

*Massachusetts Urban Forestry Program*

# The Citizen Forester

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Massachusetts is losing 47 acres of land per day to urbanization according to a recent Christian Science Monitor news article [www.csmonitor.com/2007/0906/p01s02-usgn.html](http://www.csmonitor.com/2007/0906/p01s02-usgn.html). One statistic that is often used to portray the magnitude of urbanization in our state is the dramatic 1980-1996 contrast between a population increase of 7%, and a 30% rise in developed land area during that same period. This is certainly most significant in the growth communities throughout our forestry districts. The result of this growing interface between residential and traditional forest land in Massachusetts has been a gap in understanding between forestry professionals and the public on the subject of acceptable forestry practices. For example, much of this concern centers around the perception of whether or not the activity in question is actually associated with subsequent forestland conversion (is this just the first step in developing the land) or is this a sustainable silvicultural harvest. Post harvest aesthetics is another area of study that forestry professionals can use to reduce public concerns over timber harvesting practices and is the topic of our lead article by Robert L. Ryan at the University of Massachusetts Amherst. There is a common ground that the various stakeholders in forest use in Massachusetts have concerning how our forests are managed. It is imperative that we work together to preserve our working forests so that future generations can enjoy all the benefits they provide to our Commonwealth. – Alan Snow

## **Landscape Aesthetics and Ecological Forest Management**

**Robert L. Ryan**

**Department of Landscape Architecture and Regional Planning**

**University of Massachusetts, Amherst**

Intuitively, many forest planners and managers know that their clients and the public judge forest management on the basis of visual quality or how the forest looks. In fact, much of the controversy surrounding logging or even forest thinning projects occurs right after the initial cutting of the trees. Unfortunately, ecologically healthy ecosystems and the processes to sustain them are not always perceived as aesthetically pleasing or even as good management by the general public (Gobster 1994, 1995, 1999; Nassauer 1995, 1997; Ribe 1999, 2002; USDA Forest Service 1995, Williams and Cary 2002).

Fortunately for forest planners and managers, there is a large body of research that explores the impact of forest management, particularly timber harvests, on forest aesthetics. A review of the research on forest aesthetics shows that there is considerable

consensus about what the public considers to be a scenic forest (e.g., Kaplan and Kaplan, 1989; Gobster, 1994). These research findings have also been relatively consistent across a wide range of forest types in North America and Europe where the majority of research has been conducted. Some important conclusions from the forest aesthetic research that apply to forest management are: Large mature trees are an important part of scenic beauty and should be retained in forest thinning projects More open forest structure that allows visual access through the understory is considered more scenic than forests with extremely dense understory vegetation. The amount of tree thinning that can occur without significant impacts to scenic beauty varies by forest type and topographic area. Large clear-cuts are considered negative in almost all forest types. However, researchers have found that partial clearing up to 50% of trees in a dispersed pattern may be visually acceptable in moderately sensitive areas, especially if large trees are preserved. Downed wood from timber harvesting and tree thinning is considered ugly and has a negative impact on scenic beauty. Removal of dead wood or chipping on-site can greatly increase scenic ratings for tree thinning projects.

Managing for aesthetics falls under the umbrella of general forest planning policy and guidelines. The USDA Forest Service's Scenic Management System helps planners and managers identify existing scenic landscapes and evaluate the sensitivity of these areas to management decisions. This system can be useful to foresters who are working on large tracts of private land as well. While there is considerable agreement across many different groups of people about what is considered scenic, forest managers and other natural resource experts often differ markedly from the general public in their perceptions of clear-cutting, tree thinning and other management practices. Forest managers often consider the scenic impacts of such management to be much less negative than does the public, which may suggest why there is such controversy over forest thinning and other timber management projects. Thus, forest planners and managers need to involve the public in planning forest management projects.

The following are recommendations for considering when managing for aesthetics and forestry based upon research. These are organized around the three phases of management: planning, implementation and monitoring.

**1. Planning Stage** Utilize a multi-disciplinary team for forest management including landscape architects to help evaluate the impacts of management proposals, Plan locations of thinning or logging to avoid impacts to sensitive areas, such as near existing homes or along scenic roads and ridgelines, Create natural boundaries for management areas, Use visual assessment tools to evaluate the visual sensitivity of existing landscapes and management proposals, Involve the public in the planning process.

