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## Appendix B: Transferring the Technology

### Pacific Southwest Research Station

Center for Urban Forest Research

Davis, CA

530-759-1700

**Technology Transfer Specialist:** Position Vacant

<http://www.fs.fed.us/psw/programs/cufr/>

#### **About the Center:**

The center conducts both research and technology transfer with Pacific Southwest Research Station staff. The center's vision is sustainable communities that are better off today than yesterday. Through technology transfer the center intends for communities to have an increased understanding and appreciation of the urban forest and choose to make an investment in the care and maintenance of community trees to ensure continued health of the urban forest.

#### **Technology Transfer Products (most recent/successful):**

##### **1. Published Reports**

The center publishes research findings in journals, conference proceedings, and periodicals as well as General Technical Reports and dissertations. These reports describe the research methodology, present the findings, and discuss the value of the results to urban forestry.

<http://www.fs.fed.us/psw/programs/cufr/publications.php>

- McPherson, E.G. 2006. [Getting More Than We Pay For](#). City Trees: January/February: 9-12.
- Linsen, L., Karis, B.J., McPherson, E.G., and B. Hamann. 2005. [Tree growth visualization](#). The Journal of WSCG. 13:81-88.
- McPherson, E.G. 2005. [Trees with benefits](#). American Nurseryman. 201(7):34-40.
- McPherson, E.G., James R. Simpson, Paula J. Peper. 2005. [Municipal Forest Benefits and Costs in Five US Cities](#). Journal of Forestry.

- Linsen, L; Karis, B.J.; McPherson, E.G.; Hamann, B. 2005. [Tree Growth Visualization](#). In: Skala, V. (ed) Proceedings of the 13th International Conference in Central Europe on Computer Graphics, Visualization and Computer Vision, WSCG 2005, UNION Agency—Science Press, Plzen, Czech Republic. 8 pp.
- Harding, J., E.G. McPherson, S. Mezger, M.L. Flint, S. Dreistadt. 2005. [UC Davis is Testing 14 Elm Varieties](#). CORF News. Fall.
- McPherson, E.G., J. Muchnick. 2005. [Effects of Street Tree Shade on Asphalt Concrete Pavement Performance](#). Journal of Arboriculture. 31(6): 303-310.

##### **2. Newsletters/Updates**

The center produces a quarterly newsletter that discusses current research findings and other timely research products at the center. They are e-mailed to customers as a hyperlink.

<http://www.fs.fed.us/psw/programs/cufr/newsletter.shtml>

- Demystifying Reference Cities—the power behind STRATUM.
- Making research work for you: the story of Greenprint.
- Fire prevention in the wildland-urban interface.
- Replace field surveys with AVIRIS infrared imagery. Can we?
- Air pollution control—the tree factor.
- What are your trees relative performance index?
- STRATUM in Action.

##### **3. Research Summaries**

Research summaries are four-page documents that provide a quick look at a research project, and its findings, in an easy-to-read, comprehensible format.

[http://www.fs.fed.us/psw/programs/cufr/research\\_summaries.php](http://www.fs.fed.us/psw/programs/cufr/research_summaries.php)

- Trees—The Air Pollution Solution.

- The Large Tree Argument—The case for large-stature trees vs. small-stature trees.
- Is All Your Rain Going Down the Drain?
- Where Are All the Cool Parking Lots?
- Where's the Fire?
- Green Plants or Power Plants?
- Save Dollars with Shade.

#### 4. Fact Sheets

One-page fact sheets provide a quick reference to urban forestry research facts. They are designed to be photocopied and distributed.

<http://www.fs.fed.us/psw/programs/cufr/fact.php>

- Tools for Quantifying Climate-related Effects of Trees on Urban Forest Benefits.
- How to Prepare for a Budget Cut.
- Control Stormwater Runoff with Trees.
- Making Parking Lots More Tree Friendly.

#### 5. Presentations

The presentations are PowerPoint talks that center researchers and staff have given at various conferences, workshops, etc.

<http://www.fs.fed.us/psw/programs/cufr/presentations.php>

- **Benchmarking the Health of Your Municipal Forest**  
Speaker: McPherson, E.G.  
International Society of Arboriculture National Conference
- **Urban Forest Research in the Northeast: The Northeast Community Tree Guide and the NYC Municipal Forest Resource Analysis**  
Keynote speaker: Paula J. Peper  
New York ReLeaf Conference
- **How Much Economic Value Does a Park and Recreation System Bring to a City?**  
Speaker: Greg McPherson  
Urban Parks Summit

- **Effects of Tree Cover on Microclimate**

Speaker: Kelaine Vargas

International Society of Arboriculture, Southern Chapter Annual Conference

- **“Selling” Urban Forestry in Your Town**

Speaker: Shelley Gardner

Missouri Community Forestry Council Annual Conference

- **Tree Benefits: Adding Value to California Landscapes**

Speaker: Greg McPherson

California Landscape Contractor's Landscape Industry Show

- **Midwest Community Tree Guide**

Speaker: Jim Geiger

Wisconsin Arborist Association Annual Conference and Trade Show

- **Obtaining an Investment in Community Trees**

Speaker: Jim Geiger

Wisconsin Urban Forestry Conference

#### 6. Models

The center has produced various computer models that can be used by communities, individuals, and private consultants to make informed decisions regarding urban forest management.

- **STRATUM**—An easy-to-use, computer-based program that helps communities assess the benefits of their street trees.  
<http://www.itreetools.org>
- **ecoSmart**—A Web-based program designed to evaluate the economic tradeoffs between different landscape practices on residential parcels.  
<http://www.ecosmart.gov/>
- **Tree Growth Visualization**—This model provides visual representation of the growth of a prototypical tree of certain species. It looks realistic but, more importantly, conforms to real, measured data.  
[http://www.fs.fed.us/psw/programs/cufr/products/cufr\\_532\\_tree\\_growth\\_wscg.pdf](http://www.fs.fed.us/psw/programs/cufr/products/cufr_532_tree_growth_wscg.pdf)

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## 7. Municipal Forest Resources Analyses

These reports provide detailed knowledge on a particular city's tree resource. They include urban forest structure, function, and value along with resource management needs. A summary of annual benefits is provided that includes energy conservation, air quality, stormwater runoff control, and property value increase.

[http://www.fs.fed.us/psw/programs/cufr/research/studies\\_detail.php?ProjID=151](http://www.fs.fed.us/psw/programs/cufr/research/studies_detail.php?ProjID=151)

- City of Charleston, SC, Municipal Forest Resource Analysis.
- City of Glendale, AZ, Municipal Forest Resource Analysis.
- City of Berkeley, CA, Municipal Tree Resource Analysis.
- City of Charlotte, NC, Municipal Forest Resource Analysis.
- City of Boulder, CO, Municipal Tree Resource Analysis.
- City of Minneapolis, MN, Municipal Tree Resource Analysis.
- City of Cheyenne, WY, Municipal Tree Resource Analysis.

## 8. Tree Guides

Tree Guides identify and describe the benefits and costs of planting trees in a specific climate region to assist community officials and tree managers increase public awareness and support for tree programs.

[http://www.fs.fed.us/psw/programs/cufr/tree\\_guides.php](http://www.fs.fed.us/psw/programs/cufr/tree_guides.php)

- Midwest Community Tree Guide: Benefits, Costs, and Strategic Planting.
- Piedmont Community Tree Guide: Benefits, Costs, and Strategic Planting.
- Desert Southwest Community Tree Guide: Benefits, Costs, and Strategic Planting.

- Northern Mountain and Prairie Community Tree Guide: Benefits, Costs, and Strategic Planting.
- Western Washington and Oregon Community Tree Guide: Benefits, Costs, and Strategic Planting.

## 9. News Briefs

News briefs are sent to center customers when things occur at the center that are newsworthy but beyond the scope of the newsletter.

<http://www.fs.fed.us/psw/programs/cufr/briefs.php>

- What is Benefit-Cost Research?
- ecoSmart-Fire is the New Computer Tool to Make Your Home Safe.
- Are You Struggling “Selling” Large Trees to Your Community?
- Can Community Trees be Capital Assets?

## 10. Press Releases

Press releases are designed for the press to alert them of new research. They are also given to customers to use with their local media when research is conducted in their city.

<http://www.fs.fed.us/psw/programs/cufr/press.php>

- Trees in the Piedmont Climate Zone Vastly Improve Quality of Life.
- Trees in Charlotte Pay Huge Dividends.
- Trees Equal Clean Air According to New Research—Arbor Day is perfect time to plant more.
- New Computer Model Makes North Vancouver Trees a Higher Priority.
- Trees in Bismarck are a Wise Investment.
- Fire Hazard Ratings in South Lake Tahoe May Not Protect Homeowners.

## 11. Promotional Items

The center takes advantage of opportunities to get the word out when approached by reporters, national newsletters, National Public Radio (NPR), etc.

- In His Own Words A Conversation With James R. Geiger—Maximizing the Nation’s Benefits from Urban Forests.  
<http://www.fs.fed.us/sustained/special-feature-fall-2006.html>
- Los Arboles? NPR’s Living on Earth: “Los Angeles will soon announce a program to plant one million trees in the city. Living on Earth’s Ingrid Lobet examines the historic roots and green future of tree planting in L.A.” Listen to the discussion with Greg McPherson and others (Air Date: Week of July 14, 2006).  
<http://www.loe.org/shows/segments.htm?programID=06-P13-00028&segmentID=2>

## 12. Training/Workshops

The center is often asked to provide hands-on training of research results so that customers can obtain a better understanding of how to apply the research to their unique situation in their community or consulting practice.

