

Project Leader's Report

December - 2003



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Outreach Activities:

Three organized groups with a total of 75 people visited the Brender Forest during the month of December. These groups included a Mercer University Biology Lab; the Georgia Forestry Commission Foresters and Consultant Foresters Training Session, who were being trained in ethics, invasive plant species, exotic grass eradication, permanent wildlife plantings, native warm season grasses, and forest management for quail; and the Water Reclamation Division Staff from Covington, GA, who viewed and discussed the planting of Longleaf pine in the Piedmont of Georgia

Approximately 25 visitors came by the office at the Brender Forest for information and 71 people signed the register at the Hitchiti Interpretive Trail.

Technology Transfer :

- Scott Goodrick served as a technical expert at a meeting of land managers and National Weather Service staff in Florida. They discussed the state's Red Flag Warning criteria and established new criteria that should better reflect severe fire weather conditions.
- John Stanturf attended the IEA Short Rotation Bioenergy (Task 30) Meeting in New Zealand and presented a paper on "Interplanting for bioenergy and riparian restoration in the southeastern USA." The paper was co-authored by Emile Gardiner, SRS-4155, and Stephen Schoenholtz, Oregon State University.
- Stanturf also attended the Bioenergy Australia 2003 conference in Sydney and was co-author on a paper presented by senior author Emile Gardiner on "Creating mixed-species forests: Opportunities for bioenergy and

riparian restoration in the USA."

- A poster on Bioenergy Activities in the US by Marilyn Buford and John Stanturf was presented at both meetings.
- Alex Clark has been invited by Barry Gardiner, Stability and Timber Quality Programme Leader at the Northern Research Station of the UK Forestry Commission to serve on the Scientific Committee of an international conference on "The Forestry-Wood Chain" to be held at Heriot-Watt University, Edinburgh, Scotland from 28-30th September 2004.
- Gary Achtemeier's work on developing a new theoretical approach to fire spread, RABBIT, was the subject of a feature article in the Bulletin of the American Meteorological Society in December.

- Kathleen Atkinson (Supervisor), Andy Colannino (Deputy Supervisor) and Ray Ellis (NATRER) from the Chattahoochee-Oconee National Forest met with staffs from the several units in Athens to discuss collaboration. One outcome of the meeting was an agreement to convene a meeting of stakeholders to discuss the future of the collaboration on the Hitchiti Experimental Forest/Breder Demonstration Forest in light of constraints due to red-cockaded woodpecker presence. They also agreed to aggressively pursue expanding restoration research on the Scull Shoals Experimental Forest.

- John Stanturf attended the IEA Task 30 Bioenergy end of task meeting and presented an overview of bioenergy activity in the US, co-authored with Bryce Stokes in the Washington Office. Stokes and Stanturf are co-National Team Leaders for the US to this Task, and Stokes is Associate Task Leader. The Task group, comprised of NTLs from New Zealand, Australia, Sweden, United Kingdom, Brazil, Canada, and the US set the agenda for the upcoming triennium (2004-2006). The next meeting of the task will be hosted by the United States, in conjunction with the Short Rotation Woody Crops Operations Working Group biennial meeting in Charleston, SC in November 2004. Stanturf agreed to lead work on a High Priority Area for the triennium, on use of biofuels crops for environmental remediation.

- Tom Waldrop met with Jessica Bier of the Clinch Ranger District (George Washington and Jefferson National Forest) to discuss management alternatives for restoration of ridgetop pine

communities. The district would like to use thinning and prescribed burning to promote regeneration of pitch pine and Table Mountain pine. Waldrop advised the district on questions of cutting intensity, area and pattern of cutting, timing of cutting and burning, fire intensity, and fire return interval.

Waldrop met with Dr. Gerard Kyle of Clemson University and Dr. Jim McIver of the Pacific Northwest Station to discuss analytical procedures that would be appropriate for the multi-disciplinary nature of the National Fire and Fire Surrogate Study. The group is considering various multi-variate techniques, including meta-analysis and structural equation modeling.

