

## Cast Your Vote for our National Tree!

by Rod Kindlund

Your vote can count! The National Arbor Day Foundation is hosting a process that makes it possible for people to vote for America's National Tree, either by visiting the Foundation's website, [www.arborday.org](http://www.arborday.org) or through the mail. Our nation has a national emblem, the bald eagle; a national anthem, the "Star Spangled Banner"; a national motto, "In God We Trust"; a national flower, the rose; even a national march, "Stars and Stripes Forever." But we have no national tree. Americans of all walks of life will be able to help select the tree that will best serve as this important national symbol. By visiting the Website, you can learn more about tree types or genus, and then cast your vote. Online voting will take place through midnight before National Arbor Day, April 27, 2001. People without Internet access can mail their vote to America's National Tree, The National Arbor Day Foundation, Nebraska City, NE 68410, by April 1, 2001. Include your name and address on a 3" x 5" card and the tree of your choice. The Foundation will add these votes to those made online. The [www.arborday.org](http://www.arborday.org) Website also provides information to select the right tree for planting according to factors such as the local hardiness zone, and soil, sun, and moisture conditions. Website visitors also learn how to plant trees correctly, to prune them as they grow, and other important aspects of tree care.

The results of the vote will be announced on National Arbor Day (the last Friday in April) at Arbor Day Farm in Nebraska City, Nebraska and throughout the nation. Then America's National Tree can take its place with those that have been designated in countries around the world. The National Arbor Day Foundation is a nonprofit education organization dedicated to tree planting and environmental stewardship. More information on the Foundation and the Vote for America's National Tree is available online at: [www.arborday.org](http://www.arborday.org).

## All Cultures Event is Being Planned for May

The All Cultures Event Planning Committee is being chaired by **Bill Carothers** from the Forest Health Protection unit in Asheville this year. Among others serving on the committee are **Linda Cortes, Alice Cohen, Laura Lipe, Charles Miller, Gary Greer, and Juan Diaz**. If you wish to participate in the planning of this multi-cultural event, contact Bill Carothers at (828) 257-4321. If you can't help plan the event, the committee also needs volunteers to help set-up and take-down for the event. The event is slated for May 8 from 9:00 a.m. to 3:45 p.m. at the North Carolina Arboretum near Bent Creek. Put this date on your calendars for an educational, informative, and interactive day for all cultures.

photo by Ron Coates



At last year's All-Cultures Festival, Mike Harmon NFsNC Archaeology, working at his anvil and forge as he demonstrates blacksmithing.

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## From the Director's Desk...

The tough fire season of last summer has begun to fade for those involved in the suppression activities. I want to thank you again for the way you all responded—including those of you who left your regular jobs to contribute to the effort to fight the fires and those of you back at the office who picked up the slack. Your response makes me think of the 2000 fire season as a time when “uncommon valor was a common virtue,” words used by Admiral Chester Nimitz to describe the battle of Iwo Jima.

And though the smoke from the fires of 2000 has cleared, the effect of this historical fire season is just beginning to be felt. Before the fires were completely doused, Congress had approved almost \$2 billion in supplemental funding, including \$26 million for Forest Service Research and Development. The Southern Research Station received \$4.6 million of that money to be used this year, with a possibility of receiving more funding for fire-related research in years to come. But with these emergency funds comes a sense of urgency to produce tangible and immediate results. As we welcome the increased funding we also know it will require quick action on the part of all Station employees to hire, develop cooperative agreements, outfit new employees with computer and telecommunications equipment, purchase equipment, process travel, and design and establish new studies. As grateful as I am for your response to the actual fires this past summer, I am now asking you to “go to the well” once again as we respond to the aftershocks of those fires.

Fire research plans at the Station took a giant step forward at a recent meeting of Station scientists interested in fire-related research. The scientists who received fire funding this year described their plans for research, development, and technology transfer, and scientists from a broad cross-section of research work units discussed fire-related research interests for the future. Exciting proposals for integrating work across units and disciplines to respond to both old and new needs of society came to the surface. As I watched the skunk-works discussions of possibilities for working together, I could see how the practice we have had working in crosscutting themes has helped to prepare us for these challenges.

