduction; real estate assessment; agency budget justification; condemnation proceedings; community tree inventories; etc. The services of a professional plant appraiser are needed in most instances. The purpose of this article is to provide a foundation of information to help understand the appraisal process.

Landscape tree appraisal methods were developed in the early 1900s. Tree values were calculated based on size, location and condition. In the eighth and most recent edition of the Guide for Plant Appraisal (1992), these three elements are still used, along with species. Due to greater complexity of tree issues and varying uses of trees today compared to the turn of the century, there is now more subjectivity in determining tree value.

Appraisal Factors
Size, species, condition and location are used to establish landscape tree value. Size is determined by direct measurement. The other factors are subjective and are expressed as a percentage relative to a “high quality” specimen. The following is a synopsis of the factors and how they are determined.

Size
The size of a landscape plant is usually expressed by its aboveground dimensions, because this can be measured directly. Plant height or trunk diameter is the typical measure, but crown spread and container size are often used when dealing with shrubs or small conifers.

The height at which the trunk of a tree is measured depends upon its size. Trunk diameters of 4 inches or less are measured at 6 inches above the ground; larger trees are measured at 12 inches above ground. Trees considered too large to transplant are measured at 4½ feet or diameter at breast height (dbh). Calipers or diameter tapes are used to determine tree diameter.

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City of Superior
by Cindy Casey
DNR West Central Region

Originating as a fur trading post nearly 350 years ago, the present-day city of Superior shares its name with the lake the voyageurs called “superieur,” noting it as highest in the chain of lakes. As this settlement grew, and as the lumbering, shipping and iron ore industries flourished, businessmen from Chicago and St. Paul laid claim to the site, eagerly envisioning a railroad between this westernmost Great Lakes port and the Pacific Ocean. “Superior City” was thus founded in 1853.

From its settlement site overlooking the Nemadji River, the city of Superior has grown to 45 square miles. Larger than Milwaukee proper in size, it is populated by fewer than 28,000 people. The city has a rich natural resource base. In addition to its 24 miles of Lake Superior shoreline, much of the city is considered wetland, lying in the Nemadji and St. Louis River drainages. The 4500-acre Superior Municipal Forest is the second-largest forest within a city in the nation (only Portland, Oregon has a larger one). Nearly 60 percent of the municipal forest is designated by the DNR Bureau of Endangered Resources as a State Natural Area, said to contain the best example of boreal forest in the state. Just a short drive from the city are two state parks, a state forest and the 270,000-acre Douglas County Forest. In the midst of such vast forest resources, it is somewhat ironic that an assessment conducted in 1997 revealed that city street trees are significantly under stocked—less than 40 percent of available planting spaces are occupied.

The relatively sparse street tree canopy belies the city’s 30-year tree planting history. Currently, a five-person crew plants approximately 150 street and park trees each year. The crew spends about 3500 hours annually on tree matters, including pruning and removals. The nearly 40-year-old flowering tree sale program conducted by the city and garden club volunteers (see spring 1997 issue of this newsletter), also points to a long history of appreciation and concern for trees in the city.

More recently, Superior has begun focusing on the management aspects of its tree program. A street tree inventory conducted by UW–Superior students in 1991 was a preliminary attempt at identifying issues such as species performance and diversity. An urban forestry grant in 1993 enabled the city to develop its first contract specifications for volume tree purchase and planting. These specifications guided the planting of 160 trees the following year, aided by a Small Business Administration tree planting grant.

Parks and Recreation Administrator Mary Morgan has become a strong advocate of local program planning. She credits her role as a member of the Wisconsin Urban Forestry Council for helping her appreciate the need for a big-picture approach to community tree care. “Through my involvement with the council and the DNR, I could see that Superior’s tree program had been missing something,” Morgan says. “We needed a more complete program, and a strategic plan really made sense for us.” With an urban forestry grant in 1997, the city appointed a tree board and, with the help of the board, developed a strategic plan. “Our tree board and plan are two of our program’s greatest successes,” states Morgan. One goal of the recently completed plan was to update the initial street tree inventory. Assisted by another
A Partnership That Works

by Richard Vinz, Howard Village Forester and Tracy Salisbury, DNR Northeast Region

What do you do when your community has a tree population that needs to be managed, but you do not have the workload or the dollars for a full-time urban forester? What if there is a nearby community in the same situation? In 1997, two communities in northeast Wisconsin were faced with a similar scenario. With the help of an urban forestry grant, the villages of Ashwaubenon and Howard agreed to jointly contract for an urban forester to manage their respective forestry programs.

Each village compiled a list of what they wanted to accomplish. They decided that the following six goals were the most important:

- updating and incorporating their street tree inventories into GIS programs
- implementing existing management plans
- providing tree planting and maintenance clinics for area residents
- conducting staff training sessions and tree board member educational seminars
- developing public information brochures about tree planting and maintenance
- reporting the feasibility and success of the joint forester position

The next step was to hire a forester. The successful contractor was ACRT, Inc., from Cuyahoga Falls, Ohio. ACRT, Inc. placed Richard Vinz, a consulting urban forester, into the position. As the contract

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urban forestry grant, the city conducted a GPS inventory during the summer of 1998 and is eagerly awaiting data analysis. “Until now, tree planting, care and removal have been haphazard and complaint driven,” Morgan says. “The inventory results will help target areas for planting, and will allow us to be more efficient with tree maintenance and removal. It will tell us what to do next, rather than waiting for a phone call.”