- STRATUM Workshop, March 2005  
Provided a hands-on experience for participants while they explored topics in: street tree management, resource structure and benefit-cost analyses using STRATUM and i-Tree Software Applications.
- Right-of-Way Workshop, May 2006  
The focus of the workshop was to identify the issues, solutions, and research associated with developing standards that integrate gray and green infrastructure in Right-of-Way design as well as the work that will be required to achieve this goal.

## 13. Customer Service

Center staff responds to individual requests from homeowners, reporters, urban forestry professionals, etc. by providing answers to questions and other appropriate information that helps them to do a better job or extend center and other Forest Service research science-based knowledge to their customers. The following are typical examples of requests and questions:

- Requests for STRATUM information.
- Request for ecoSmart information.

- Need for regional specific tree data.
- Arborist related questions that require a referral.
- Requests for publications or presentations.

## 14. LISTSERV e-mailing

Subscription to this electronic mailing list provides customers with an electronic quarterly newsletter, periodic news briefs, and other center correspondence. To become part of the LISTSERV, go to <http://www.treelink.org/ufr/>.

## 15. Web Site

The center’s primary method of outreach and transfer of knowledge is through the Web site. Background on the center and all the center’s products can be found on the site through the following links: What we do, Our research, Our products, Newsletters, News briefs, Press info, STRATUM, Trees in our city, Upcoming speeches, and Past speeches.

<http://www.fs.fed.us/psw/programs/cufr/>

## Northeastern Area (State & Private Forestry)

Midwest Center for Urban and Community Forestry  
St. Paul, MN

Mid-Atlantic Center for Urban and Community Forestry  
La Plume, PA

### Technology Transfer Specialists:

Jill Johnson, Midwest Center Coordinator, 651-649-5253  
Donna Murphy, Mid-Atlantic Center Coordinator, 570-945-8095  
<http://www.na.fs.fed.us/urban/index.shtm>

### About the Centers:

The centers are not directly affiliated with a research station. Each center is a collaboration of staff and partners (State agencies, urban forestry instructors, researchers, practitioners, and nonprofit organizations) within the region. The purpose is to facilitate the exchange of knowledge and innovation that address urban and community forestry issues. This exchange is achieved by working to accomplish the following:

- Increase awareness of and access to existing informational resources.
- Deliver innovative tools and techniques.
- Communicate research findings.
- Encourage development of research projects that address the most pressing issues faced by practitioners.

**Technology Transfer Products (most recent/ successful):**

**1. Center Products**

The centers use input from external advisors (such as State agencies, universities, nonprofit organizations, and practitioners) to identify information needs and potential projects to address those needs. This input is used to help prioritize projects that are completed internally, a collaboration with external partners, or funded by grants to external partners.

- Seasonal Care Calendar—poster and magnet.
- [Landscape Tree Factsheets](#)—CD and book. Purchase the book from [Penn State University Extension](#). Purchase the CD from Henry Gerhold at 814-865-3281 or [hdg@psu.edu](mailto:hdg@psu.edu).
- Streetscape Design—Video and CD. Purchase from [University of Massachusetts Extension](#).
- [Crabapples for Midwestern Landscapes](#)—booklet. Purchase from Iowa State University Extension at 515-294-5247.
- [Planting Trees and Shrubs for Long-term Health](#)—Booklet. Purchase from U of MN Extension.
- [Anti-topping Campaign](#)—Brochure, folder, and ad campaign.
- [A Practitioner's Guide to Stem Girdling Roots](#)—Booklet. Also available for purchase from University of Minnesota Extension at the above Web address or 1-800-876-8636.

- [Preventing Stem Girdling Roots](#)—Video. Purchase from ISA at 1-888-ISA-TREE or on line from the [International Society of Arboriculture](#).
- [Urban Tree Risk Management: A Community Guide to Program Planning and Design](#)—3-ring binder or CD.
- [Trees and Ice Storms: The Development of Ice-storm Resistant Urban Tree Populations](#), 1st and 2nd editions—Booklet.
- [TreeOrd](#)—Software. Purchase from Tree Trust. NOTE: Check with your State U&CF coordinator to see if a copy is available to borrow.
- [Community Tree Planting Guide](#)—3-ring binder. Purchase printed copies from the [Tree Trust](#).
- Midwest Emerald Ash Borer Symposium Compendium—CD.
- [Tree Emergency Manual for Public Officials](#)—Booklet.
- [Tree Emergency Planning Worksheet](#)—Worksheet.
- Storm Preparedness and Response Resource Center—Web site.
- Storm Damage Assessment Protocol—Booklet.
- [Mobile Community Tree Inventory \(MCTI\)](#)—Public domain software.
- An Inventory Manual for Volunteers—Booklet.
- [A Guide: Completing an Inventory of Urban Park Trails](#)—Booklet.
- [A Guide: Developing a Street and Park Tree Management Plan](#)—Booklet.
- [Urban & Community Forestry Appreciation Toolkit](#)—Folder and CD.
- [Trees Pay Us Back](#)—Web site.
- [Chicago Wilderness Invasive Species Roundtable: Woodlands](#)—Booklet.

- [Urban Forestry Lab Exercises for Elementary, Middle, and High School Students](#)—Lab exercises.
- [WISE Gypsy Moth Curriculum](#)—Online education for grades 9-12.  
NOTE: Users must create an account to use the site (free educational account).
- [Northern Trees](#)—Online species selection tool.
- [Planting Trees in Designed and Built Community Landscapes](#)—Booklet. NOTE: one free copy can be ordered from this Web site.
- [Lawnmower Damage Prevention](#)—Poster.
- [Conserving Wooded Areas in Developing Communities](#)—Booklet.
- [Utilizing Municipal Trees: Ideas from Across the Country](#)—Soft-cover book.
- [i-Tree](#)—Public domain software.
- [Storms Over the Urban Forest: Planning, Responding, and Regreening—A Community Guide to Natural Disaster Relief](#)—Soft-cover book.
- Dialogue on Diversity—Booklet.
- [Recipe for Reaching Out](#)—Recipe card.
- [Protect Our Urban Forests](#)—CD and workbook.
- [Urban Watershed Forestry Manual](#).

## 2. **Compilation and Repackaging of Existing Resources**

- [Informational Resources](#) Web site.
- [Trees Pay Us Back](#) Web site.
- Inventory Tools CD.
- Urban Tree Risk Management Resource Center CD.
- Storm Preparedness and Response Resource Center—Web site.

## 3. **Presentations**

- **New Forest Service Tools in Urban Forestry**  
Speaker: Donna Murphy  
PA Urban Forestry Conference, 2006, 2004
- **Urban Forestry Considerations for Landscape Architects**  
Speaker: Donna Murphy  
WV ASLA 2005, 2006
- **Impacts of Invasive Plants (Regional use)**  
Speaker: Donna Murphy  
Five-part, 3-day training module for high school teachers, Keystone College (supporting poster), 2006
- **Urban Tree Risk Assessment PowerPoint**  
Speakers: D. Murphy, M. Galvin, Dr. Martin Mackenzie  
Adapted for the Mid-Atlantic Area.  
Risk Assessment Training workshops in Maryland, Delaware, and Pennsylvania
- **Electronic Tree Risk Calculator (ETRAC)—Overview and Use**  
Speaker: Donna Murphy  
Beta Testing, Delaware Center for Horticulture 2005
- **Fire Performance Tree Selector Tool for Urban Foresters and Firewise Professionals**  
Speaker: Larry Steward  
Prepared by Mid-Atlantic Center for Urban and Community Forestry (MACUCF)  
Mid-Atlantic Compact Firewise Conference 2005
- **In the Palm of Your Hand (Intro to PDAs and use in urban forestry)**  
Speaker: Jill Johnson  
Des Moines Inventory Training, Michigan Great Lakes Trade Exposition, Missouri Community Forestry Conference, Minnesota Workshop on Disaster Preparedness and Response
- **Inventory Tools**  
Speaker: Jill Johnson  
Midwest Chapter ISA Conference, Maine and Vermont Inventory Workshops

- **Resources for a Green Community** (highlighting some of the best informational resources currently available, but largely unknown, by topic)

Speaker: Jill Johnson

New England Chapter ISA Conference, Northeastern Illinois Municipal Foresters Organization, Minnesota Shade Tree Short Course

- **Tools for Storm Preparedness and Response**

Speaker: Jill Johnson

Missouri Storm Preparedness and Response Workshops

- **Storm Mitigation**

Speaker: Jill Johnson

Missouri Storm Preparedness and Response Workshops, Illinois Tree City USA Conference

- **i-Tree Overview**

Speaker: Jill Johnson

Michigan Forestry and Parks Association Conference

- **Risk Calculator**

Speaker: Jill Johnson

Urban Tree Risk Management Workshop, ISA Tree Academy—Community Tree Risk Management

#### 4. Newsletters/Updates

The Mid-Atlantic Center, in partnership with the Morgantown Field Office, produces a quarterly newsletter “Urban Projects” that shares current Forest Service grant projects, State highlights, center work, research and new TT tools, and a calendar of events.