Mac Callahan met with Katherine O'Neill of the USDA-ARS, who is associated with the Appalachian Farming Systems Research Center in West Virginia. They discussed protocols for sampling soils and soil invertebrates in silvo-pastoral systems that have been developing recently in many parts of West Virginia. Kathy's research interests are in the area of soil quality and the implications of planting forage grasses and introduction of grazing animals to thinned hardwood stands.



Christmas Party

The Annual SRS 4104 Christmas Party was held on December 15th in the south building conference room. The party was enjoyed by unit personnel and their guests. Many wonderful dishes were brought to the party. Congratulations to all who participated, and a special thanks as always to those who cleaned up.

Funding :

• Ralph DiCosty was awarded a \$1,500 grant from the Civil Rights Committee to help defray the costs of hiring a summer student to help in the analytical lab.

• The Smoke Management Team submitted a proposal to EPA to fund installation and testing of BlueSkyRAINS on the SHRMC supercomputer. BlueSky/RAINS (<http://www.fs.fed.us/BlueSky>) is an integrative modeling framework that predicts the timing and location of smoke impacts from wildland fires by linking information on atmospheric processes with components of fuel structure, moisture dynamics, consumption, emissions, fire behavior, plume dynamics, and dispersion and deposition of gases and aerosols.

• John Stanturf and Cynthia Fowler were granted \$10,000 from the Southern Research Station to defray costs of their research on how professionals acquire technical information. They are cooperating with Phil Araman, Blacksburg on sawmillers, Dale Green and Ben Jackson, UGA on loggers, and Michael Goergen, SAF and Jim Finley, Penn State University, on foresters.

• State and Private Forestry, Region 8, is providing \$5,000 to support the education and tech transfer activities at the Hitchiti/Breder Demonstration Forest.

• Joe O'Brien has received travel funding from International Forestry to support his continuing technical assistance to the Government of the Bahamas and The Nature Conservancy on fire research and Caribbean pine. He will attend a conference there in January to share scientific knowledge of Abaco and the Bahamian environment and will present a paper entitled "The effects of fire return interval on vegetation dynamics in Bahamian pine yards."

• O'Brien has received an in-kind contribution worth \$7,000 from Steve Miller of the St. Johns River Water Management District to pay for the treatment applications for his study of fuel management in slash pine plantations at Noonan's Lake, Florida.

• Unit staff submitted 12 proposals to the Joint Fire Sciences Program. The following shows only the principal investigators:

1) Achtemeier. Wildland fire, smoke, and superfog - the micrometeorology of the greatest hazard to life and property from prescribed burning in the south - testing the burnscape hypothesis.

2) Waldrop. Epidemic southern pine beetle attacks: a problem of fuel loading or an opportunity for management?

3) Goodrick, Callahan, DiCosty, Fowler, O'Brien, Reitz, Stanturf, Waldrop. Environmental consequences of wildfire intensity in southern ecosystems (ECoWISE).

4) Reitz. Classroom, distance, and continuing education in wildland fire ecology for southern ecosystems.

5) Reitz. Ectomycorrhizae community diversity under several prescribed wildland fire scenarios in loblolly pine (*Pinus taeda* L.) growing in Piedmont old field soil of Georgia.

6) Fowler, Kennard, Rauscher, Hubbard (University of Georgia), Gollberg (University of Idaho). An internet-based encyclopedia of southern fire science and management knowledge: ready access to the right information in the right form.

7) O'Brien and Hiers (Eglin AFB). Development of a weather station sensor and a simple model for estimating ignition probability of smoldering fires in forest floor organic matter.

8) O'Brien, Outcalt, Snyder (USGS), Fowler, Kennard. Best management practices for fuels management in sub-tropical pine flatwoods and tropical pine rocklands.