Next up, according to the strategic plan, is dealing with the stocking problem. For years, large trees, mostly silver maples, have been removed for sidewalk installation. Until 1997, no funds were included for tree replacement. Now that tree planting has been added to the sidewalk program, the tree board is busy drafting planting standards and species lists. Although temperature-moderating effects of the lake put Superior in USDA Hardiness Zone 4b, species choices are limited by wind exposure and the area’s notorious heavy, red clay soils. Although it will take time, Morgan ultimately hopes to have a planting plan for each of six management zones.

Urban forestry enjoys the support of Superior’s common council and mayor. Presentation of the strategic plan by tree board members to the council in early 1998 raised consciousness about the importance of a community tree program. Not only did the council unanimously approve the plan, they spoke with highest regard for the tree board and their efforts in developing the plan (see spring 1998 issue of this newsletter).

The support of city officials and the increasing visibility of the forestry program have translated into a change in the way trees are regarded in the city. Having just completed a $2-million renovation in all neighborhood parks, Morgan finds it noteworthy that tree planting was part of the renovation in 10 of the 12 parks. “When project budgets get tight, landscaping is always the first to go,” notes Morgan. “With this project, there was a conscious effort to keep the landscaping component. We’re even getting a jump on some tree replacement, planting in certain parks before the aging cottonwoods there actually have to come down. This way, when they do, the new trees will have had a head start, and those parks won’t look so naked.”

Accomplishments notwithstanding, Morgan sees several program challenges on the horizon. Key among them will be finding funding alternatives to achieve higher stocking levels. She also cites the need to resolve remaining issues with the sidewalk program—in particular, retaining trees where possible, rather than automatically removing those in the path of proposed walkways. Last, Morgan seeks an expanded partnership with Superior Light and Power for a more coordinated approach to community tree management.

Superior’s urban forestry program is on a fast track, demonstrating solid achievements in a short period of time. Supported by local government, staff and volunteers are working together to make noticeable improvements in the urban forest, giving Superior yet another reason to claim “there’s more to our shore.”
A great deal of time was spent in the implementation of existing management plans, part of which called for the establishment of a forestry budget. The goal was to make sure that forestry dollars were a permanent component of each community’s annual budget. This became the most important and time-consuming task because it formed the future direction of both forestry programs. In 1998, both villages budgeted for and hired urban foresters—Richard Vinz in Howard and Dan Siebens in Ashwaubenon.

These permanent positions were established through a number of steps. The first step was to increase public awareness about the importance of a forestry program through public relations materials, homeowner calls, newspaper articles, television coverage and other devices. Media exposure not only increased awareness of what this program could provide residents and the community, it also brought about a greater understanding of why forestry was not just an extra, but a necessary part of a community’s framework.

The next step was to educate and build support from the policy makers—the village presidents, village boards and village administrators—through meetings and tours. In each community, a bus tour was conducted to show what had been and what could be accomplished. These tours were crucial in giving visual reasoning behind the program. They gave decision makers an idea of what was possible with the addition of a staff forester. The tours also showed how a forester could save money in the long run, by avoiding costly mistakes and expensive long-term maintenance. Another important realization was that the forestry workload was greater than initially thought. In Ashwaubenon, there were five people from different departments carrying out duties that could be carried out by the village forester. By creating this position, other departments would save time and money. From this came the understanding of the value and importance of a forestry program.

The final step was to determine the feasibility of a joint forester position. This was a learning process for all involved. In the final analysis, the communities decided that separate positions were best. However, the joint contracted forester was a very important stepping stone for both communities in establishing full-fledged forestry programs.

Another positive effect of the joint forester project has been increased public awareness. The success or failure of the program hinged on public opinion. In addition to the obvious functions of forestry, the program is an important positive public relations tool for the community. Prior to the joint forester, both villages had only had summer interns handling forestry. The joint position provided year-round publicity, experience and expertise, instead of just during the summer.

While most aspects of the joint forestry position were positive, there were a few minor drawbacks. Having only one person for two communities during busy periods was a challenge. Careful planning was essential. Another limitation was having two different offices and being on a set schedule. Having a single office would have alleviated some of the running back and forth. In the end, flexibility was crucial in making this project work.

While this kind of partnership may not work for all communities, it definitely worked for these two with the establishment of a full-time forester position and a permanent forestry budget within each village. For additional information contact Richard Vinz, Howard Village Forester, at 920-434-4640.
Who’s Using Volunteers in Wisconsin?

by Don Kissinger
DNR West Central Region

In each issue of this newsletter we try to focus on some aspect of urban forestry volunteerism. One of the goals of this is to share experiences so others may benefit. This article focuses on real-life examples of what’s going on in Wisconsin.

Over 50 contacts were made in researching the article. Over half of the communities or groups had no volunteer effort at all. The 12 narratives below are representative of the positive responses.

Dodgeville

This city has a tree board that has been in existence for about five years. It started with the help of Dave Ladd, who owns and runs a local wood manufacturing company. He offered $5,000, if matched by the city, to develop a Dodgeville urban forestry plan. With the help of an urban forestry grant, the plan became reality and with this success, a tree board was formed, initially to help plant and maintain city trees. Its role has expanded to become an advisory arm to the city council. It created an ordinance, facilitated an inventory (which the local high school biology class maintains) and organizes and runs the city’s Arbor Day celebration. The tree board has also worked with Alliant (formerly Wisconsin Power & Light) to secure $11,000 over the years for utility-friendly tree plantings. Dave emphasizes his enthusiasm over the education received by the entire community’s businesses, citizens and service groups since the inception of the community forestry program. Contact: Dave Ladd, 608-935-2341.