<http://www.na.fs.fed.us/urban/newsltr/archives.shtml>

The Urban projects newsletter is archived by volume, not topic.

The Midwest Center provides updates on State Urban Forestry Coordinator and Volunteer Coordinator conference calls and distributes new resources in periodic mailings to newsletter editors and primary partners in State agencies, universities, nonprofit organizations, and professional organizations.

#### 5. Fact Sheets

Mid-Atlantic Center fact sheets are only for the Appreciation Tool Kit. They were created to provide a quick reference to urban forestry research facts. They are designed to be photocopied and distributed. Midwest Center fact sheets summarize recently completed technology transfer projects and projects currently in progress.

#### 6. Promotional Items

The centers take advantage of opportunities to get the word out when approached by reporters, national newsletters, NPR, etc. The Midwest Center was recently interviewed by a reporter from Buffalo, NY, regarding advice to homeowners after tree damage from heavy snow.

#### 7. Training/Workshops

The centers are often asked to provide hands-on training so that customers can obtain a better understanding of how to apply the research/technology transfer to their unique situation in their community or consulting practice.

- **Urban Tree Risk Assessment Training (2003–2005)**

In conjunction with MWCUCF and Forest Service Health Management program replicated and delivered Urban Tree Risk Training regional training in Maryland, Delaware, and in Pennsylvania. Portions of the training have been replicated six times throughout the Mid-Atlantic reaching more than 400 individuals.

**Partners:** University of Maryland, Maryland Department of Natural Resources (DNR), Forest Service Forest Health Management program, Delaware Department of Agriculture Forest Service, Delaware Center for Horticulture, and Penn State Cooperative Extension.

- **Tree Autopsy Workshops (2003–2004)**

Developed and transferred tree autopsy workshops to fill a need for a level of diagnostic training learned only through years of field experience. The workshops were so well received that New Jersey and Pennsylvania have requested to replicate the workshops in 2003.

**Partners:** Maryland DNR and Ohio DNR, Savage River State Forest, City of Toledo, Ohio, Penn State Cooperative Extension, Awbury arboretum, Philadelphia, and TreeRadar, Inc.

- **Urban Forestry GIS Symposium (2002)**  
Developed an information-sharing forum on how GIS technologies are being used to better manage urban forests in the Mid-Atlantic area.

**Partners:** Delaware Department of Agriculture, Northeast Research Station, New Jersey Forest Service, and Maryland DNR.

- **Media Communications Workshop, Morgantown Field Office (2001)**  
Developed training that focused on effective message preparation and delivery, press writing skills, and interview techniques using video taped interviews to prepare participants to better deliver program messages, build relationships with the media, and avoid common interview mistakes.

## 8. Pilot Workshops

The Midwest Center has helped develop and deliver pilot workshops on priority topics. The intention of the pilot is to provide the partner organization and participants with a model agenda, the necessary resources, and technical skills to deliver additional workshops in the future with limited Forest Service involvement. This strategy worked very well for the Urban Tree Risk Management and Storms workshops, which several different organizations have given annually. In addition, several participants received scholarships with the agreement that they would either implement a technology presented at the workshop or give a presentation to others on one of the workshop topics. This strategy, too, has been very effective.

- **Urban Tree Risk Management Workshop (2003)**  
A 3-day, train-the-trainer workshop hosted in conjunction with the University of Minnesota.
- **Storm Preparedness and Response Workshop (2003–2004)**  
A 1-day workshop hosted in conjunction with the Missouri Department of Conservation.
- **Tree Inventories Workshop (2004–2005)**  
Several 1-day workshops hosted in conjunction with the Indiana Department of Natural Resources (in addition, assisted with workshops in Maine and Vermont).

- **Technology You Can Use (2004)**  
A half-day workshop on using Personal Digital Assistants (PDAs) and Tablet PCs held as a pre-conference workshop as part of the Wisconsin Arborist Association's Annual Conference. A 2-1/2-day workshop on new computer technologies available for urban forest inventories, risk management, and storm preparedness and response. It was held in conjunction with the University of Wisconsin—Stevens Point.
- **Building Effective Partnerships (2004)**  
A 1-day workshop held in conjunction with the National Arbor Day Foundation.

## 9. Customer Service

Center staff responds to individual requests from homeowners, reporters, urban forestry professionals, etc., by providing answers to questions and other appropriate information that helps them to do a better job or extend knowledge to their customers. Inventory software, types of PDAs, and value of trees are the most common kinds of questions.

## 10. Research Summaries

Research summaries are documents that provide a quick look at a research project, and its findings, in an easy-to-read, comprehensible format.

- Trees Pay Us Back—brochure.

## 11. Models

The Mid-Atlantic Center has helped develop various computer models that can be used by communities, individuals, and private consultants to make informed decisions regarding urban forest management.

- Oversaw Phase II ETRAC Development and Beta Testing.
- Worked with research to beta test UFORE handheld collection freeware and provided comments for UFORE City of Scranton.



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## 12. Research-Related Work

- National Arboretum Urban Utility Adapted Nursery and Out-Planting—currently working with the U.S. National Arboretum to field test tree cultivars better adapted to urban and utility environments.  
  
**Partners:** Maryland DNR Power Plant Research program, DC Urban Forestry Administration, Baltimore Gas & Energy, PEPCO, Maryland DNR, University of Maryland, and Penn State School of Forest Resources.  
**Deliverables:** Statistical Report, Dr. Marla McIntosh.  
**Project Profile:** Donna Murphy. Power Trees Web site: National Arboretum.
- UFORE Analysis of Morgantown, West Virginia—the study revised data collection protocols to reflect the needs of smaller cities.  
  
**Partners:** WV University, Morgantown WV Shade Tree Commission  
**Products:** Report, Dr. Dave Nowak, 2003.

## Northern Research Station

Urban Natural Resources Institute  
**Amherst, MA**  
413-545-3755

**Technology Transfer Specialist:** Dave Bloniarz, Coordinator  
<http://www.unri.org/>

### **About the Center:**

The Urban Natural Resources Institute (UNRI) is an initiative of the Forest Service, U.S. Department of Agriculture (USDA), Northern Station, which serves as a point of contact for focused research, development, and information exchange on urban natural resource management. The institute consists of Forest Service scientists who are conducting science-based research on urban natural resource issues throughout the region. The resources of the institute are located in various units of the Northern Research Station and include State, university, municipal, and commercial partners focusing on scientific study of urbanized landscapes. The institute works toward increasing

the coordination, distribution, and accessibility of science-based tools, products, and initiatives within the Northeast.

UNRI works with a variety of clients and stakeholders to assist them with implementing models, tools, and other technology for urban forest stewardship. The institute's scientists serve to promote technology transfer of U&CF scientific knowledge through working relationships and information networks with State, local, and industry partners. The institute serves as a conduit and liaison between Forest Service researchers and its primary partners and cooperators. Using the Internet and state-of-the-art communication tools, the institute provides the principal technology transfer mechanism for urban forest research in the Northeast.

### **Technology Transfer Products (most recent/successful):**

#### **1. Published Reports**

The institute publishes research findings in journals, conference proceedings, and periodicals as well as General Technical Reports and dissertations. These reports describe the research methodology, present the findings, and discuss the value of the results to urban forestry.

<http://www.unri.org/learning/other/publications.shtml>

- Jahnige, P., D. Bloniarz, H.D. Ryan & M. O'Loughlin. 2006. *Community Guide: Urban & Community Forestry Inventories*. Massachusetts Dept. of Conservation & Recreation. pp 22.
- Ryan, H. D., C. Rooney, B. Kane & D. Bloniarz. 2005. *Urban Forestry: Windshield Survey Reliability*. Tree Care Industry 16 (10) 24–29.
- Ryan, H. D., B. Kane & D. Bloniarz. 2005. *DBH vs. Caliper*. UMass Coop. Ext. HORT NOTES. 16 (15) : pp 3. (Also published in MAA NEWS, Winter 2006. pp 13; and NEC-ISA Newsletter, Winter 2006. p 7-8).
- Rooney, C., H. Ryan, D. Bloniarz and B. Kane. 2005. *The Reliability of a Windshield Survey to Locate Hazards in Roadside Trees*. Journal of Arboriculture 31: 89-94. (Also published in Trees on Maine Street, summer 2005. p 1–4.)

- Doherty, K., D. Bloniarz & H. D. Ryan. 2003. *Positively the Pits!* Tree Care Industry 14 (11) 34–42.

## 2. Research Summaries

- **UNRI Timely Topic Briefs**—These briefs highlight the work of UNRI scientists in a variety of topic areas. The latest tools, research findings and upcoming initiatives are outlined in these useful briefs. They are summaries of the important work that is being completed throughout the Northeast, and beyond, by UNRI scientists, collaborators and partners.  
<http://www.unri.org/learning/other/timely.shtml>
- **UNRI Scientists at Work**—The institute’s scientists serve to promote technology transfer of U&CF scientific knowledge through working relationships and information networks with State, local, and industry partners. The work of UNRI scientists is outlined in the “UNRI Scientists at Work” series of profiles provided at the UNRI Web site.  
<http://www.unri.org/learning/other/atwork.shtml>
- **UNRI Scientists Directory**—Working with partners and collaborators at many levels, UNRI scientists are studying urban and community forest resources in an effort to enhance the value of these landscapes to urban residents. A directory of UNRI Scientists is available on line, presenting a one-stop listing of Northern Research Station scientists who are working on Urban Natural Resources Stewardship and Urban Forestry research.  
<http://www.unri.org/resources/partners/>

## 3. Presentations

Throughout the year, UNRI delivers a number of presentations and lectures that discuss the work of UNRI scientists, current research topics, and new tools that are available to urban foresters and arborists. Many of the presentations, which have been archived as PowerPoint files, include talks that institute researchers and staff have given at various conferences, workshops, and so on.