The messages we heard from Ron Coats, Director of Fire and Aviation Management in

Region 8, and Bill Hubbard, Regional Extension Forester for the South confirmed that our research and development plans are on the right track. It was also affirming to hear that they are eager to partner with us as we develop ways to transfer our products to the user community. This is a challenge I am confident we can address. The fire community is the most organized and compact community we serve. I look forward to responding to the call from Ron and Bill to develop closer relations with them and the constituencies they represent.

The 2000 Fire season served as yet another reminder that our society's relationships among people, land, and fire are not yet sustainable. There is much that we at the Southern Station can contribute to help change that. You have often shown your ability to rise to the challenges that come before us, and I want to thank you, in advance, for your willingness to do so again as our role in the National Fire Plan unfolds.




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## Editorially Speaking.....

There have been a few changes since I began editing the Station newsletter about four years ago. I hope these changes have been for the better and that the *Southern Aspect* is readable and user-friendly. In the vain of trying to keep our readers happy and apprised of the goings-on around the Station, your editorial staff thought it was time to update our mailing lists. You will find a card inserted into this issue that we are asking you to return to us. All you have to do is mail it back to the Southern Research Station in Asheville, NC after you fill in the appropriate blanks and check the pertinent boxes. If you wish to continue receiving the newsletter by mail, you MUST fill out the card and return it to: Rod Kindlund or Ron Coates at the address on the front of the card. When they are all collected, we will update our mailing list beginning with the next issue. Even though there is no deadline for receiving your cards, please take a minute and fill out the card now. If you know of anyone who has retired and is not currently receiving the *Southern Aspect* but would like to, have them contact Ron Coates at (828) 259-0509. Thank you! .....*Editor*

## Forest Restoration and Future Landscapes in the Boreal and Temperate Zones

### An international conference of IUFRO Working Party 1.17.02

To be held 29 April to 3 May 2002, Vejle, Denmark  
(Vingsted Centre, DK 7182 Bredsten, Denmark)

Sponsored by the  
Danish Forest and Landscape Research Institute and the  
US Department of Agriculture Forest Service, Southern Research Station

***The objective of this conference is to document forest restoration knowledge and practice  
in boreal and temperate ecosystems.***

#### Introduction

Forestry research and management has undergone profound change in many countries over the last decade. Following the Rio Conference, national commitments to sustainable forest ecosystems have transformed the way professionals and the public view forest management. On the anniversary of Rio plus 10 years, this international conference on restoring forest ecosystems seeks to bring together researchers and managers to identify common approaches and explore challenges for restoration.

#### Scope

Forest restoration is viewed broadly, thus the scope of the conference includes (1) Techniques for restoration and rehabilitation of forests (including afforestation, vegetation conversions, natural and artificial regeneration techniques); (2) Effects at stand and landscape levels of forest restoration, especially on biodiversity, wildlife, aquatic systems, and on land-use; (3) Understanding processes and changes in process levels during forest restoration; and (4) Economic and political impacts of forest restoration, including landowner participation, impacts on local communities, and the role of government in restoration programs.

#### Emphasis

Emphasis will be placed on summarizing the entire range of restoration activities at regional and local scales. Invited presentations will set the tone by documenting and comparing restoration in specific regions of the temperate and boreal zones. ***In-conference study tours to view forest restoration research and practice in Denmark, Germany, and Sweden are included.*** Voluntary papers on subjects relevant to the conference are invited. In addition to more technical presentations, descriptions of local restoration programs or projects in their social, economic, and political contexts are especially welcome.

#### Timeline

1. Voluntary papers—Please submit a brief ***Abstract for Selection***, not to exceed 150 words, by 1 July 2001. Include title, author(s) and their affiliations, and contact information (phone, fax, E-mail) for the presenting author. Indicate preference for oral or poster presentation. Those accepted for presentation will be notified by 1 September 2001.
2. Abstracts for Publication—Short papers (extended abstracts) will be due by 30 January 2002. These will be published as proceedings and available at the conference. Authors will be notified of format instructions at a later date.
3. Authors of selected volunteer presentations (both oral and poster) will be encouraged to prepare full-length papers for submission to special issues of refereed journals. Details are forthcoming.