Friends of Scenic Lodi Valley

Many groups or causes start in response to a single event. This was the case with “Friends of Scenic Lodi Valley,” a group of concerned citizens living in and around Lodi. Several years ago, a resident cut some large bur oaks on his own property. These removals were entirely legal, but it upset enough people that this group was started, with an initial goal to inform citizens about the impact of trees communitywide. The 60-member group is run by a 7-member steering committee. They also have issue-oriented teams which deal with specific topics.

The group trained the local electric cooperative in tree pruning and conducted a computerized tree inventory. It also writes a newsletter, organizes and runs the city’s Arbor Day celebration and serves its members with quarterly educational events or tree related tours. After the wind storms this past May, the group distributed to residents the National Arbor Day Foundation brochure, When a Storm Strikes. Contact: Kevin Hinckley, 608-232-3312.

Fitchburg

The Firstar-Fitchburg Branch Bank approached the city looking for a goodwill project. As luck would have it, the bank was in eyesight of a park in the developing stages. McKee Farms Park, a 59-acre parcel, had recently been graded and seeded, but had no landscape to speak of. The city had a landscape plan drawn and was ready to gradually let it take shape.

Firstar-Fitchburg agreed to give $1,000 per year to the city, which correlated to about 50 potted trees per year. The bank took care of public relations and getting service clubs, youth groups and citizens lined up for the planting day. The city ordered the trees, dug the holes, gave a planting demonstration and shuttled the planters out to the sites. In recent years, the bank has made this Arbor Day event even more fun by offering hot dogs, t-shirts and kites free of charge. Contact: Jim Christoff, 608-275-7141.

Fox Point

This community of about 7,000 has a consultant forester who works on a permanent, part-time basis. Village Forester Judy Shirley has tapped into local volunteer groups and the community foundation to keep village residents aware of current natural resources issues. The Fox Point Federated Garden Club is one of the groups Judy has worked with on many ventures. Most recently, the club created a booklet entitled Trees of Fox Point, which was distributed to every resident in the village. This booklet identifies the various trees in the village and where they can be found, so people can view them before purchasing and planting their own. The booklet was partially funded by a grant from the Fox Point Foundation, which has frequently funded forestry projects.

The garden club has also taken up the fight against the invasive garlic mustard and buckthorn, by staffing displays at the two village voting stations and distributing materials identifying the plants. The garden club will also inspect residential properties on request. The volunteer village tree commission also has a project to conduct a seminar to educate lawn services about garlic mustard and buckthorn, while at the same time building up a list of contractors who are willing to provide eradica-
Community Tree Profile:

**River Birch -**
(Betula nigra)

by Don Kissinger
DNR West Central Region

[Other names known by: red birch]

**Native To:** Typically found along stream banks, swampy bottomlands and floodplain depressions from southern New Hampshire, south to northern Florida, west to eastern Texas, north to southeastern Minnesota. Has distinction of being known as the only typical southern birch. Occurs as a scattered tree with such species as elm, silver and red maple, willow, boxelder and cottonwood.

**Mature Height**: 40–60’ in northern climates, 70–80’ in southern US

**Spread**: 30–40’

**Form:** Columnar to pyramidal in youth, to oval form broadening with age; often multi-stemmed.

**Growth Rate**: Fast

**Foliage:** Alternate, simple, deltoid to wedge-shaped, sharp-pointed, doubly serrate; medium-fine texture.

**Fall Color:** Yellow; leaves drop in mid to late October.

**Flowers:** Distinctive 2–3” catkins; light green to pale yellow-green, appearing before leaves.

**Fruit:** Length is 1–1½”; erect, pubescent, longer than broad strobiles; released by winter winds.

**Bark:** Papery, exfoliating horizontally; salmon to reddish brown/black, developing coarse scales with age.

**Site Requirements:** Adaptable to most soil conditions; tolerates poorly drained soils well, yet can handle drier sites best of all birch. Prefers acid soils and will get chlorotic in high-pH soils; does not like shade.

**Hardiness Zone:** 4–8

**Insect & Disease Problems:** Susceptible to leaf miner, resistant to bronze birch borer; can get leaf spot in wet years; all in all a good tree in this respect.

**Suggested Applications:** Great in parks, residential and commercial properties. Not recommended on boulevards or terraces due to natural lean of the multiple trunks, which may cause visibility problems or vehicular obstructions. Often used as centerpiece of landscapes, but not adjacent to buildings; used to control erosion; can be purchased as single stem, which is preferable in tighter confines.

**Limitations:** Grows fast and dies young (50–75 years); weak-wooded and subject to failure in wind or ice storms; due to its typical multi-trunk form and medium size, it is not recommended on narrow planting sites.

**Comments:** Transplants well in early spring or late fall. Fairly resistant to drought and soil compaction; handles flooding well. Grows best if planted in groups with other river birch.

**Common Cultivars:**
‘Cully’ (Heritage river birch) – Very similar to parent tree, except somewhat shorter and narrower; lighter-colored juvenile bark.

‘Little King’ (Fox Valley river birch) – Dwarf variety with compact form and much slower growth than other river birch.
Where There’s Drought and Heat . . .

There’s Scorch!

by Glen R. Stanosz, Ph.D.
UW–Madison Depts. of Plant Pathology and Forest Ecology and Management

Recurring, moderate water deficits are normal in the life of a landscape tree. Water is lost through open stomates on leaves during the day. Given adequate soil moisture, this deficit is made up at night when the rate of transpiration is low. Extremes in environmental conditions, however, can lead to water deficits that result in irreversible leaf damage that we recognize as “scorch.”