<http://www.unri.org/learning/presentations.shtml>

- **Utilization of Community Volunteers in Urban Forest Inventories**  
Speaker: Dave Bloniarz

Trustees of Reservations Annual Managing Lands & Visitors Conference  
Leominster, MA  
May 2006

- **Urban Tree Risk Management**

Speaker: Dave Bloniarz  
New York State ReLeaf Annual Conference  
Long Island University  
July 2006

- **The i-Tree Software Suite of Inventory & Modeling Tools**

Speaker: Dave Bloniarz  
New York State ReLeaf Annual Conference  
Long Island University  
July 2006

- **Utilization of Community Volunteers in Urban Forest Inventories**

Speaker: Dave Bloniarz  
University of Massachusetts  
May 2006

- **i-Tree: More Than Just a Name**

Keynote Speaker: Dave Bloniarz  
Massachusetts Tree City USA Forum  
Worcester, MA  
April 2006

- **Urbanization and Wildlife: Conflict or Opportunity?**

Speaker: Dave Bloniarz  
University of Massachusetts  
November 2006

- **Personal Digital Assistants: An Overview**

Speaker: Dave Bloniarz  
University of Massachusetts  
May 2006

## 4. e-News

The institute produces a bimonthly newsletter that discusses the latest research findings related to urban forests and natural resource management. They are available on the institute Web site.

<http://www.unri.org/learning/web/mail.shtml>

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## 5. Promotional Items

The institute takes advantage of opportunities to get the word out when approached by reporters, national newsletters, NPR, and so on, and has prepared several items that can be used to promote the institute, including electronic informational postcards that are distributed on a regular basis.

<http://www.unri.org/learning/postcards.shtml>

- UNRI—Announcement Poster.
- Living Memorials Project—Informational Postcard.
- Tree Decay—Informational Postcard.
- UNRI/IUFRO—Informational Postcard.

## 6. Fact Sheets

These one-page fact sheets provide a quick reference to urban forestry research facts. They are designed to be printed, photocopied, or electronically distributed.

<http://www.umass.edu/urbantree/factsheets/index.shtml>

Available Fact Sheets:

[Hazard Mitigation.](#)

[Community Tree Selection.](#)

[Tree Inventory.](#)

[Citizen-based Groups.](#)

[Hazard Evaluation.](#)

[Training Young Trees.](#)

[Buying Quality Trees.](#)

[Tree Ordinance.](#)

[Mulching Trees.](#)

[Staking Trees.](#)

[Evaluation Trunk Cavities.](#)

[Underwire Trees.](#)

[Fertilizing Trees.](#)

[Predicting Limb Breakage.](#)

[Street Tree Cultivars.](#)

[Managing Storm Damaged Trees.](#)

[Root Damage.](#)

[Road Salt.](#)

[Shade Tree Anthracnose.](#)

[Borers.](#)

[Micronutrients.](#)

[Trees and Sidewalks.](#)

[Common Maple Problems.](#)

[Bareroot Tree Planting.](#)

[Wood-decay Fungi.](#)

[Kill a Stump.](#)

[Storm Damage Resources.](#)

[Native Trees.](#)

[Setback Planting.](#)

[Tree Care Standards.](#)

[Citizen Workers.](#)

[Computer Tree Care.](#)

[Maintenance Pruning.](#)

[Girdling Roots.](#)

[Co-dominant Stems.](#)

[Cabling and Bracing.](#)

[Preserving Trees.](#)

## 7. Training/Workshops

The institute is often asked to provide hands-on training of research results so that customers can obtain a better understanding of how to apply the research to their unique situation in their community or consulting practice. For the past year, the focus of the workshops and training has been on the components of the [i-Tree Software Suite](#) of products, developed by the Forest Service and its partners. In addition to the major 2-day i-Tree workshops that were held at Clemson, SC, Golden, CO, and Minneapolis, MN, other trainings have been initiated including Risk Tree Assessment, the Use of PDAs in the Field, Storm Planning and Preparedness, the Use of Community Volunteers, Risk Tree Assessment and Management, and Streetscape Design Alternatives.

<http://www.unri.org/learning/workshops.shtml>

- Storms Over the Urban Forest, Rhode Island Tree Council. Sept 2006.
- Landscape Tree Risk Assessment Workshop, Penn State Univ. July 2006.
- Community Tree Inventories, NYS DEC, Stoney Kill, NY. June 2006.
- Workday on Developing UF Management Plans, CT, New Haven, CT. June 2006.

- i-Tree Academic Workshop Series, University of Massachusetts, Amherst, MA. Oct.–Nov. 2006.

## 8. e-Learning Webcasts

Institute scientists host monthly online educational presentations on timely topics and current research and development initiatives. These Webcasts can be joined from the convenience of your own desk, via the Internet and a telephone. The user logs into the UNRI Webcast Web site on the Internet for the visual component of the presentation and then calls the toll-free telephone number to participate in the audio portion of the call.

<http://www.unri.org/learning/web/webcast.shtml>

- **December 2007**  
Urban Forestry and Human Benefits with Kathleen Wolf, Ph.D., Research Director, University of Washington.
- **November 2007**  
Urban Greening in New York City: A Greener, Greater New York with Fiona Watt, Director of Forestry and Horticulture, New York City Parks and Recreation Department, New York City, NY.
- **October 2007**  
Using UFORE in Hartford, CT: A Practical Approach to Data Collection with Chris Donnelly, Urban Forestry Coordinator, Connecticut DEP, Hartford, CT.
- **September 2007**  
Early Pest Detection in Our Communities: The Role of the Municipal Arborist with Robert Benjamin, Outreach Coordinator, USDA APHIS, Lombard, IL.
- **March 2007**  
State Urban Forest Assessments with David J. Nowak, Eric Greenfield, and Jeffrey Walton, USDA Forest Service, Syracuse, NY.
- **February 2007**  
Urban Tree Canopy (UTC): New Approaches to Assessment, Management and Modeling with Morgan Grove, Ph.D., USDA Forest Service, Burlington, VT, and Jarlath O’Neil-Dunne, Ph.D., University of Vermont, Burlington, VT.

- **January 2007**

Handheld Computer Technology with Robert Sacks, Ph.D., Principal, Bluejay Software Associates, East Longmeadow, MA, and David Bloniarz, Ph.D., USDA Forest Service, Amherst, MA.

## 9. LISTSERV e-mailing

Subscription to this electronic mailing list provides a “daily digest” of postings related to urban natural resources stewardship. This LISTSERV is an electronic mailing list to which customers can post questions or announcements for distribution to the general urban natural resources community.

[listserv@unri.org](mailto:listserv@unri.org)

Membership registration at <http://lists.unri.org/>

Recent postings:

- Monthly abstracts of UNRI Informational Webcasts.
- Calendar of upcoming events of interest, including Web-based instructional workshops and seminars.
- Invitation to participate in [International Union of Forest Research Organizations \(IUFRO\)](#) partnership with UNRI.

## 10. Web-Based Exchange Forum

This Web-based bulletin and discussion board, facilitated by institute staff, promotes the timely exchange of knowledge related to urban natural resource stewardship. Participation in the Exchange Forum provides the opportunity to share interests, questions, research, and thoughts with other urban natural resource practitioners and interested partners.

<http://www.unri.org/boards/>

## 11. Customer Service

Institute staff respond to individual requests from homeowners, reporters, urban forestry professionals, etc., by providing answers to questions and other appropriate information that helps them to do a better job or extend institute research knowledge to their customers.

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Most recent requests:

- Emerald Ash Borer informational requests were responded to via the presentation of an UNRI Informational Webcast.
- Storm Damage informational requests also formed the foundation of an [UNRI Informational Webcast](#).

## 12. Models

The institute has produced various computer models that can be used by communities, individuals, and private consultants to make informed decisions regarding urban forest management.

- a. **[Mobile Community Tree Inventory \(MCTI\)](#)**—This software package includes computerized tools for data collection, archiving, analysis, and reporting of street tree inventory data. The goal of the Mobile Community Tree Inventory (MCTI) system was to design a tree inventory software application that could be distributed to arborists, tree managers, city foresters, and consultants at no cost via the Internet and have it packaged as a standalone program, requiring the purchase of no additional computer software.

**Description:** The MCTI system comprises three components, with each component building on the foundation of the previous level. The three levels include the following:

- Paper tally sheet template.
- Computerized desktop inventory program.
- PDA data collection program.