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#### Southern *Aspect*

includes events and employee news from the research laboratories and administrative staffs of the Southern Research Station, which serves Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and Virginia. This newsletter is published quarterly by the USDA Forest Service, Southern Research Station, Public Affairs Office, P.O. Box 2680, 200 Weaver Boulevard, Asheville, NC 28802.

Editor: Rod Kindlund  
Associate Editor: Ron Coates.

To submit newsworthy stories for future issues, please send complete articles hard copy or on diskette (MS Word or RTF) to Ron Coates at the above address, call (828) 259-0509, or email to rcoates@fs.fed.us. Photographs are encouraged, preferably black and white.

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**IUFRO Conference** (continued from page 3)**For further information, contact the Conference Chairs:****Dr. Palle Madsen**

Danish Forest and Landscape Research Institute  
Kvak Møllevvej 31  
DK-7100 Vejle  
Denmark

E-mail: pam@fsl.dk  
Phone: + 45 7588 2211  
Fax: + 45 7588 2085

**Dr. John Stanturf**

USDA Forest Service  
320 Green Street  
Athens, GA 30602 USA

E-mail: jstanturf@fs.fed.us or  
drdirt\_ms@yahoo.com  
Phone: + 1 706-559-4316  
Fax: + 1 706-559-4317

**Submit abstracts for selection to one of the following Program Chairs:****Dr. Emile Gardiner**

Center for Bottomland Hardwoods Research  
P.O. Box 227  
Stoneville, MS 38776 USA

E-mail: egardiner@fs.fed.us  
Fax: + 1 662-686-3195

**Dr. Magnus Löf** (Southern Swedish Forest Research Centre) now

Centre INRA de Nancy  
Laboratoire d'Etude  
des Ressources Forêt-Bois  
UMR INRA-ENGREF  
54280 Champenoux, France

E-mail: lof@nancy.inra.fr  
Fax: + 333 83 39 40 34

**Mr. Peter Matthesen**

Danish Forest and Landscape Research Institute  
Kvak Møllevvej 31  
DK-7100 Vejle, Denmark

E-mail: pem@fsl.dk  
Fax: + 45 7588 2085

**Ms. Katrine Hahn**

The Royal Veterinary and Agricultural University (KVL)  
Rolighedsvej 23  
DK-1958 Frederiksberg C, Denmark

E-mail: hahn@kvl.dk  
Fax: + 45 3528 2671

**Conference on Long-term  
Soil Productivity**

A conference on the long-term productivity of soils was held in Alexandria, LA October 17-19, 2000 to commemorate the establishment of the first Long-Term Soil Productivity (LTSP) site 10 years before. The meeting consisted of two indoor sessions and an all day field trip to the LTSP site, related studies on the Palustris Experimental Forest and the Southern Heritage Museum. Included in the 110 attendees were scientists and managers from the Forest Service, the Natural Resource Conservation Service, universities, and private industry. Thirty-four papers were presented during the conference, including a keynote presentation by **Robert Lewis**, Deputy Chief for Research. Scientists from Canada, Australia and New Zealand who are doing similar work in their countries participated in the meeting.

The LTSP sites in Louisiana, Mississippi, and Texas are managed by Research Work Unit 4111 while the site in North Carolina is managed by Research Work Unit 4154.

**Pineville Hosts Third Longleaf  
Alliance Regional Conference**

by James D. Haywood

In October 2000 the Third Longleaf Alliance Regional Conference was co-hosted by Research Work Unit 4111 (Even-Aged Southern Pine Forests) and the U.S. Geological Service in Pineville, LA. Members of the Research Work Unit made formal presentations on their ongoing longleaf pine research program and participated in panel discussions.

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## Longleaf conference *(continued from page 5)*

The 300-plus attendees also took a field tour of the Palustris Experimental Forest and Southern Forest Heritage Museum. The tour addressed maintenance and restoration of longleaf pine forests. Subject areas included long-term effects of seasonal prescribed burning, pine straw harvesting, management of habitat for the endangered red-cockaded woodpecker, unevenaged forest management, and effects of invasive exotic plant species.