Scorch of foliage on broad-leaved trees and shrubs is characterized by necrosis (death) of marginal and/or interveinal tissues. Dead areas turn from green to light or dark brown, and may curl or cup. Leaves exhibiting scorch may occur on a single branch, on one side of a tree, or may be scattered throughout the crown. Fruiting bodies can be found on scorched leaves, but these usually are produced by saprophytic fungi that are limited to previously killed tissues.

Although occurrence of scorch often is associated with inadequate soil moisture, the symptom can develop even when water is available in the soil. This typically occurs during periods of extreme heat, perhaps accompanied by drying winds. During such episodes, the rate of leaf water loss can exceed the ability of the root to absorb water. Heat rising from paved surfaces or radiating from masonry walls can induce scorch of nearby foliage. Trees with limited root zones may be more frequently or severely damaged. Likewise, recently transplanted trees that have lost many of their fine roots may be prone to scorch, even when soil is moist.

The aboveground effects of scorch on broad-leaved tree and shrub health are obvious. Although affected leaves may not be dropped, the active, photosynthesizing area of the crown is reduced. Thus, fixation of carbon into materials used for maintenance and growth will be decreased. The tree or shrub will not obtain the maximum return on its investment of nutrients, water and energy consumed in the production of this now-dead tissue.

Underground effects also may result from conditions that lead to scorch. Within the soil, fine root mortality may occur during extended drought. Even when soil moisture is replenished, it may not immediately be available to trees until after initiation and growth of new fine roots. Thus, water deficiency in the crown may be prolonged, and additional nutrients and energy must be committed to the root system.

The long-term impact of scorch on landscape tree and shrub health depends on the frequency and severity of symptoms. Deciduous trees usually produce more foliage than the minimum necessary to maintain themselves. They can tolerate occasional loss of foliage from scorch or defoliating diseases and insects. A severe occurrence of scorch that affects most of a tree crown, however, might serve as an “inciting factor” in the long process of urban tree decline (as described by Paul Manion and Wayne Sinclair). Recurring scorch events, especially on trees

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What Damaged this Tree?

by Kim Sebastian
DNR Southeast Region

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already jeopardized by other unfavorable features of the urban environment, might be pushed further and further down Manion’s “decline spiral” that can lead to eventual tree death.

Avoidance of scorch begins with landscape tree selection and establishment. Some trees, including cultivars of lindens and maples, may be particularly prone to scorch in the urban environment. These might be poor choices for planting where moisture availability is limited and exposure to heat and drying winds is likely. When establishing all trees, adequate rooting volume with soil of good moisture-holding capacity must be provided.

Other prudent decisions by planners and landscape managers can reduce the frequency and severity of scorch. The proximity of pavement and buildings to existing or planned plantings should be considered. Alternative paving materials such as bricks and gravel allow more moisture infiltration, but still may reflect damaging heat. Turf strongly competes for moisture in the upper root zone. Turf might be reduced or eliminated and replaced with water-conserving organic mulches. Accumulation of deicing salt (NaCl) in soil along roads and walks impairs absorption of water by roots. Reduced salt application or use of an alternative deicer should be considered. Water stress avoidance also implies careful use of fertilizers. Excessive nitrogen fertilization, especially of trees with impaired root development, can alter shoot-to-root ratios. Trees with an imbalance of crown to root system can rapidly develop scorch when soil moisture becomes inadequate.

Even in optimal situations, prolonged lack of rainfall might necessitate supplemental watering. According to weather records, most of Wisconsin receives approximately 4 inches of rain each month during the summer. But “average” precipitation rarely arrives in regular increments on a weekly basis. Newly transplanted trees need frequent watering, perhaps for several growing seasons. A “half ‘n half” rule of thumb might be applied for established trees. Water could be applied to eliminate at least half the deficit that develops in half a month without rain. Thus, 1 inch of water would be supplied to the root area of a tree if it has not rained for two weeks. Water should be applied slowly to ensure penetration and minimize runoff. This amount of watering should prevent development of moisture stress in many trees and avoid many episodes of scorch.

New Lab to Process Disease Samples

The Wisconsin Department of Agriculture, Trade and Consumer Protection’s Bureau of Plant Industry Laboratory is no longer processing samples for the detection of vascular wilt diseases. As of September 1, 1998, staff at the Plant Disease Diagnostics Clinic at the University of Wisconsin–Madison are now responsible for Verticillium wilt, oak wilt and Dutch elm disease testing. The fee is $10 per sample.

Sample submission to the Plant Disease Diagnostics Clinic is similar to the process used for the Bureau of Plant Industry Laboratory. Samples should include three ½-inch-diameter, 4- to 6-inch-long branch pieces cut from recently wilted branches. Samples should be accompanied by a cover letter with your name, address and phone number. Submit your samples to: Brian Hudelson, Plant Disease Diagnostics Clinic, Department of Plant Pathology, University of Wisconsin–Madison, 1630 Linden Dr., Madison, WI 53706-1598.

Other samples can also be sent to the clinic. A fee of $10 is charged for most diagnostic services. Call the clinic at 608-262-2863 for details.

Upcoming Events

March 18–21—People, Places, Land and Life: 100 Years of Landscape Architecture, Midwest chapters of the American Society of Landscape Architecture conference, Monona Terrace Convention Center, Madison, WI. Contact Ann Barrett, 715-366-4500 orabarrett@uniontel.net.