**2. Implementation Stage** Protect and retain mature trees by only removing enough large trees to open the canopy when necessary, Use tree thinning to improve visual access through the understory by removing between 25- 50% of the smaller diameter trees depending on location and forest type, Use "cues to care" to show that forest is actively being managed, such as seeding buffers with wildflowers and thinning trees to frame views from trails.

**3. Monitoring Stage** Clean-up woody debris and slash from tree thinning by removing woody debris from the site, mulching, or burning brush piles, Enhance revegetation of

disturbed areas, such as access roads and staging areas, through fertilizing and seeding, Provide information about forest management through interpretive signs and brochures that show the target landscape and timeframe for regeneration after treatment, Practice adaptive management as young forests may require periodic thinning to retain views.

### **Development of an Ecological Aesthetic**

Changes in forest management and biological sciences have led the USDA Forest Service and other government agencies to embrace ecosystem management as the latest overarching approach to organizing, planning, and implementing management decisions. An important goal of ecosystem management is to integrate ecological principles, including the temporal aspects of nature, into management decisions. Fuels management, including reintroducing fire into the forest, can be an important step in restoring an ecosystem's natural processes. Humans are visual creatures; we judge an environment by what we see (Kaplan and Kaplan 1989, S. Kaplan 1987). Furthermore, people's aesthetic perceptions of the scenic beauty of the environment seem to be resistant to influence by intervention such as environmental education (Daniel 2001). USDA Forest Service landscape architect Paul Gobster (1994, 1995) argues that people's judgments about what is a healthy or beautiful landscape are culturally derived and are often based on a static view of landscape management. In fact, until the last 25 years or so, even ecologists tended to see the environment as "a steady state community" instead of one "characterized by change rather than consistency" (Botkin 2001: 112). Gobster notes that managing forests to achieve aesthetic and ecological objectives can present some inherent conflicts (1994, 1995, 1999, 2001b). For example, in many ecosystems, fire is important for ecological health, but research shows that people do not like the visual impacts of fire. Likewise, dead and dying wood is important for forest health because it restores coarse organic matter to the soil and provides habitat, but large amounts of slash and dead trees lower visual quality (Gobster 1999). Many people dislike large-scale landscape change or disruption to the natural environment, which results in widespread areas of dead or downed trees, regardless of whether the changes are caused by humans, such as logging, or natural disturbance, such as wildfires. To try to reconcile these inherent conflicts, Gobster draws inspiration from the work of the renowned ecologist Aldo Leopold. "Leopold and others have detailed important differences between a forest esthetic based on scenic perspectives and one based on ecological perspective" (1995: 8). Gobster describes Leopold's ecological aesthetic as one informed by the knowledge of ecosystem health and processes. Appreciation of landscape change is an important part of this new aesthetic that would perceive natural processes as essential to ecosystem health. The ecological aesthetic also would translate into an appreciation for the more subtle beauty in landscapes such as prairies that may appear uniform or monotonous to the untrained eye. The role of education and information is central to this informed aesthetic (Nassauer 1997, Ribe 1999, Thayer 1989).

This article is a summary of information from:

Ryan, R.L. 2005. *Social Science to Improve Fuels Management: A Synthesis on Aesthetics and Fuels Management*. General Technical Report NC-261. St. Paul, MN: USDA Forest Service, North Central Forest Experiment Station.

Available on-line at:

[http://www.fs.fed.us/fire/tech\\_transfer/synthesis/social\\_science\\_team/gtr\\_nc261.pdf](http://www.fs.fed.us/fire/tech_transfer/synthesis/social_science_team/gtr_nc261.pdf)

## Picks and Shovels

### For more information

The USDA Forest Service, Northeastern Area State and Private Forestry resource webpage [www.na.fs.fed.us](http://www.na.fs.fed.us)

**Sustainable Communities Network:** growing a sustainable economy through forestry and wood products topic area [www.sustainable.org/economy/forestry.html](http://www.sustainable.org/economy/forestry.html)

**Northern Forest Center** mobilizes people to: build a sustainable economy, revitalize the region's communities and conserve the landscape [www.northernforest.org](http://www.northernforest.org)

**MA DCR Bureau of Fire Control & Forestry** web page is the starting point for everything about forestry in Massachusetts [www.mass.gov/dcr/stewardship/forestry](http://www.mass.gov/dcr/stewardship/forestry)

## Growing Greener

**Help green your community by sending representatives to the 2007 Tree Steward Training Workshop** held in Petersham MA on November 2<sup>nd</sup> and 3<sup>rd</sup>. Local government officials, tree wardens, municipal staff and citizens groups will receive intensive two day training on current research, technology and information used to promote healthy sustainable community forestry programs. The Massachusetts Urban & Community Forestry Program has opened enrolment for the 2007 Tree Steward Training Workshop for more information contact [alan.snow@state.ma.us](mailto:alan.snow@state.ma.us) or by phone at 413-577-2966.