## SCSEP Group Award

by Charles McMahon

Nine Senior Community Service Employment Program (SCSEP) staff members at the, Southern Research Station's, George W. Andrews Forestry Sciences Laboratory in Auburn, AL were recently presented a group award during the annual Seasonal Celebration luncheon on December 7, 2000.

photo by Joseph Fischer



Pictured from left to right: Charles McMahon, Directors' Representative; Carleton Lett, Betty Maxey, Marie Earnest, Buddy Cason, Morris Gilmore, Gerald Lindsey, Jean Hatfield, Henrietta Monagan, Roger Best, SCSEP Coordinator; and Teddy Gilbert

This group award follows a Washington Office, SCSEP Monitoring Review held October 19, 2000 that resulted in a favorable rating for the program in Auburn. The review team included representatives from the Washington Office, Manpower Development Specialist, Financial Officer, and SRS SCSEP Coordinators. Program staff members in Auburn included: **Buddy Cason, Marie Earnest, Teddy Gilbert, Morris Gilmore, Jean Hatfield, Carleton Lett, Gerald Lindsey, Betty Maxey, and Henrietta Monagan.** The program is managed by **Roger Best**, business manager for the Auburn units.

## Station Scientists Recognized by the Society of American Foresters

Annually local chapters of the Society of American Foresters (SAF) have the opportunity to nominate deserving colleagues for Fellow. To achieve election to Fellow, applicants must demonstrate a strong continuing commitment through direct SAF volunteer activities and exemplary action, sustained leadership, and advancement of the forestry profession at the local, regional, national, or international level in at least one of the following areas: application of forestry, education, or research and/or technology transfer.

A nomination petition for election to Fellow must be signed by at least 30 of the applicant's peers who are familiar with his or her accomplishments. The petition is submitted with a concise summary of the candidate's biographical and professional information to SAF headquarters. Once the information is accepted, a ballot is prepared for the candidates and voted upon by SAF members.

In 2000, **Wayne T. Swank**, Research Ecologist Emeritus at the Coweeta Hydrologic Laboratory; **Robert C. Thatcher**, former Assistant Director for Continuing Research (Georgia and Florida); and **Charles C. Van Sickle**, former Assistant Director for Continuing Research (Carolinas and Virginia) were among 39 candidates selected to be Fellows in the Society of American Foresters. The exceptional recognition has been bestowed upon these Fellows by their peers for outstanding service to the Society and to the profession as confirmed in a personal letter from President **Frederick W. Ebel**. A certificate of recognition will be presented to each of the new Fellows at an appropriate time and place.

## Blacksburg is on the Move!

by Patricia A. Flebbe

During the last few months, the Research Work Units in Blacksburg have been moving. In July, **Phil Araman's** Integrated Life Cycle of Wood unit (SRS-4702) moved into a new addition to the Virginia Tech Brooks Forest Product Center. For the first time, the RWU is housed in the same building, along with **Robin Stidham**, the Business Manager for the Blacksburg units. The addition contains 5 private offices and a conference room.

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Deadline for next issue: March 22, 2001

## SEVERE WINTER WEATHER CRIPPLES ARKANSAS

by Hope Bragg and James Guldin

December was unkind to the state of Arkansas, with several major winter weather events passing through the state. On December 13, the first ice storm raked south-central Arkansas, leaving hundreds of thousands of people without power and untold thousands of acres of forest damaged. A second, even more severe wave of icy weather began on Christmas Day and left a swath of widespread power outages and damaged timber across Arkansas, Oklahoma, and Texas. New Year's Eve witnessed the accumulation of several inches of snow across much of Arkansas.



photo by Marty Spetch

*Fleet vehicle with tree through windshield*

It has been estimated that non-industrial private landowners lost over \$50 million to timber damage with approximately 68,000 acres of forestland damaged. RWU-4106 (Managing Upland Forests of the Mid-South) personnel escaped unscathed, though a number of Station personnel at the Hot Springs location were without power and water for 4 to 6 days. The work unit suffered only minor direct damage when a shortleaf pine fell on a fleet vehicle parked at the Hot Springs office. Due to the lack of power and impassable roads, the Hot Springs office was unable to open until after the New Year. Upon returning, water had to be boiled because the water treatment facilities were still inoperable. The Crossett Experimental Forest received about 3 inches of snow, leading to some stem breakage in the understocked shortleaf pine rehabilitation studies.