March 28–30—Building With Trees National Conference, Lied Conference Center, Nebraska City, NE. Contact the National Arbor Day Foundation, 402-474-5655 or conferences@arborday.org.


April 9–12—Student Society of Arboriculture 3rd Annual Conference, Eagle Bluff, Lanesboro, MN. Contact Tim Walsh, 715-346-4211 or twalsh@uwsp.edu.
**Tree Evaluation continued from page 1**

Measurements are modified for trees with excessively thick bark, severe lean, forking at the point of measurement, excessive trunk flare or multiple trunks.

**Species**

Individual tree species and cultivars vary widely in aesthetic, architectural, functional and maintenance characteristics and/or requirements; hence, ratings are different for different types of trees. Species ratings are affected by: adaptability to soil and climatic differences; growth characteristics; maintenance requirements; susceptibility to insects, diseases and air pollution; allergenic properties and aesthetic values. Species rating, expressed as a percentage from 5–100, often varies geographically. What might thrive in the Milwaukee area may barely survive in Hurley or Hayward. In Wisconsin, we have three distinct hardness zones, each of which may have a different rating for a given tree species. For example, a balsam fir in zone 5 has a 40 percent species rating, in zone 3 it rates at 80 percent. A species rating list for Wisconsin can be obtained by contacting your regional urban forestry coordinator.

**Location**

Location rating, expressed as a percentage from 10–100, is the combined average percentage of site, contribution and placement attributes as described below.

Site: More important than the type of area where a plant is located is the general appearance and intensity of use in that area. For example, a tree in a well-maintained suburban residential area will rate very differently than that same tree in front of a factory. Also important are the design and quality of nearby structures and the quality and condition of the associated landscape.

Contribution: The functional and aesthetic benefits of a plant such as its size, shape, branch structure, foliage density, flowering and fall color affect the tree’s contribution to the landscape. A plant may also have historical significance, be a rare species for the area or have other unique or unusual characteristics.

Placement: A plant’s placement may determine its functional and aesthetic attributes. For example, the placement of a deciduous tree to provide summer shade and winter sun for a patio is critical. Similarly, placement is functionally important for windbreaks, snow deposition, erosion control, etc. Aesthetically, a properly placed tree can frame a view, screen unsightly objects or accent a building.

**Condition**

Evaluating tree condition is less straightforward than the other appraisal factors and is generally harder to quantify. The condition of a tree is expressed as a percentage from 0–100, and is determined by evaluating the tree’s present or prior structural integrity and health.

Structural Integrity: A healthy-looking tree can have serious structural problems. The perceived vigor of a full crown of foliage can be misleading. Defects such as weak branch unions, cracks, seams, conks from wood-decaying fungi or mounded soil on one side of the trunk can signify impending failure of a branch or whole tree. A tree that has a hazardous condition could even have a negative dollar value if it is deemed unsafe and should be removed. In this case there will be a cost for removal and cleanup.

Plant Health: To diagnose plant health, an appraiser must be familiar with the appearance of a normal plant of that species in the area. Items to observe and measure are leaf size and color, shoot growth, and tree structure. The general health and vigor of a plant are best expressed by the annual shoot growth for the three or four preceding years. Progressively less growth for each of the past several years, along with yellowish or off-color leaves, may indicate declining condition.

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**Events, cont.**

April 13—The Practice of Restoring Native Ecosystems, Milwaukee, WI. Contact the National Arbor Day Foundation, 402-474-5655 or conferences@arborday.org.

May 13—Trees, People and the Law Seminar, Minneapolis, MN. Contact the National Arbor Day Foundation, 402-474-5655 or conferences@arborday.org.

August 1–4—International Society of Arboriculture Annual Conference and Trade Show, Stamford, CT. Contact ISA, 217-355-9411.


Other factors affecting a plant’s well-being include disease, insects, chemicals, air pollution, soil compaction or mechanical injury. In many cases, symptoms may not show for months or years and are dependent upon severity of infection, infestation, type and amount of chemical, time of year and weather conditions when the plant was affected.

**Methods of Appraisal**

There are several methods of determining plant value based on the appraisal factors discussed above. *Replacement cost* and *trunk formula* are the most common. *Cost of repair* and *cost of cure* are also used, but much less frequently.

**Replacement Cost**

This method determines a landscape plant’s value based upon the cost of replacing it in the same location with a plant of the same or comparable species, size and condition. In Wisconsin, the largest transplantable tree, as established by the Wisconsin Arborist Association, is 3.5”-caliper balled and burlapped. If the tree is 3.5” or smaller, the appraiser needs to obtain from three local or regional nurseries the average cost for that species and size. Add to that the cost of removing the tree to be replaced, along with the installation, maintenance, warranty and profit costs. See example in the box on the bottom of page 11.

**Trunk Formula Method**

This method is recommended for appraising trees considered too large to be replaced with nursery or field stock. A value is arrived at by taking the cost of installing the largest normally available tree of the species, then adding a calculated amount based on the additional trunk diameter of the appraised tree, and then adjusting for condition and location.

**Cost of Repair**

This method arrives at a cost to put the tree back into safe working order and also compensates for the tree’s lower value due to the damage sustained. Costs may include wound treatment, cabling, bracing, pruning, watering, aeration and/or insect and disease management. Depending on the nature and extent of the damage and time for recovery, additional compensation may be due the property owner.