A firm, organization, or municipality needs to identify the level of MCTI capability they feel is appropriate for their needs and begin working with that MCTI component. Some organizations may have previous inventory experience and feel comfortable starting with the third level of the MCTI process; other organizations may want to start at the first step. MCTI is a component of the i-Tree Software Suite of inventory and assessment tools, developed by the Forest Service and its partners. <http://www.umass.edu/urbantree/mcti/>

### b. **[Storm Damage Assessment Protocol \(SDAP\) for](#)**

**[Urbanized Areas](#)**—This protocol introduces a standard method to assess widespread storm damage in a simple, credible, and efficient manner immediately after a severe storm. This assessment method is adaptable to various community types and sizes and it provides knowledge on the time and funds needed to mitigate storm damage.

**Description:** The SDAP includes a series of components that can be utilized by the user to estimate the total cost of cleanup associated with catastrophic storm or disaster events in a community. The protocol is designed to work using field data collected prior and following an event. The field data can be collected using software that operates on the Pocket PC platform, which is then synchronized to a Windows-based computer for analysis and modeling. A series of fiscal reports are generated, estimating the personnel, equipment and time needed to clean up from the storm. Additionally, a fiscal estimate of the costs is presented via the reporting system. SDAP is also a component of the i-Tree Software Suite of inventory and assessment tools.

<http://www.umass.edu/urbantree/assesindexpage.shtml>

- c. **[Community Tree Risk Assessment Calculator](#)**—The recently introduced manual, collection, and rating calculation has been done via paper and tally sheet. Now, a recently developed PDA and PC software system is available to make the data collection and analysis process more easily implemented by the end user.

**Description:** The data collection system has been automated through the development of a Pocket PC software program and a related desktop component. The BETA version of the software, developed at the Forest Service's Northeast Center for Urban & Community Forestry, is designed for use on a Pocket PC handheld PDA. Using the software, the user can seamlessly collect data in the field and download it to a database on a personal computer.

<http://www.umass.edu/urbantree/hazard/pda.shtml>

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### **Other Technology Transfer Initiatives:**

#### **1. Massachusetts Tree Count Inventory Program**

This initiative involves a cooperative partnership between UNRI, the Massachusetts Department of Conservation and Recreation, the city of Springfield, MA, the city of Worcester, MA, and the Davey Tree Expert Company. This project represents a cooperative venture that includes the implementation of a program that will serve as a national model for States, cities, and towns to follow as they undertake street tree inventories in upcoming years. It will provide a low-cost, affordable option for communities to archive street tree data and develop management plans for the trees found along their public ways.

The cities of Springfield and Worcester, MA, with grant funding from the Massachusetts Department of Conservation and Recreation, are working in cooperation with industry partners, Forest Service, and the DCR Urban and Community Forestry team to provide a Web-based computerized inventory system that will enable 45 Massachusetts cities and towns to use the same recording, archiving, and database system. This solution will enable economy of scale related to training, operation, and data distribution initiatives. From a research standpoint, this system will enable the analysis of data on a large number of urban centers in the State, in a simple, cost-effective manner.  
<http://www.unri.org/matreecount>

#### **2. UNRI-IUFRO Cooperative Technology Transfer Initiative**

This initiative provides UNRI members with an opportunity to learn more about the International Union of Forest Research Organizations (IUFRO) and how membership in this organization's Urban Forestry Working Division can provide an opportunity to network with top Urban Natural Resource researchers around the world.

UNRI and the IUFRO Urban Forestry Working Division share similar vision and goals that will help to achieve objectives by networking activities including the generation, exchange, and dissemination of scientific knowledge; the provision of access to relevant information; and the assistance to scientists and institutions to strengthen their research capacities.

The Urban Forestry Working Division of the International Union of Forest Research Organizations (IUFRO). IUFRO is "the" global network for forest science cooperation. It unites more than 15,000 scientists in almost 700 Member Organizations in more than 110 countries. Scientists cooperate in IUFRO on a voluntary basis. Its mission is to promote the coordination of and the international cooperation in scientific studies embracing the whole field of research related to forests and trees for the well-being of forests and the people that depend on them.

Ongoing urbanization of society has led to the increasing importance of urban green spaces as contributors to the quality of the urban environment and urban life across the globe. Forest and tree resources have a wide range of socio-cultural, economic, and environmental values. To optimize these values in a sustainable way, within the framework of a range of urban pressures and problems, integrated approaches and research for the planning design, selection, establishment, and management of urban forests and trees are asked for.

<http://www.unri.org/iufro>

### **Southern Research Station**

Urban Forestry South (Component of Centers for Urban and Interface Forestry)

**Athens, GA**

706-559-4236

**Co-Directors:** Dr. J. Michael Bowker, SRS-4952, and Ed Macie, U&CF Region 8

**Center Coordinator:** Dudley Hartel, 706-559-4236

**Technology Transfer Specialist:** Eric Keuhler, 706-559-4268  
<http://www.urbanforestrysouth.org/>

#### **About the Center:**

The center is a collaboration of personnel and funding from the Southern Research Station (Asheville, NC), Region 8 State & Private Forestry (Atlanta, GA) and the southern National Forests. The mission is to provide technical support to the State (forestry agency) U&CF coordinators, the State U&CF

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councils, advocacy groups (e.g., TreesAtlanta), communities, and others on topics related to urban & community forestry.

**Technology Transfer Products (most recent/successful):**

**1. Repackaging Information**

The number one job of the Southern Center (SCUFR&I) is repackaging of science-based knowledge in a form or format that provides their customers with something useful. The [Web site](#), a collaboration with Southern Regional Extension Forestry and the Warnell School of Forest and Natural Resources, is their best example of this service. The site is a state-of-the-art Content Management System built on open source software (Plone/Zope) that allows for the cataloging of information by any registered user with oversight by the site administration. This system provides a convenient and powerful interface for SCUFR&I and their collaborators to assemble and maintain current and relevant research knowledge related to U&CF. The site is also the repository of the Urban Forestry Index (UFind), which is the national repository of technology transfer products produced by the national U&CF Program.

The site provides resources in the following categories:

- a. [Urban & Community Forestry FAQs](#).
- b. [Document Library](#).
- c. [Images](#).
- d. [Tree Ordinances](#).
- e. [Web Links](#).
- f. [Classroom Activities](#).
- g. [Presentations](#).
- h. [Collections](#). Some examples include:
  - Air quality: Pavement: Impacts and Alternatives, SIPs, Trees and Urban Forests, The Role of Urban Forests in Sequestering Carbon, and Trees & Chlorine.
  - Human Health: [Urban Forest Edition of The Natural Inquirer](#).

- Inventory and Management: [i-Tree: Integrated Software](#), The [UFSe Guide to STRATUM](#), UFHM (FIA, FHM), and [UFORE and Urban Forests](#).
- Production: Finding the “Right Tree,” Ginkgo Trees, and *Oxydendrum arboreum* / Sourwood Tree.
- Social Impacts: Finding the “Right Tree,” Trees, Business and Parking, and Urban Forestry & Youth (Education).
- Tree Health: Allelopathy in Trees (Collected Works), Drought and Trees, Sudden Oak Death (Collected Works), and Turf Wars!
- Watershed: Alternative Stormwater Control, Pavement: Impacts and Alternatives, and Using Trees to Protect and Restore Urban Watersheds.
- Economics: The UFSe Guide to STRATUM and Trees, Business and Parking.
- History of Urban Forestry: Promoting an Urban Forestry Program in a Small Community.
- Tree Physiology: Fall Leaf Color, Live Oak, Tree Stump Removal, and Ornamental Pears.
- Benefits: Greenways: A Collection of Resources, Landscape Aesthetics: A Handbook for Scenery Management (SMS), and The Role of Urban Forests in Sequestering Carbon.
- Ecosystems: The Basics of Ecological Restoration and Renovation and Using Trees to Protect and Restore Urban Watersheds.
- Interface: Wildland-Urban Interface in Region 8.
- Maintaining Urban Forests: Trees and Utilities Collection (Appleton NUCFAC 2004) and Right Tree, Right Place, Right Now!
- Planning and Management: Finding the “Right Tree,” Greenways: A Collection of Resources, Promoting a Urban Forestry Program in a Small Community, Trees and Storms: Assessment Discussion (2005), Trees and Storms: Damage Assessment, Trees and Storms: Disaster Preparedness, Trees and Storms:

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Ice Storms, Trees and Storms: News Releases & Articles, Trees and Storms: Planning, Trees and Storms: Research & Studies, Trees and Storms: Resources, Trees and Storms: Response & Treatment, Trees and Storms: Safety, Trees, Developers, and Development, and Urban Forestry Manual.

- Regulation: Alternative Stormwater Control.
- Technology: Finding the “Right Tree.”
- Urban Planning: Alternative Stormwater Control, Trees, Developers, and Development, and Wildland-Urban Interface in Region 8.

i. Computer Applications & Data.

## 2. Case Studies—i-Tree

i-Tree is a state-of-the-art, peer-reviewed software suite from the Forest Service that provides U&CF analysis and benefits assessment tools. To better understand the Forest Service role in promoting the use of these tools, the Southern Center for Urban Forestry Research & Information has partnered with urban foresters of the Georgia Forestry Commission to test the data collection protocol and reporting with two small communities near Athens.

### a. Newborn, GA

- 100 percent inventory of street trees.
- Volunteer and State forestry agency participation.
- STRATUM study.
- Modification of i-Tree to facilitate transfer of tree inventory data to MCTI and other proprietary inventory programs (ACCESS).
- Presentation to City Council, local Tree Board, and the State agency.