In northern Arkansas, many of the roads are still blocked with fallen trees and limbs.



Photo by Jim Guldin

*Typical ice storm damage through out Arkansas*

It appears that most of the damage to forests occurred in recently thinned plantations, although most stands (planted or otherwise) experienced some degree of damage. Many trees have lost branches or growing tips, with considerable numbers of trees toppled and snapped. Some stands in the affected areas were almost destroyed and extensive salvage efforts are underway.

However, access to and damage within research studies, especially in the Ouachita ecosystem management research study, could be much more severe. These studies depend on National Forest road access, and virtually every road in the region is blocked. Road blockage in the landscape study varied from 50 to 300 trees per mile down across the road, most of which were pines in the 4"-8" dbh class.

Estimates to clear this mechanically range up to \$1000/mile. When considering that the unit probably uses 100 miles of such roads to access research plots, the recovery costs of simply getting to the research stands could easily reach six figures. Moreover, the access problems might nullify the 2000-01 dormant season measurement, dictating a doubling of crew size during the next dormant season to accomplish the scheduled measurements.



## Blacksburg Moves! *(continued from page 5)*

*photo by Patricia Flebbe*



*Forest Service annex to the Brooks Forest Products Center*

A large open work area features a reception counter and entry seating highlighting a RWU product—paneling made from discarded hardwood shipping pallets. **Matt Winn**, Forestry Technician for 4702, did the construction and finish work for the reception area.

*photo by Patricia Flebbe*



*McCoy House*

The Coldwater Streams and Trout Habitat unit (SRS-4202) and the Center for Aquatic Technology Transfer (CATT), both led by **Andy Dolloff**, have also been moving. For the past 13 years, this unit has been housed on the Virginia Tech campus in the College of Natural Resources building, Cheatham Hall.

*photo by Keith Whalen*



*Double-wide home of the Center for Aquatic Technology Transfer. New employee, Craig Roghair, contemplates the big step into the front door.*

Andy and the two RWU scientists, **Dennis Lemly** and Patricia Flebbe, have moved into a small 50+ -year-old house, previously occupied by Phil's staff, about 150 m (down from 2.5 miles) from the Brooks Forest Product Center.

The CATT staff, **Keith Whalen** and **Craig Roghair** (a new employee), are moving to the Blacksburg Ranger District work center, about 10 miles away. They are working from a double-wide trailer from West Virginia. Following a quarantine period for gypsy moth and a 5-state search for a contractor to take down, move, and set it up, the trailer was moved from the Monongahela National Forest this fall.

With all the moving, we consolidated our delivery and mailing addresses:

USFS Southern Research Station  
1650 Ramble Road  
Blacksburg, VA 24060

The new FAX number is 540-231-1383. The CATT staff will get a new phone number in February; meanwhile, contact them at 540-231-4016. All other phone numbers stay the same.

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## Foresters from the People's Republic of China visit SRS Lab

*by James D. Haywood*

The State Forestry Administration from Beijing, China traveled to Pineville, LA to view forestry research at Research Work Unit 4111 in December 2000. **Zhenmin (Jamie) Tang** from Louisiana State University helped coordinate the exchange. The Chinese foresters were most interested in vegetation management and restoration of ecosystems in the United States. The trip included a 15-person delegation and included discussions of red-cockaded woodpecker management, prescribed burning, artificial and natural establishment of longleaf pine regeneration, and long-term soil productivity. One of the highlights was a visit to the Philip Wakeley's historic longleaf pine spacing study and the Global Climate Change research site. The visit ended with a field tour of the Palustris Experimental Forest near Pineville.