**Cost of Cure**

When extensive damage has occurred beyond the loss of plants, for example damage to walks, driveways or shaped terrain, the cost of cure method is used to determine the cost of returning the property to a reasonable level of its original condition. The cost of cure method is usually divided into three phases: 1) remove debris and stumps, and clean up the site; 2) replace and/or repair plants and restore the property to its pre-casualty condition; and 3) post-restoration maintenance. The property’s previous use or intended use is important in determining what level of restoration is reasonable. Another consideration is the property owner’s deprivation of use or enjoyment of the property during the time of restoration. In such a case, the property owner may be entitled to additional compensation as determined by negotiation or through legal action.

The process of establishing the value of landscape plants is complex, and differs according to the size of tree affected, extent of damage and where in the nation the tree is located. In most cases, a knowledgeable appraiser or consultant should be used to determine plant value. Several International Society of Arboriculture certified arborists had the following observations about plant appraisal:

- tree appraisals are not a large part of the consultant’s or tree service’s business
- the top reasons for appraisal are neighbor disputes, insurance claims and tax purposes
- all the consultants said their clients are surprised that the appraised value is generally much higher than they thought it would be
- one consultant said that oaks are the most frequently appraised tree species, while all others said that every conceivable species, even boxelder, have been appraised

And what about the three situations mentioned at the outset of the article? The first instance, where a driver mowed down the trees, resulted in the driver receiving a bill (using the replacement cost method) from the city to replace the trees. In the next situation, the homeowner adjacent to the park stated that, since his tax dollars helped support the park, he was entitled to cut the trees. A compromise was reached, with the homeowner paying for two 6’ Colorado blue spruce, which the city planted. The Twins fans who snapped off the trees were never found. The trees were appraised and a claim was submitted to the city’s insurance company for payment. The city did have to pay a deductible, but it was far less than the several thousand dollars the trees were worth.
**Deadlines and Datelines**

- If you missed the December 31, 1998 deadline for submitting 1998 Tree City USA and Growth Award applications don’t despair, there is still time. But please submit your applications IMMEDIATELY. For more information contact your local urban forestry coordinator (see p 16).

- **National Civic League’s 50th Annual All-America City Awards**—Sponsored by Allstate Insurance Company. The 1999 application deadline is Thursday, March 18, 1999. The All-America Award recognizes grassroots community problem solving and is given to communities that cooperatively tackle challenges and achieve results. Communities of all sizes (from regions to neighborhoods) can apply. There is an application fee ranging from $275–$575 depending on population of the community. For more information or to request an application, contact the NCL at 303-571-4343 or e-mail at ncl@ncl.org. They also have a website at: [http://www.ncl.org/ncl/aac.htm](http://www.ncl.org/ncl/aac.htm).

- **Hyland R. Johns Grant Program**—The International Society of Arboriculture Research Trust offers grants ranging from $5,000 to $20,000 for research focused on the biology, management and care of trees and their relation to environmental, social and economic benefits. Proposals must be received by April 1, 1999. Visit their website at [http://www.ag.uiuc.edu/~isa/ISAResearchTrust/hrjohns.html](http://www.ag.uiuc.edu/~isa/ISAResearchTrust/hrjohns.html) for more information.

- The National Tree Trust, a private, nonprofit organization, is requesting applications for its year 2000 America’s Treeways and Community Tree Planting Programs. Part One, “Seedling Order Form,” of their two-part grant application, is available and is due May 31, 1999. Transportation authorities, forestry departments, municipalities, garden clubs, school groups and other volunteer organizations can apply to receive tree seedlings at no monetary cost for planting on public land in 2000. Part One provides a list of species available and appropriate for each region of the United States. Seedlings come in quantities of 100. Don’t delay in requesting and submitting Part One. Species are allocated on a first-come, first-served basis and a large demand is anticipated. Part Two, “Project Information,” is automatically mailed to all groups that complete Part One. Part Two asks for more detailed information about the tree planting project and is due October 1, 1999. All applicants must complete Part One and Part Two to receive trees. To receive Part One, “Seedling Order Form,” or for more information on the America’s Treeways and Community Tree Planting programs, please call Ashley Link at the National Tree Trust at 800-846-8733 ext 27, or send your address, phone number and FAX number to alink@nationaltreetrust.org. Please include 98Urban, in your message.

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**Tree Evaluation** continued from previous page


**Calculating Replacement Cost**

Example: A 3” bur oak is irreparably damaged. Prior to the damage, it had a condition rating of 70 percent and a location rating of 80 percent. The average installed cost for a 3” bur oak with a two year warranty is $500. Removal and cleanup for the damaged tree is estimated at $75.

\[
\text{Replacement Value} = \left[ \text{installed tree cost} + \text{warranty} \right] \times \text{[condition]} \times \text{[location]} + \text{[plant removal and cleanup cost]}
\]

\[
\text{Replacement Value} = (500 \times 0.70 \times 0.80) + 75
\]

\[
\text{Replacement Value} = $355
\]

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**Get Ready for Forestry’s Annual Contests!**

by Genny Fannucchi

DNR Bureau of Forestry

Wisconsin DNR Forestry is once again asking our fourth- and fifth-grade students to get out their pens, pencils and art supplies for our annual writing and poster contests. This year marks the tenth anniversary of the Forest Appreciation writing contest and the seventh anniversary of the Arbor Day poster contest. In fact, our first writing contest participants turn 20 this year! Over the past four years, approximately 3000 students annually have entered these contests.