### b. Social Circle, GA

- Random sample of street trees.
- Volunteer and State forestry agency participation.
- STRATUM study.

- Presentation to City Council, local Tree Board, and the State agency.

### c. Presentations of Results

- Georgia Urban Forest Council Annual Meeting exhibit (November 2006).
- Region 8 U&CF Coordinators Winter meeting 3-hour workshop (January 2007).

## 3. Tree Assessments—Gulf Coast

The Southern Center for Urban Forestry Research & Information recently coordinated the Gulf Coast Tree Assessment Project in Louisiana and Mississippi. More than 35 Certified Arborists volunteered to work in the area affected by Hurricane Katrina and helped complete assessments in Orleans, Jefferson, and St. Tammany parishes in Louisiana and Harrison and Hancock counties in Mississippi during the past 6 months.

During the project, thousands of trees on public and private property were evaluated that represent a risk to the public (e.g., on and along street rights-of-ways and in parks). The objective of the assessment was to make recommendations that would help communities reduce or eliminate that risk. Reducing or eliminating risk is accomplished by either pruning damaged limbs or, when necessary, removing the tree.

### a. Partnerships

- Government agencies ( Forest Service and State forestry commissions).
- Professional organizations (ISA and SMA).
- Green industry (The Davey Tree Expert Company).
- Local communities.
- Local volunteers.

### b. Coordination of Partner Components

- Volunteer arborists.
- Data collection.
- Reimbursement.
- Onsite scheduling.
- Community liaison.



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#### 4. Urban Forestry Manual—A Manual for Urban Forestry in the South

<http://www.urbanforestrysouth.org/Resources/Collections/Collection.2005-06-02.0039>

The Urban Forestry Manual is being developed by the Forest Service, Southern Region, the Southern Research Station, and the Southern Group of State Foresters as an educational tool for State forestry agency employees and others who work with communities on urban forestry issues. The manual can be used for self-guided learning, finding specific information on a topic, and developing workshops and presentations. When completed, the manual will include 16 units (chapters). Currently, the following 11 units are available:

- a. Benefits (general/multiple).
- b. Construction.
- c. Identification.
- d. Maintenance Specifications.
- e. Planting.
- f. Policy.
- g. Site Evaluation/Selection.
- h. Soil Health.
- i. State Forestry Agency (role of).
- j. Urban Forest Management.
- k. Wildlife (mammals).

#### 5. Brochures—Benefits of Trees

<http://www.urbanforestrysouth.org/cannedSearch?id=HotTopic.2004-06-24.5628>

The September 2003 update of the benefits brochure uses the ‘booklet’ format for printing a master copy that can be used to copy and print booklets (folded and stapled) in the 8.5x11 format. The ‘1 Up’ format prints one page per sheet when booklets are not required. A PowerPoint is also provided.

#### 6. Technology Bulletins

These are periodic news bulletins produced for center customers.

- [How to Protect Tree Roots While Replacing Sidewalks and Curbs.](#)
- [The Search for Salt-tolerant Trees.](#)
- [Trees for Children: Helping Inner-City Children Get a Better Start in Life.](#)
- Do Trees Strengthen Urban Communities, Reduce Domestic Violence?
- Tree Growth in the Urban Forest.
- [Chinese Privet Control Project.](#)

#### In Progress:

- i-Tree Implementation.
- Bare Root Planting in the South.

#### 7. Presentations

The presentations are typically PowerPoint talks that center researchers and staff have given at various conferences, workshops, etc.

<http://www.urbanforestrysouth.org/Resources/PowerPoints>

##### a. 2007 iTunes, iPod, iMac and now i-Tree

Speaker: Eric Kuehler  
Oklahoma Urban & Community Forestry Council  
Annual Conference  
February 15–16, 2007  
Oklahoma City, OK

##### b. 2007 i-Tree: What Is It and How Do You Use It?

Speaker: Eric Kuehler  
Virginia Tree Inventory Workshop  
Charlottesville, VA  
February 13, 2007  
<http://www.urbanforestrysouth.org/Resources/PowerPoints/i-tree-what-is-it-and-how-do-you-use-it/view>

##### c. 2007 Rapid Tree Damage Assessment and FEMA Experiences Following Hurricane Katrina in Mississippi and Louisiana Coastal Communities

Poster Presenters: Dudley R. Hartel and Eric Kuehler  
Southern Research Station All Scientist Meeting  
Lake Lanier Islands, GA  
January 30, 2007

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- d. 2007 i-Tree—STRATUM Street Tree Inventory—  
Newborn, Georgia**  
Poster Presenters: Eric Kuehler and Dudley R. Hartel  
Southern Research Station All Scientist Meeting  
Lake Lanier Islands, GA  
January 30, 2007
- e. 2007 i-Tree: What Is It and How Do You Use It?**  
Speaker: Eric Kuehler  
Southern Group of State Foresters U&CF Winter  
Meeting  
Louisville, KY  
January 18, 2007
- f. Gulf Coast Tree Assessment**  
Speaker: Dudley Hartel  
ISA's 82nd Annual Conference and Trade Show in  
Minneapolis, MN, 2006.  
[http://www.urbanforestrysouth.org/Resources/  
PowerPoints/gulf-coast-tree-assessment-2006-  
presentation-to-isa/view](http://www.urbanforestrysouth.org/Resources/PowerPoints/gulf-coast-tree-assessment-2006-presentation-to-isa/view)
- g. 2006 Gulf Coast Tree Assessment: A Partnership  
Responding to Community Needs**  
Speaker: Dudley Hartel  
Washington Office review of Region 8 Cooperative  
Forestry  
Region 8 CF/S&PF (Atlanta)  
[http://www.urbanforestrysouth.org/Resources/  
PowerPoints/gulf-coast-tree-assessment-a-partnership-  
responding-to-community-needs/view](http://www.urbanforestrysouth.org/Resources/PowerPoints/gulf-coast-tree-assessment-a-partnership-responding-to-community-needs/view)
- h. 2006 How Do We Educate Them**  
Speaker: Eric Kuehler  
Technology Transfer and Extension in Natural  
Resources at Hot Springs, AR  
Southern Regional Extension Forester, Athens GA.  
[http://www.urbanforestrysouth.org/Resources/  
PowerPoints/many-hands-make-for-light-work-after-  
a-natural-disaster-gulf-coast-tree-assessment-project-  
1/view](http://www.urbanforestrysouth.org/Resources/PowerPoints/many-hands-make-for-light-work-after-a-natural-disaster-gulf-coast-tree-assessment-project-1/view)
- i. 2006 Many Hands Make for Light Work After a  
Natural Disaster**  
Speaker: Eric Kuehler  
2006 Annual Conference  
Society of Municipal Arborists in Asheville, NC  
[http://www.urbanforestrysouth.org/Resources/  
PowerPoints/many-hands-make-for-light-work-after-  
a-natural-disaster-gulf-coast-tree-assessment-project-  
1/view](http://www.urbanforestrysouth.org/Resources/PowerPoints/many-hands-make-for-light-work-after-a-natural-disaster-gulf-coast-tree-assessment-project-1/view)
- j. 2005 Southern Center for Urban Forestry Research  
& Information**  
Speaker: Dudley Hartel  
Review of S&PF Programs  
Region 8 State & Private Forestry (Atlanta)  
[http://www.urbanforestrysouth.org/Resources/  
PowerPoints/PowerPoint.2005-04-20.4048/view](http://www.urbanforestrysouth.org/Resources/PowerPoints/PowerPoint.2005-04-20.4048/view)
- k. 2005 Greening Urban & Community Forestry in  
the Southern Region: The Role of Partnerships**  
Speaker: Dudley Hartel  
Driving changes in forestry: 2005 National Convention  
(Fort Worth, TX)  
Society of American Foresters  
[http://www.urbanforestrysouth.org/Resources/  
PowerPoints/PowerPoint.2005-10-20.1436/view](http://www.urbanforestrysouth.org/Resources/PowerPoints/PowerPoint.2005-10-20.1436/view)
- l. 2004 Urban Natural Resources as Capital Assets**  
Speaker: Dudley Hartel  
National U&CF Conference (San Antonio)  
American Forests  
[http://www.urbanforestrysouth.org/Resources/  
PowerPoints/urban-natural-resources-as-capital-assets/  
view](http://www.urbanforestrysouth.org/Resources/PowerPoints/urban-natural-resources-as-capital-assets/view)
- m. 2004 History and Current Status of Urban Forestry  
Research**  
Speaker: Dudley Hartel  
U&CF Research Workshop in Auburn, AL  
Alabama Cooperative Extension System  
[http://www.urbanforestrysouth.org/Resources/  
PowerPoints/history-and-current-status-of-u-cf-  
research/view](http://www.urbanforestrysouth.org/Resources/PowerPoints/history-and-current-status-of-u-cf-research/view)

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**n. 2003 Resources, Research and Tools**

Speaker: Dudley Hartel

2003 Annual Conference in Columbus, GA

Georgia Urban Forest Council

<http://www.urbanforestrysouth.org/Resources/>

[PowerPoints/resources-research-and-tools/view](http://www.urbanforestrysouth.org/Resources/PowerPoints/resources-research-and-tools/view)

**8. Press Releases**

Press releases are designed for dissemination through the regional press to alert them and the general public of new research and technology. They are also given to customers to use with their local media when research is conducted in their city.