## New Publication Highlights

by Claire Payne

### Acorns, Oaks, and Critters

Black bears, an icon in the Southern Appalachian Mountains, spark emotions—wonder, respect, fear, and greed. About 1,700 bears live in the Great Smoky Mountains National Park, while more than 6,000 roam the Southern Appalachians. During the pre-denning months of August through November, black bears depend on eating acorns and other nuts to store the fat they will need to survive hibernation. Bears favor fall fruit from the dogwood, holly, and poke weed; they devour small animals and insects; they munch on weeds. But bears need nuts—hard mast—and

(continued next column)

### First Western North Carolina Renaissance Faire Announced!

by Rod Kindlund

The Mountain Renaissance Adventure Faire is being sponsored by a local group to bring about awareness in medieval history around the world and will include historical educational exhibits, displays, and skits for children of all ages. The event is being hosted by none-other than Merlin, the magician. The Faire is heralded as a multi-cultural faire of medieval knights and fantasy that includes the realms of Camelot, a Welsh Storyteller's Grove, Sherwood Forest, a Viking village, the Scottish Highlands, and an Olde World Bazaar. In the Olde World Bazaar will be Egyptian fighters, African American art, and ethnic food.

The Southern Research Station is co-sponsoring the Sherwood Forest realm and will provide conservation education activities for children attending the faire. As children go from realm to realm, they will be bale to collect "jewels" (stickers) of their accomplishments in each area's activities. In addition to the CE activities, the Station is also providing a giant-sized storybook telling of the history of forestry in the medieval World as well as its origins in Western North Carolina.

The event will be held on May 5 & 6 from 10:00 a.m. until 6:00 p.m. at Asheville School on Smoky Park Hwy./Patton Avenue in West Asheville. For more information log onto their Website at [www.rennfaire.org](http://www.rennfaire.org).

they will travel beyond their normal range if pickings are slim in their own territory.

Preliminary evidence last September at the Great Smoky Mountains National Park suggested that white oak and red oak mast would be limited and spotty. Heavy traffic by bears, wild turkey, deer, and squirrels—also known as the "Fall Shuffle"—indicated these animals were searching for food. Rooting marks by wild hogs demonstrated a significant amount of travel by these non-native predators also.

In 1992 and 1997 chronic mast failures occurred. When hungry bears go to lower elevations to look for food, they get into trouble—raiding garbage, tangling with vehicles, and, rarely but most tragically, coming into conflict with humans.

Acorns take center stage in oak regeneration. Significant oak decline increases interest in acorn production. In "Individual Variation in Acorn Production by Five Species of Southern Appalachian Oaks," **Katie Greenberg**, Southern Research Station ecologist, reports on production variability among white, northern red, scarlet, chestnut, and black oaks. This study, published by *Forest Ecology and Management*, examines whether tree characteristics or fruiting patterns can be used to identify superior acorn producers and to explain the range of variability among these five oak species. Greenberg also discusses the relevance of stand composition, tree basal area, and diameter at breast height (d.b.h.) to acorn production.

In another publication, Greenberg teams up with **Bernard R. Parresol**, Southern Research Station biometrician, to challenge acorn production theory and offer significant management tools.

In *Acorn Production Characteristics of Southern Appalachian Oaks: A Simple Method to Predict Within-year Acorn Crop Size* (Research Paper SRS-20), the authors state that many studies report boom-and-bust acorn production patterns for southeastern oaks.

Their analyses found that moderate crop years also occurred frequently in these studies, a fact underemphasized in discussions of masting in oaks. Greenberg and Parresol suggest that the term masting—the fruiting pattern marked by synchronous seed production among individuals within a population—may not appropriately characterize the fruiting patterns of Southern Appalachian oaks.

Interest in practical applications might prompt you to request this publication. Greenberg and Parresol provide a method to estimate within-year acorn crop size based on the proportion of trees bearing acorns and the basal area

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## Publication Highlights

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inventory within the survey area for each oak species.

These estimates can be applied to any size area within the Southern Appalachians. Wildlife managers can use yield tables to estimate how acorn production will be affected on an average annual basis using different basal area calculations.

### Bottomland Hardwood Ecosystems

Before European contact, about 21 to 25 million acres of bottomland hardwoods covered the Mississippi Alluvial Valley, less the areas Native Americans dedicated to agricultural use. Forested lands in the valley stretched from Cairo, IL to the Gulf of Mexico. Between the early 1800's and 1935, about half the original forests were cleared; 96 percent of the land was converted to agricultural use. Engineers re-routed rivers and built dams and levees to keep them in their banks. Many floods and failed crops later, we know much more about the ecosystem we destroyed. Trying to put it back together challenges resources, methodologies, and philosophies.