The 1999 themes are My Favorite Forest Animal or Plant for the writing contest, and Trees are Terrific ... For Shelter and Shade! for the poster contest. The top three winners of each contest, their parents and
Wisconsin Landscape Contractors Association (WLCA)

by Barbara Scheibe
WLCA Executive Director

The Wisconsin Landscape Contractors Association was founded in Milwaukee in 1965. Since that time the association has grown to eight chapters and over 300 members. Membership is open to any individual, firm, partnership or corporation actively engaged in landscape contracting, maintenance or related horticulture services, or engaged as a supplier to the landscape industry. There is also an educational category.

The mission of the WLCA is to represent the local landscape industry by providing a forum for increased business opportunities through networking; to advance the professional growth of its membership through education; and to promote public awareness of environmental and industry concerns.

The artistic and practical applications of the landscape profession require more than skilled craftsmanship. Landscape contractors are not only answerable to clients, but also to the government, the media, the general public and peers. The end product of the landscape contractor’s ideas and highly skilled efforts are on daily display. Landscape contractors cannot practice their profession within a self-serving vacuum. They must learn, develop, promote and share those special talents which are so unique to our industry. An association pools resources, shares experiences and improves skills to produce an important service profitably.

Through organized seminars, conferences and membership meetings, landscape contractors can keep pace with the perceived image of the green industry and, if necessary, effect changes that will best serve the interests of the landscape contracting profession and the public. Seminars include the yearly Milwaukee Chapter Foreman’s Seminar and an educational seminar held in early March, and the Southeast Chapter’s Wintergreen Seminar in late January.

WLCA is a member of the Landscape Association Executive Council of the Associated Landscape Contractors of America. This entitles members to exchange ideas and pertinent information with other state associations across the country. WLCA and ALCA also work together to cosponsor educational seminars in Wisconsin, such as ALCA University.

Chapters are located in the Coulee Region, Fox Cities, Green Bay, Lakeshore, Madison, Milwaukee, Southeast and Wisconsin Valley areas. Each of these chapters plan their own meetings to meet their individual needs. Each chapter sends one or two representatives to the WLCA State Board of Directors.

WLCA membership automatically means a membership in the Wisconsin Landscape Federation, a state “umbrella” organization that represents virtually all major aspects of the landscape industry, including nursery growers, garden centers, sod producers, lawn care operation and landscape management contractors.

WLCA participates in the ALCA certification program. Certification of the Landscape Professional is a six-hour, multiple-choice written test which covers major areas of landscape contracting. Certification of the Landscape Technician is a national, hands-on testing program administered by WLCA that seeks to recognize proficiency in the landscape work force, upgrade the status of the landscape profession and provide the public with a means of identifying qualified professionals. The Certification of the Landscape Technician test takes place in early fall at the MATC North Campus in Mequon, Wisconsin. Currently, WLCA has 56 certified landscape technicians, 14 in maintenance and 42 in installation.

Working cooperatively with WLCA, WLF and ALCA, local chapters will be able to meet local, state, national and industry-wide challenges, problems and opportunities that the 21st century will present.

John Luznicky of Durham Hill Nursery in Muskego is currently the president of the WLCA state association. Barbara Scheibe is the executive director. The WLCA office is located at 21620 Belgren Rd., Waukesha, WI 53186. For further information contact the WLCA at 800-933-9522.
The Idea Exchange...

Compiled by John Van Ells
DNR Southeast Region

New Ordinances

New tree ordinances were recently noted in The Municipality, the official publication of the League of Wisconsin Municipalities.

The Poynette Village Board passed an ordinance governing the use of trees on public land. A village forester will be appointed to provide technical advice and to help administer the urban forestry master plan. The village will have primary responsibility for all public trees. The village forester will have the authority to require removal of trees on private property if they are dead, infected or hazardous to the public. Residents will need a permit from the village to plant, trim or remove trees in the public right-of-way.

The Wautoma Common Council approved an ordinance creating a tree board to promote new and existing tree programs in the city and to support urban forest management.

The village of Amherst adopted a tree ordinance providing for the regulation of the planting, maintenance and removal of trees, shrubs and other plants within the village. The ordinance calls for the formation of a tree board and the development of a five-year urban forestry plan.

The Viroqua City Council approved an ordinance regulating the planting of trees. The ordinance provides guidelines for size, location and types of trees within the city limits, both on the boulevard areas and on private property. It is designed to prevent hazards, such as trees blocking vision at intersections. In addition, diseased trees must be burned, buried or sprayed.

The Medford Common Council passed an ordinance requiring property owners to prune trees overhanging a street or sidewalk. The ordinance requires any tree overhanging a street right-of-way to have a clearance of at least 8 feet above the sidewalk and 14 feet above the street.

Institute to Donate Trees

The Elm Research Institute of Westmoreland, New Hampshire, sponsors a program to give away half a million disease-resistant American Liberty elms to volunteer, nonprofit groups. Under the Johnny Elms organisations nursery program, groups such as 4-H, Boy and Girl Scouts, and Future Farmers of America will be awarded 500 to 1000 trees to raise for public planting. Applicants are selected based on their dedication to restoring the elm tree. Corporations are lending fenced-in plots where volunteers plant and care for young trees for two to three years until they reach planting size. Volunteer groups will then distribute the trees to municipalities, golf courses, historic sites and public places. The goal of the Elm Research Institute is to restore the American elm to the streets of America. Info: call 800-FOR-ELMS

Contest continued from page 11

teachers will be invited to a special recognition ceremony. First-, second- and third-place state winners in each contest will also receive savings bonds of $100, $75 and $50, respectively. The savings bonds are sponsored by the Wisconsin Woodland Owners Association and the Wisconsin Arborist Association. In addition, the Wisconsin Nursery Association provides a tree for each statewide writing contest winner. The poster contest is part of a national competition sponsored by the National Arbor Day Foundation. In 1998, Wisconsin’s first-place poster contest winner took top national honors! In addition, a 1999 calendar featuring the top 12 essays and posters has been produced to share the student’s thoughts and artwork throughout Wisconsin.