- Communities Developing Tree Ordinances to Promote Mature Tree Canopies (June 2004; Southwide).

[http://www.urbanforestrysouth.org/Resources/Press\\_Release/PressRelease.2004-06-01.0126/view](http://www.urbanforestrysouth.org/Resources/Press_Release/PressRelease.2004-06-01.0126/view)

**9. Other Training/Workshops**

The center is often asked to provide hands-on training of research results so that customers can obtain a better understanding of how to apply the research to their unique situation in their community or consulting practice.

- Kentucky Division of Forestry.
- Mississippi Urban Forest Council.
- Region 8 U&CF Coordinators (Winter & Summer meetings).
- Professional arborists & urban foresters (International Tree Failure Database).

**10. Customer Service**

Center staff assists U&CF Coordinators, U&CF Councils, and SRS Social Scientists and responds to requests from homeowners, reporters, urban forestry professionals, etc., by providing answers to questions and other appropriate information that helps them to do a better job or extend center research knowledge to their customers.

**a. U&CF Coordinators**

- Storm assessment.

- Immediate post-storm assessment of regional/State needs.
- Short-term detailed inventories of storm damage.
- Protocol for public risk assessment following natural disasters.

**b. Environmental Services**

- Investigating urban carbon market opportunities.

**c. Training**

- Ad hoc (topic, venue, & audience on request).
- Winter meeting of the U&CF coordinators.
- Summer meeting of the Southern Group of State Foresters meeting.

**d. Specialized Internet Content**

- Website provides the ability to “collect” a variety of research and resources into a package for easy location by targeted end users.

**e. U&CF Councils**

- **Event Database:** Designed and funded the development of a database of events, presentation topics and presenters to facilitate meeting/workshop/conference planning by U&CF councils.
- **Web Presence:** An Internet-based system for the Southern Cooperative Councils records, events, and marketing.

**f. SRS Social Scientists:**

- **Attitudes and perceptions:** Support for the design, development, and implementation of survey tools for Hispanic study.
- **Economics:** Property value studies, open space/greenway studies, carbon markets.

**g. Manuscript (Peer) Reviews**

- Urban Ecology (2006).

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## h. Community

- City of Atlanta—Canopy Goals.
- Casualty claims for Katrina-affected region.
- Katrina communities/FEMA Coordination & Data Support.

## Southern Research Station

InterfaceSouth (Component of Centers for Urban and Interface Forestry)

Gainesville, FL

352-376-3271

**Team Leader:** Ed Macie, U&CF Region 8

**Center Manager / Technology Exchange Coordinator:**

L. Annie Hermansen-Baez

<http://www.interfacesouth.org/>

<http://www.interfacesouth.usda.gov>

### **About the Center:**

The center is primarily funded by the Southern Research Station with some funding from S&PF. The center is now part of the SRS RWU 4952 titled “*Integrating Human and Natural Systems in Urban and Urbanizing Environments.*” The unit is a combination of the former unit 4950 headed by Ken Cordell and the Gainesville unit SRS-4951. The acting project leader rotates between Wayne Zipperer, Mike Bowker, Cassandra Johnson, and Ed Macie until a permanent project leader is selected. The mission of the center is to develop and communicate guidelines, models, and tools needed by natural resource managers, policymakers, planners, and citizens to reduce risks to ecosystems and human communities in urban and urbanizing landscapes. The center’s technology transfer program focuses on (1) disseminating new and existing information, (2) serving as a clearinghouse of WUI information, (3) building partnerships and collaborative efforts and approaches, and (4) facilitating and creating linkages.

The Southern Wildland-Urban Interface Council (SWUIC), a chartered council of the Southern Group of State Foresters, is

the advisory council for the WUI Center. SWUIC helps guide the technology transfer activities of the WUI Center and assists in identifying research needs. This guidance helps ensure that the research and technology transfer products of the WUI Center meet the needs of their stakeholders.

### **Technology Transfer Products (most recent/successful):**

#### 1. **Decision Support Systems**

These decision support systems are tools to help make homes Firewise.

- [Wildfire Risk Assessment for Southern Homeowners](#)  
This risk assessment enables homeowners to determine their particular risk to fire, as well as the critical factors that increase their risk and suggestions for how they can reduce them.
- [Flammability Key](#)  
This flammability key can be used to determine whether a species is appropriate for a firewise plant list.

#### 2. **Fact Sheets and Brochures**

##### a. [Fire in the Interface Fact Sheets](#)

These fact sheets and brochures provide knowledge about wildland-urban interface (WUI) topics in a concise, easy-to-read format.

- [Preparing a Firewise Plant List for WUI Residents.](#)
- [Selecting and Maintaining Firewise Plants for Landscaping.](#)
- [Reducing Wildfire Risk While Achieving Other Landscaping Goals.](#)
- [Understanding Fire Behavior.](#)
- [Considering Fire in Florida’s Ecosystems.](#)

##### b. [InterfaceSouth Brochure.](#)

#### 3. **Photo Gallery**

This photo gallery contains pictures that depict a variety of interface issues to browse and download.

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#### 4. Presentations

The enhanced media section includes Flash and PowerPoint presentations.

- **Firewise Retrofit Home**

This interactive module demonstrates the process of retrofitting a Florida home and surrounding yard to make it Firewise.

- **Wildland-Urban Interface Presentations**

PowerPoint presentations on a variety of interface topics can be found here.

#### 5. Publications

These publications provide knowledge on the center's research and technology transfer activities, including technical reports, journal articles, proceedings, theses/technical papers, and abstracts.

- **Communication Tools for the Wildland-Urban Interface**

Paper in the 2003 National Urban Forest Conference Proceedings.

- **Creating a Wildfire Risk Assessment Guide for Homeowners in the Southern United States**

U.S. Master's Technical Report.

- **Down by the Riverside: Urban Riparian Ecology**

Journal Article in *Frontiers in Ecology*.

- **Fire in the Wildland-Urban Interface in the USA South**

Paper from Forestry Serving Urbanized Societies Conference, IUFRO World Series.

- **Flammability of Native Understory Species in Pine Flatwood and Hardwood Hammock Ecosystems and Implications for the Wildland-Urban Interface**

*International Journal of Wildland Fire*.

- **Fuel Reduction Options for Landowners at the Wildland-Urban Interface**

Master's Technical Report.

- **Forests at the Wildland-Urban Interface: Conservation and Management.**

Book from CRC Press.

- **Human Influences on Forest Ecosystems: the Southern Wildland-Urban Interface Assessment**

Forest Service General Technical Report.

- **Policy in the Wildland-Urban Interface**

Paper in the 2003 APA National Planning Conference Proceedings.

- **Species Composition and Structure of Regenerated and Remnant Forest Patches within an Urban Landscape**

Journal Article in *Urban Ecosystems*.

- **The Moving Edge: Perspectives on the Southern Wildland-Urban Interface**

Forest Service General Technical Report.

- **The Wildland-Urban Interface: An Introduction**

Paper in the 2003 APA National Planning Conference Proceedings.

#### 6. Research Project Summaries

The center and partners are involved in research projects addressing a variety of interface issues. Project descriptions and related publications can be downloaded.

- **Flammability of Natural Vegetation and Home Landscapes**

This study comprises three research projects that were designed to address the issues of wildfire hazard in the wildland-urban interface and investigate different facets of natural vegetation and home landscape flammability. They provide knowledge to help guide firewise planning and to improve fire behavior modeling for urban settings.

- **Fuel Reduction Options for Landowners at the Wildland-Urban Interface**

This study includes two parts: (1) a review of fuel reduction options available to small landowners and (2) a comparison of the effectiveness, longevity, and costs of three fuel reduction treatments in the South.

- **Postfire Assessment of Interface Landscapes**  
This study examined how building materials and the arrangement and composition of landscape plants influence structural vulnerability during wildfires.
- **Wildfire Risk Assessment Guide for Homeowners in the Southern United States**  
This assessment and accompanying guidelines were designed to provide knowledge about fire risk focused on individual properties throughout the South, as a complement to guidelines available for whole communities.
- **Analysis of Urbanization Effects on Forest Vegetation**  
This research project will help to develop an integrated approach to monitoring changes from urbanization to ecological and social systems in the Florida Panhandle.
- **Cultural Dimensions of Landscape Change in the Florida Panhandle**  
This research examines the cultural dimension of landscape change in Franklin and Gulf Counties, FL.
- **Gainesville Urban Forest Effects Project**  
The primary objective of this project is to monitor how the urban forest changes over time in a small urban city in the South.

## 7. Training, Outreach, and Conferences

The center and partners develop training and outreach programs for use by natural resource agencies across the South. The center also helps sponsor and organize conferences. Some examples include:

- **Changing Roles: Wildland-Urban Interface Professional Development Program**  
This program provides State and Federal natural resource agencies with a set of flexible resources to conduct their own training programs, aimed toward building skills and tools to successfully tackle WUI issues.
- **Wood to Energy Outreach Program**  
The goal of this biomass outreach program is to encourage the use of woody biomass for bioenergy

production in communities at the wildland-urban interface in the 13 Southern States and Puerto Rico.