In "Restoring Bottomland Hardwood Ecosystems in the Lower Mississippi Alluvial Valley," published in the *Journal of Forestry*, Southern Research Station scientists **John A. Stanturf**, **Emile S. Gardiner**, **Paul B. Hamel**, **Margaret S. Devall**, **Theodor D. Leininger**, and **Melvin L. Warren, Jr.** discuss the history of bottomland hardwood ecosystems and restoration efforts on public and private land. The scientists analyze status and costs of restoration and present possible and promising scenarios for the future of the land and its people.

Ninety-five percent of the remaining bottomland hardwood forests in the valley cover Louisiana, Mississippi, and Arkansas. The Atchafalaya (say *A-cha-fa-LIE-ya*) Basin of Louisiana includes the largest contiguous block of bottomland forests in the Lower Mississippi Alluvial Valley.

Separate assessments by The Nature Conservancy and the Defenders of Wildlife identified the South as having high to extreme risk for significant loss of aquatic biodiversity. The World Wildlife Fund regards sustained conservation of native fishes, freshwater mussels, and crayfishes in this region as vital to maintaining a significant proportion of the freshwater fauna of the United States. Partners in Flight targets bottomland systems across the South as the highest priority habitats for breeding populations of Neotropical migratory birds, as well as staging habitats for their migration.

The U.S. Environmental Protection Agency calls the Yazoo-Mississippi basin an area of significant concern for surface and ground water quality. Runoff from its agricultural land contributes 20 percent of the nitrate loading implicated in the biological dead zone in the Gulf of Mexico. Federal and State forest restoration efforts, both on public land and private land, focus on creating wildlife habitat and improving or protecting surface water quality. The strategy for restoring public land includes low-cost planting or direct seeding of heavy-seeded species, such as oaks and pecans, which are valuable to wildlife. Adding light-seeded species—ash, elm, sycamore, sweetgum, and maple—provides diversity and creates forested conditions favorable to wildlife.

Stanturf and his co-authors question the benefits of specific Federal cost-share program guidelines being applied to private land restoration efforts. Spacing hard-mast trees without filling in with light-seeded species results in incomplete site occupancy by trees, lower species richness, and longer time to reach structural diversity. Many at-risk wildlife species require forests of complex structure. Planting a single species in a widely spaced pattern (125 stems per acre at age 3) does not support commercial timber production. Not promoting the growth of merchantable volume eliminates options for timber management, as well as stand manipulation for wildlife habitat, aesthetics, or forest health. Limiting biomass results in loss of potential financial benefits for landowners. Stanturf, project leader for the Center for Bottomland Hardwoods Research, says many oil and manufacturing companies purchase carbon credits by paying others to grow trees for them. This practice allows industrialists to maintain a carbon balance, as per the Kyoto agreement on global warming and carbon emissions.

Rehabilitating wooded areas, wetlands, and rivers in the Lower Mississippi Alluvial Valley—an area covering more than 24 million acres in seven States—appears to be a daunting task. But the project's complexity on paper does not match the intricacy of the ecosystem destroyed long ago. Consider the discussion about restoration versus rehabilitation. An ecosystem grows and connects with the synergy of its components. Rehabilitation puts pieces together and tries to encourage processes to occur. Private landowners control most of the land in the Lower Mississippi Alluvial Valley. Increasing land management options might increase landowners' financial success. A healthy profit margin might bring and keep more land into forested management, increasing benefits for wildlife and soil and water quality.

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## Publication Highlights

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### National Forests and Grasslands— Watersheds for Water Quality

When we turn on the faucet, we expect to see clear water, clean and ready to drink. Report of a community's water supply being interrupted by a water main break or contaminated by a flood makes the news. Yet more and more Americans drink bottled or filtered water, carrying it to work, ordering it in restaurants. The purity of our drinking water no longer strikes everyone as a given. The Safe Drinking Water Act (SDWA) Amendment of 1996 established a time line to assess the status of all drinking water sources across the country and to publish the results by 2003. Southern Research Station scientists joined scientists and land managers from across the Forest Service to write *Drinking Water from Forests and Grasslands: A Synthesis of the Scientific Literature*. Edited by water quality consultant **George E. Dissmeyer**, this publication aims to assist forest and grassland managers in their efforts to comply with the SDWA. It reviews and synthesizes the scientific literature about how the management of Forest Service lands affects public drinking water sources.