All public and private schools with fourth and fifth grades have been sent contest materials and calendars. Invite a teacher you know to learn more about our forest resource and encourage students in your community to participate! Deadline for the fifth-grade poster contest is March 1, 1999 and March 5, 1999 for the fourth-grade writing contest.

Check out Eek!, the Department of Natural Resources’ web site for children, at http://www.dnr.state.wi.us/eek/. View the 1998 National Arbor Day Foundation’s winning poster, read articles about our trees and forests and explore the clickable forest wildlife poster. Get enthused about learning, get enthused about our forest resource!

Special note: While supplies last, single copies of the Arbor Day–Earth Day Calendar (publication number FR-128) and the forest wildlife poster (FR-142) may be ordered electronically through your local DNR service center, or by writing Genny Fannucchi, Forest Resource Educator, PO Box 7921, Madison, WI 53707, or e-mail her at fannug@dnr.state.wi.us.
Volunteers continued from page 5

tion services for village residents. Contact: Judy Shirley, 414-351-8900.

Green Circle Trail

The Green Circle Trail is a 24-mile hiking/biking trail that links existing parks in and around private, municipal and county property in the Stevens Point area. Nearly two dozen easements were agreed upon with no dollars spent. How did this happen? A dedicated handful of volunteer core committee members diligently met every Friday morning for five years to make the trail a reality.

The idea for the trail was followed by a feasibility study. A luncheon brought together all the property owners and influential businesspeople and politicians for a fact-finding meeting. Core committee member Dan Trainer noted that one of the keys to the committee’s success was having the Stevens Point and Portage County parks directors informing the group what was needed. Then, because the remaining members were retired, they could operate without bureaucratic restrictions when working on easements or soliciting money and backing.

A county ranger spends about six months of the year patrolling the trail. Liability through each municipality (Stevens Point, Whiting, Park Ridge and Plover) is borne by Portage County. Due to the success of the trail and the several subcommittees, an endowment has been set up with the community foundation, and work on proposed trails radiating from the circle has begun. Contact: Dan Trainer, 715-341-2715.

Greenfield

Joan Stevens, an enterprising individual, has helped bring about a greener change in her community. She founded the city’s tree commission and beautification committee. The beautification committee sponsors Arbor Day events on the city’s tree lawns, parks and high school properties. The committee has also established a beautification award for residential and commercial properties in the city’s five voting districts, along with a “naming of the city flower” contest (daylily won). Another venture produced a forestry brochure which was sent to all city residents. This brochure introduced the tree commission, highlighted accomplishments and laid out what more is needed. Joan feels these efforts have allowed the entire community to partake in the forestry program, learn of its merits and support it with their time and money. Contact: Joan Stevens, 414-545-3381.

Howard

In 1991, the village president announced that he wanted Howard to be a Tree City USA and quickly appointed a beautification committee. The committee created an ordinance, tree board and volunteer village forester position. In 1992, they received their first TCUSA award. Next, they moved on to receive funding from Wisconsin Public Service Corporation to plant utility-friendly trees and a grant from the DNR for an urban forestry student intern. The program has grown so much that the village now has a full-time forester and is wrestling with what direction and activities the tree board should now address. Due to the tree board’s great success, a village garden club has started and is performing spring and fall boulevard median plantings. Contact: Marianne Pigeon, 920-434-4652.

Olbrich Botanical Garden

Olbrich is a 14-acre city of Madison botanical garden and tropical conservatory. The garden has 16 full-time paid staff, but would not exist without the efforts of the 550-person cadre of individuals and groups who volunteer 26,000 hours annually to the garden. Olbrich has a volunteer coordinator, Mariann Muzzi, who develops job descriptions and applications and then interviews and places volunteers for a quality match with the applicant’s background and interests. Once placed, new volunteers report to a task coordinator for work assignments. Volunteer tasks include staffing the reception desk, gift shop and library; information specialists for the conservatory; and grounds workers.

Many volunteers work on a regular weekly or monthly basis, but some are there just for special events, such as the three-day spring plant sale. Each task has its own intrinsic benefits to the volunteer, but after working 25 hours annually, each individual is eligible for:
• annual Valentine’s Day volunteer recognition luncheon
• 10% discount in the Growing Gifts shop

Successful volunteer tree groups share most or all of these traits:
☐ have a good relationship with the media
☐ start with a small, showy project to give the group credibility and help add influential members
☐ enlist service groups after projects are defined
☐ publicly recognize volunteers and their accomplishments
☐ enlist consultants when needed, and have them present their product to the municipality’s governing body
☐ involve kids/students in appropriate project components
☐ hold events or contests that all residents (homeowners, apartment dwellers and commuters) can take part in
☐ solicit local funds as much as possible, rather than relying exclusively on state or national grants, to bring more ownership to a program or project
☐ leverage funds at neighborhood, organization and community levels
With their own parking spaces, these London planetrees near Trafalgar Square in Nelson, New Zealand, put new meaning into the term, “street tree.” The trees have been topped to “balance” the damage done to the roots. Looking more like a bush on a stump, these trees will never thrive in conditions like this.

David Stephenson, WDNR

What Damaged This Tree?

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!