- **Emerging Issues Along Urban-Rural Interfaces**  
This conference will bring together researchers, practitioners, and policymakers to share current research results and to identify knowledge gaps regarding the interaction between urbanization, land use change, and natural resources.

## 8. SWUINET LISTSERV

The Southern Wildland Urban Interface Network (SWUINET) LISTSERV is a mailing list through which the InterfaceSouth Updates and other interface-related information is sent to SWUINET members.

LISTSERV sign-up address: <http://interfacedsouth.org/swuinet/listserve.html>.

## 9. InterfaceSouth Updates

The InterfaceSouth Update is an electronic, periodic bulletin about critical wildland-urban interface issues. It is sent electronically through the SWUINET LISTSERV. Click here to be added to the list!

Some examples include the following:

- Vol. 4 No. 9—Fire in the Interface.
- Vol. 4 No. 8—Ecosystem and Human Health.
- Vol. 4 No. 7—Air Quality.
- Vol. 4 No. 6—Technology Transfer and Extension.
- Vol. 4 No. 5—Technology.
- Vol. 4 No. 4—Water Quality.
- Vol. 4 No. 3—Planning.
- Vol. 4 No. 2—Recreation in the Interface.
- Vol. 4 No. 1—Biomass.

## 10. Customer Service

Center staff respond to individual requests from homeowners, reporters, wildland-urban interface professionals, and others by providing answers to questions and sending information as needed to help them to do a better job working and living in the interface.

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Examples of requests include the following:

- South Carolina Forestry Commission requested 150 copies each of the Fire in the Interface fact sheets for use in an upcoming Firewise exhibit. The Virginia Department of Forestry recently requested 500 copies of each of these fact sheets for use in upcoming events with homeowners.
- The Weather Channel recently requested information about and graphic illustrations of defensible space around homes in the wildland-urban interface.

## Southern Research Station

USDA National Agroforestry Center  
Lincoln, NE  
402-437-5178

**Technology Transfer Specialist:** Richard Straight, Lead Agroforester  
<http://www.unl.edu/nac/>

### **About the Center:**

The USDA National Agroforestry Center (NAC) had its origins in the 1990 Farm Bill. It began as a Forest Service Research and State & Private Forestry effort in 1992 and expanded into a partnership with the Natural Resources Conservation Service (NRCS) in 1995. It is administered by the Forest Service, Southern Research Station. NAC offices are located in Lincoln, NE, and Huntsville, AL. NAC accelerates the application of agroforestry through a national network of partners. Together with partners, the center conducts research, develops technologies and tools, coordinates demonstrations and training, and provides useful information to natural resource professionals.

### **Technology Transfer Products (most recent/successful):**

#### **1. Software**

The center has produced software that can be used by communities, individuals, and private consultants to make informed decisions regarding urban forest management.

#### **a. Visual Simulation Kit**

The visual simulation kit consists of three distinct and complementary pieces. The first is CanVis, an entry-level image editing software program that enables resource professionals to create photorealistic simulations with minimal computer skills. These simulations can be used to depict proposed conservation practices or urban forestry projects to assist in the planning and decisionmaking process. The software runs on a Windows-based computer and requires a Pentium 166 MHz or faster processor with 32 MB of RAM or higher.

The software enables users to edit a scanned photograph or an image from a digital camera. CanVis contains tutorial videos that show how to use each editing tool along with a collection of object libraries that contain images of plants, agricultural features, people, wildlife, and park elements that can be quickly added to the base image.

The second component is the Visual Simulation Guide; a multimedia CD reference manual on how to use image-editing software to create visual simulations for natural resource planning. The guide provides instruction on how to plan a simulation project, acquire images, and accurately locate and size imported objects.

The third component is a series of self-paced tutorial modules that guides the user through hands-on activities for developing skills necessary to create effective visual presentations.

#### **2. Published Reports**

The center publishes research findings in journals, conference proceedings, and periodicals as well as general technical reports and dissertations. These reports describe the research methodology, present the findings and discuss the value of the results to urban forestry.

- a. Bentrup, G. and G. Wells. 2005. *Picture this*. Journal of Soil and Water Conservation 60:144A-149A.
- b. Francis, C.A., M.L. Schneider, P. Skelton, M. Schoeneberger, and G. Bentrup. 2005. *Methods for designing future food systems in peri-urban areas*. Proc. Visualizing Food and Farm Meetings. Portland, OR.

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11 June 2005, Agriculture, Food and Human Values Society.

c. Francis, Charles; Bentrup, Gary; Schoeneberger, Michele; DeKalb, Mike. 2003. *Integration of woody buffers at three levels of spatial scale in the urban/rural interface in Lincoln—Lancaster County, Nebraska*. In: Proceedings—AFTA 2003 The 8th North American Agroforestry Conference; 2003 June 23-25; Corvallis, OR: 116-127.

d. Bentrup, G., M.M. Schoeneberger, S. Josiah, and C. Francis. 2001. *Ecobelts: reconnecting agriculture and communities—case studies*. In: Steward W.C. and A. Lisec (eds). Proc. of the Ecospheres Conference. 10-12 June 2001. University of Nebraska, Lincoln, NE. pp. 1-13.

### 3. Newsletter

The center produces a periodic newsletter, *Inside Agroforestry*, which discusses the latest research findings related to urban forests and natural resource management. They are available on the center Web site. <http://www.unl.edu/nac/insideagroforestry.htm>

- a. Summer 2005: Water Quality.
- b. Winter/Spring 2004: Wildlife.
- c. Summer 2001: Green Infrastructure.
- d. Fall 2000/Winter 2001: Carbon.
- e. Spring 2000: Status of Our Nation's Water.

### 4. Brochures/Fact Sheets/Displays

a. The center's popular series of **Working Trees** brochures serves as a great introduction to agroforestry. These color publications each illustrate various agroforestry practices that landowners can apply to help meet their production and conservation objectives.

<http://www.unl.edu/nac/workingtrees.htm>

- Working Trees for Communities.
- Working Trees for Treating Waste.
- Working Trees for Water Quality.
- Working Trees for Wildlife.
- Working Trees for Carbon Cycle Balance.

### b. Other brochures:

- Topeka—Urban/Rural Watershed Solutions.
- Topeka—Sustainable Development: Moving Toward a Greener Community.
- Kansas City Region—Green Infrastructure: Designing With Nature.
- Edible Woody Landscapes for People and Wildlife—Josiah, Scott J. and Lackey, Jeanine / University of Nebraska-Lincoln.

c. The center also creates **floor displays** (8 by 10 feet) that correspond to the Working Trees brochures. The displays can be reserved free for any event; the user provides return shipping costs.

### 5. Technical Notes

The center's technical note series provides agroforestry knowledge in a useful "how to" format. "Agroforestry Notes" are numbered and sorted by agroforestry practice. <http://www.unl.edu/nac/agroforestrynotes.htm>

- a. Guide To a Successful Demonstration Project.
- b. Photo-Realistic Visual Simulation: An Agroforestry Planning Tool.
- c. Wastewater Management Using Hybrid Poplars.

### 6. Management Tools

Periodically the center develops a tool to assist agencies or individuals with a particular problem or provide specific education.

a. **Conservation Planning Atlas:** The Conservation Planning Atlas (Midwest Version) is an online compilation of maps produced by various government and nongovernmental agencies. The purpose of the atlas is to provide a general overview of issues that may affect conservation planning. The atlas consists of both national- and regional-scale maps. Each map includes a description and references or Internet links for additional information. The goal of the atlas is to encourage a regional-scale perspective in all areas of conservation planning efforts. The atlas can provide



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guidance for prioritizing projects and creating policy change.

<http://www.unl.edu/nac/atlas/index.htm>

## **7. Promotional Items**

The center takes advantage of opportunities to get the word out when approached by reporters, national newsletters, NPR, etc.

## **8. Training/Workshops**

The center is often asked to provide hands-on training so that customers can obtain a better understanding of how to apply the research to their unique situation in their community or consulting practice.

<http://www.unl.edu/nac/training.htm>

- a. Green Infrastructure Course, March 12–16, 2007.
- b. Creating Believable Simulations (1-day workshop), Alcorn State University and Mississippi Forestry Commission, Alcorn, Mississippi, May 16–17, 2006.
- c. Communicate Your Ideas Visually: Creating Photo-Realistic Simulations for Conservation Planning, Soil & Water Conservation Society Annual Conference, Keystone, Colorado, July 23, 2006.

## **9. Customer Service**

Center staff respond to individual requests from homeowners, reporters, urban forestry professionals, etc., by providing answers to questions, contact information of local resource professional who may be able to provide more detailed or onsite assistance and other appropriate information that helps them to do a better job or extend center research knowledge to their customers.

- a. Indiana Soil & Water Conservation Districts, 2006 annual meeting.
- b. Soil & Water Conservation Society, Michigan Chapter, 2006.
- c. City of Lincoln, NE, Watershed Management Division of the Public Utilities Department, 2006.
- d. Susan Rothman, Bronx, NY—citizen preparing a presentation for an upcoming Food Security meeting in New York State.

## **10. Blog**

The center provides a Web site that contains online short news items, comments, and often hyperlinks to more information.

<http://www.unl.edu/nac/blog.htm>