## Growing on Trees

***Urban & Community Forestry: A Practical Guide to Sustainability* by Jim Fazio**

This fully illustrated 75-page guidebook is a must read for tree board members, state and local urban & community forestry professionals, volunteer group leaders, master gardeners, and anyone who wants a quick and easy overview of urban forestry and what it can do for your community.

[www.arboday.org/Shopping/Merchandise/MerchDetail.cfm?id=81](http://www.arboday.org/Shopping/Merchandise/MerchDetail.cfm?id=81)

**Carbon Capital Fund & Carbon Calculator** By contributing to the Carbon Capital Fund, you can take a positive step to address global climate change and offset your carbon footprint. [www.carboncapitalfund.org/index.php](http://www.carboncapitalfund.org/index.php)

**Project Learning Tree** is an award-winning environmental education program designed for teachers and other educators, parents and community leaders working with youth from preschool through grade 12. [www.plt.org](http://www.plt.org)

## Website Dedicated to Creating Livable Communities

[www.smartgrowthamerica.org](http://www.smartgrowthamerica.org)

## On The Horizon

**Free Fall Seminars at New England Wild Flower Society's Nasami Farm:** Presents a series of FREE weekly lecture at Nasami Farm & Sanctuary, on Sundays at 1 pm, September 9-23, 2007, 128 North Street, Whately, Massachusetts. For more information on the free seminars call 413- 397-9922 or visit their main webpage at [www.newfs.org](http://www.newfs.org)

### **Chain Saw and Brush Cutter Safety**

Wednesday September 26, 2007 9:30 – 3:30 Eastern Extension Center, Waltham MA  
Sponsored by the Mass Tree Wardens' and Foresters Association Professional Development Series. For registration and membership information contact Karen Doherty at 781-894-4759 or emails to [mtwfa@comcast.net](mailto:mtwfa@comcast.net) or visit the MTWFA web page [www.masstreewardens.org](http://www.masstreewardens.org)

**Springfield Green City Forum: Celebrating the Past... Planning the Future:** October 5, 2007 8:30am – 3:30pm CityStage, One Columbus Center, Springfield MA The goal of the symposium is to educate tree wardens, landscape architects, town planners, DPW heads, and public officials in New England cities and towns about positive steps that can be taken to help create a municipality that is engaged in the most cutting edge, environmentally friendly practices related to environmental planning, construction and sustainability. For more information and registration details go to: [www.springfieldcityhall.com/COS/green-city.0.html](http://www.springfieldcityhall.com/COS/green-city.0.html)

**Partners in Community Forestry National Conference:** November 14 – 16, 2007 Baltimore, MD Presented by the National Arbor Day Foundation. The conference is designed to bring a broad-based group of interested professionals together to look at ways we can work in partnership to promote our community forestry goals. For more information go to: <http://arborday.org/shopping/conferences/brochures/pcf/2007>

## Species Spotlight

*Juglans nigra*

Black Walnut

**Hardiness Zone 4**

**Edible Tree Fruit** (see special section below)

**General Description:** Native from New England down through Texas this large deciduous tree grows 50' to 75' feet tall with an oval open crown that is coarse in texture. The one to two foot long pinnately compound leaf is alternately arranged with up to 23, 5" long serrated leaflets that are dark green in summer turning yellow in the fall.

The male flowers of this monoecious tree are catkins (small scale cone like buds) the female flowers are born on up to eight flowered spikes. Not considered ornamentally important the flowers present more of a note of curiosity. The fruit is a nut covered by a green semi-fleshy covering that turns black before breaking open. The bark has deep narrow furrows that form a diamond shaped pattern and is dark brown to grayish black in color.



**Culture:** Difficult to transplant, prefers moist well drained soils and full sun

**Landscape Use:** Nice lawn or park tree,

**Liabilities:** Fruit can present maintenance problems so avoid planting near patios parking lots or other similar high use areas.