We rely on forests and grasslands as sources of clean drinking water for two reasons: (1) forests mainly grow under conditions that produce relatively reliable water runoff; and (2) properly managed forests and grasslands can yield water relatively low in contaminants when compared with many urban and agricultural land uses. Approximately 3,400 towns and cities depend on National Forest System watersheds for their public water supplies. About 60 million Americans served by public water supplies live in communities that draw source water from national forests and grasslands.

*Drinking Water from Forests and Grasslands: A Synthesis of the Scientific Literature* focuses on potential contamination of source water associated with ordinary land uses in national forests and grasslands. This book aims to inform managers about specific effects of land-use practices on drinking water, giving them the best tools with which to decide how to protect human health by protecting drinking water. *Drinking Water from Forests and Grasslands: A Synthesis of the Scientific Literature* examines how uses of national forests and grasslands impact watersheds and water quality. Measured effects include recreation and built environment; vegetation management; grazing animals, birds, and fish; and mining and oil and gas development.

*Drinking Water from Forests and Grasslands: A Synthesis of the Scientific Literature* speaks to public land managers, as well as managers of public and private forests and grasslands, managers of public water supplies, and community groups concerned with drinking water quality. The book's structure separates it **National Forests and Grasslands—Watersheds for Water Quality** into chapters by types of land use; but the authors

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### Endangered Frog Discovered in MS


As a technician with the Southern Institute of Forest Genetics (SIFG) at the Harrison Experimental Forest in Saucier, Mississippi, Glen Johnson has worked in three research work units involved with wood decay fungi, termites, and for the last 12 years, molecular genetics, during the last 30 years.

Johnson is a herpetologist at heart. His interest in reptiles and amphibians extends back to his childhood, and most recently his work with the endangered dusky gopher frog (*Rana capito sevosa*) has held his interest. The last reports of the frog's occurrence in Mississippi were from the 1950's. That was the case until 1988 when Glen discovered the only known breeding population of these frogs in a single ephemeral pond on the DeSoto National Forest.


Johnson has spent many off-duty hours collecting data on the dusky gopher frog. In the early 1990's this work caught the attention of herpetologist Rich Siegel at the University of Southern Louisiana, as well as the U.S. Fish and Wildlife Service and the Forest Service. Extensive research and rehabilitation efforts are now being conducted through their cooperative efforts.

Earlier this year, a chance meeting between Johnson and Karl Siderits, Forest Supervisor of the National Forests in MS (and formerly a wildlife biologist) led to a long discussion about the frog, and a tour of the breeding pond.

Consequently, Siderits called a meeting at the SIFG to inform employees of the National Forest's actions in the local area. Glen Johnson was unexpectedly called to the front of the assemblage where, to his surprise, he was awarded a plaque and substantial cash award recognizing his conservation work.



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## Publication Highlights

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### National Forests and Grasslands— Watersheds for Water Quality (cont'd.)

recognize that in most practical situations, effects on source waters result from

the cumulative effects of multiple land uses that often overlap in space and change over time. The inclusion of a glossary of abbreviations and acronyms and a glossary of terms strengthen the publication's readability.

You can download or print **Drinking Water from Forests and Grasslands: A Synthesis of the Scientific Literature** by accessing its PDF form. If you prefer, request a print copy.

To get information about a source water assessment program (SWAP) from a particular State, go the U.S. Environmental Protection Agency (EPA) homepage to view the SWAP contact list. You can find names and telephone numbers of State source water contacts and hotlinks to State homepages. Visit the EPA homepage at **<http://epa.gov/OGWDW/protect.html>**.

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United States  
Department of Agriculture  
Forest Service  
Southern Research Station  
P.O. Box 2680  
200 Weaver Boulevard  
Asheville, NC 28802