9) Will (University of Georgia), Mitchell (Jones Ecological Research Center), Heirs (Eglin AFB), O'Brien. The effects of leaf litter and light availability on longleaf pine understory communities; what is the best fire regime to rehabilitate understory vigor and diversity?

10) Wimberly (UGA) and Stanturf. Best Management Practices for fuels treatment in loblolly pine forests: An assessment of opportunities, constraints, and environmental impacts

11) Waldrop. Near real-time infrared imagery data with temperature values from airborne platforms for firefighting and burned area

12) Rideout-Hanzak. Survey of Non-Industrial Private Forest (NIPF) landowners' needs concerning fuels reduction, wildfire prevention and fire restoration in east Texas

GPRA Accomplishments:

Category	FY 2002	FY 2003
	Total	To Date
Number of Refereed Journal Publications	24	8
Number of Non-Refereed Publications (include abstracts)	50	31
Number of Publications (refereed + non-refereed)	74	39
Number of Tours	66	15
Number of Short Courses/Training	8	6
Number of Invited Presentations to Scientific Organizations	8	6
Number of Invited Presentations to Lay Organizations	45	8
Volunteer Presentations to Scientific Organizations (non-GPRA)	27	30
Number of Technology Transfer Activities (other than above)	135	32
Outside Funding	\$1,955,455	\$39,500

↓ Visitors :

- Jason Collins of the South Carolina Climate Office will visit the Smoke Management Team on Jan 6 to discuss MM5 and climate forecasting. He also has interest in using MM5 for studies of mountain blocked flows and tropical systems.
- Fred Allen, Special Assistant to the Director, will visit staff on January 14th to discuss research of interest to the Southern Group of State Foresters.

↓ Personnel News :

- Corey Babb was promoted to GS-9 Chemist.
- Christa Dagley passed her oral examinations for her PhD program at the University of California-Berkeley. Congratulations, Christa!
- Nathan Perry, student worker, was a member of the University of Georgia Soils Judging Team that placed first out of 13 teams in the Southeastern Regional Soils Contest, hosted by the University of Tennessee-Martin. The UGA team will compete in the national contest, to be held at Illinois State University in April.



- Mitchell Smith, Forestry Tech, graduated from Clemson.
- Kim Crider has gone off to the Big Sky Country. She begins classes at the University of Montana in January. Her new address is: 1310 Sherwood St., Missoula, MT 59802. Her phone is a cell phone: 706-254-6284



“A friendship founded on business is better than a business founded on friendship.”

John D. Rockefeller



↓ News from around the Region :

- He's back—G. Sam Foster has returned to the Forest Service, on the staff of Vegetation Management and Plant Resources (VMPR) in the Washington Office. Sam will be responsible for silviculture and genetics units in the Southern, Pacific Northwest, and Pacific Southwest Research Stations and the International Institute for Tropical Forestry. Clark Baldwin will have similar responsibility for Northeast, North Central, and Rocky Mountain Research Stations.
- Other changes in the Washington Office—Jim Sedell is the new Director of the Pacific Southwest Research Station and John Sebelius is the new R&D Budget coordinator.
- Steve Rickerson is the new supervisor of the National Forests in Alabama. Tony Tooke was selected as the Deputy Forest Supervisor on the National Forests in Florida.
- Germany is drawing up a law to regulate cultivation of bio-engineered crops, Consumer Minister Renate Kuenast said, admitting that the controversial technology was here to stay. Kuenast, a member of

the pro-environmentalist Greens party, said the government saw no consumer health risks in genetically modified (GM) foods. The law would effectively put into action existing EU directives on exactly what can be grown, where and under what conditions, and on labeling. Germany, where the pro-environmentalist Greens are a part of the governing coalition, has long been seen as among the countries most skeptical about the technology. The law stipulates that farmers growing GM crops must protect neighboring farmers growing non-GM produce, such as by erecting hedge barriers to prevent cross-pollination. Compensation would be paid in case of accidental contamination. Local registers would list all bio-crop producers, who would not be allowed to plant the seeds in or near ecologically sensitive areas. The European Commission is expected later this year to lift a four-year ban on the import of GM sweet corn. (Source: AFP)