**Cultivars/Varieties:** '**Laciniata**' - This is a rare form with leaflets that are fern-like and dissected with fine texture.

For more information, see [www.hort.uconn.edu/plants/j/jugnig/jugnig1.html](http://www.hort.uconn.edu/plants/j/jugnig/jugnig1.html)

**Edible Tree Fruit:** is provided by Russ Cohen of the Mass Riverways Program, he is a professional environmentalist and wild foods enthusiast. To find out more about edible plants check out the following links. <http://users.rcn.com/eatwild/recipes.htm> ,

Black Walnuts (*Juglans nigra*) are edible. Sometimes people make pickles from the immature nuts (e.g., when a strong storm blows them off the tree). If a knitting needle can be pushed through one of the nuts, they are young and tender enough to be pickled. Black Walnuts are typically ripe in Massachusetts in October. A typical black walnut tree produces dozens if not hundreds of nuts, and they don't all ripen at the same time, so you can typically gather a bunch of nuts under a tree and then go back 7 to 10 days later to gather those that have ripened in the meantime. The first step in processing black walnuts is to remove the greenish husk which has a distinctive spicy smell. You can stomp on the husks and roll them around under your heel to get most of the husk off. The inside of the husk is yellowish and juicy. Touching this inner husk pulp with your bare hands will stain them brown for several weeks, so you may want to wear gloves to avoid this problem. Once you've got most of the husks off you can get most of the remainder off by filling up a five-gallon plastic bucket about halfway with nuts, then fill the bucket about 3/4 with water, and stirring the nuts in the bucket with a garden stake or other stick to get the nuts rubbing against each other and rubbing off the remaining husk bits into the water. Repeat if necessary. (By the way: I have found out that if I pour the "husk-infused" water onto my back yard, the surface of my yard becomes covered with squirming earthworms and night crawlers several minutes later. I guess they are trying to escape from some chemical in the husks that they find unpleasant (if not toxic)).

The next step is to allow the de-husked Black Walnuts to dry out thoroughly for at least several weeks (the nut meats will be tastier and easier to shell after they're thoroughly dried out. Once they're dried out, you can store unshelled Black Walnuts in a dry location for several months or longer without the nut meats inside getting rancid. Once you've shelled them, though, you should refrigerate (or, ideally, freeze) any shelled nut meats that you won't be using for longer than a week or so. Black Walnut shells are notoriously hard to crack open (the shells are in fact so hard that they are used commercially as an industrial abrasive) - they will break most conventional nut crackers. A vise and/or hammer work fine, though. After some trial and error you will discover a way of cracking the nuts open which yields large pieces of nut meat and minimizes the time you need to spend with a nut pick prying out the embedded bits of nut meat from the shell. Black Walnuts have a strong, aromatic and assertive flavor, much stronger than the cultivated "English" (actually Persian) Walnut. Black Walnuts would not be that good in any recipe which requires the nut flavor to fade into the background (because it won't). On the other hand, Black Walnuts work well in recipes where there aren't a lot of other competing flavors. One easy and tasty way to use Black Walnuts is to make Black Walnut Honey Butter. Here's the simple recipe:

Ingredients:

2 cups shelled Black Walnut meats

3/8 tsp. Salt

3 1/2 tbsp. Honey



Spread the nut meats out on a baking tray and gently roast in a regular or toaster oven at 200 degrees for 1/2 hour - make sure that the nut meats don't burn or get overcooked.

Place the roasted nut meats in a food processor along with the salt and honey and blend for several minutes until well-mixed and peanut butter-like in texture (it will be somewhat grainier). Makes approximately 12 ounces, Serve the nut butter warm to show off its unique fragrance. The aromatic black walnuts, salt and sweetness of the honey will pull your taste buds in three different directions at once.

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**If you have questions about Urban and Community Forestry, contact:**

**Eric Seaborn**, Coordinator ([eric.seaborn@state.ma.us](mailto:eric.seaborn@state.ma.us))

**Alan Snow** Community Forester, Western Mass  
[alan.snow@state.ma.us](mailto:alan.snow@state.ma.us)

**Bureau of Forestry**  
**Department of Conservation and Recreation**  
251 Causeway Street, Suite 900  
Boston, MA 02114

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Eric F. Seaborn  
Program Coordinator  
DCR Urban and Community Forestry  
ISA NE # 6451A  
617-626-1468  
[eric.seaborn@state.ma.us](mailto:eric.seaborn@state.ma.us)