- The results of a project by the Swiss Federal Institute of Technology in Zurich (ETHZ) and the Swiss meteorological service, Meteosuisse, published in the latest edition Nature, predicts that within 70 years, Europe will experience one summer in two at least as hot as the

summer of 2003. Focusing on a period from 2071 to 2100 in Europe and based on a doubling of greenhouse gases such as carbon dioxide from pollution, the study predicted that summer heat waves in Europe, similar to the one that struck the continent last year causing the premature death of many elderly people and fuelling massive forest fires, are likely to be common before the end of the century. The summer of 2003 was marked by several weeks with daytime temperatures well above 30 degrees C (86 degrees F) in many parts of Western Europe, as well as record-breaking peaks above 40 degrees. There were massive forest fires in several countries, destroying about three to four times more woodland in France than usual. (Source: AFP)

- According to the World Meteorological Organization (WMO), the global surface temperature for all of 2003 is expected to be +0.45°C above the 1961-90 annual average, according to the records maintained by members of the WMO. This value makes 2003 the third warmest year just behind 2002 (+0.48°C). The warmest year remains 1998 (+0.55°C). Calculated separately for both hemispheres, the 2003 temperatures for the Northern Hemisphere (+0.57°C) and for the Southern Hemisphere (+0.33°C) are both likely to be the third warmest in the instrumental record from 1861 to present. The global surface temperature has increased since the beginning of the instrumental record in 1861. Over the 20th century the increase was greater than 0.6°C. The rate of change for the period since 1976 is roughly three times that for the past 100 years as a whole. Analyses of proxy data for the Northern Hemisphere indicate that late 20th century warmth is unprecedented for at least the past millennium. In the Northern

Hemisphere, the 1990s were the warmest decade and 1998 the warmest year in the past 1000 years. The high temperatures recorded over land influenced the overall values in 2003. (Source: WMO)

- Rep. Richard Pombo, R-Calif., chairman of the House Resources Committee, announced his intention to amend the Endangered Species Act incrementally. Pombo said his first focus would be to add what he and the law's critics call "sound science" provisions. He says the requirement for the best available data is too vague and wants the law to demand empirical or peer-reviewed standards. The Endangered Species Act requires the government to use "the best scientific and commercial data available" in choosing animals and plants to list. (Source: AP)

- Natural Resources Canada is making a \$20-million contribution to the Forest 2020 Plantation Demonstration and Assessment initiative, Canada's initial action toward using primarily fast-growing hardwood trees to address climate change. The funding is part of the \$1 billion announced by former Prime Minister Jean Chrétien in August under the Climate Change Plan for Canada. Under the initiative, options will be developed to attract investments into fast growing tree plantations to encourage the planting of trees on non-forested rural lands. Such plantations can contribute to helping Canada meet its target for reducing greenhouse gas emissions and addressing climate change. These contributions are highlighted in the Plan and recognized by the signatories to the Kyoto Protocol. A series of fast-growing plantations for

demonstration purposes will be established across the country, mainly on private lands. More information on Canadian climate change initiatives is available at www.climatechange.gc.ca. (Source: CNW)

- The great interest in the centennial of the Lewis and Clark Expedition has spawned an impressive collaboration among agencies, institutions, and researchers to present a geographical commemorative. This five-year effort has culminated in a Lewis and Clark geodatabase, available on the Internet. Further information is available at the following websites: <http://www.davidrumsey.com/GIS/lewisclark.htm>, <http://www.esri.com/lewisandclark>, <http://www.gcs-research.net/mobot/>. Each of the sites has additional links. (Source: Philp, A. 2003. A spatial exploration of Lewis & Clark. GeoSpatial Solutions 13(9): 29-31)



- Ira Freeman, SCSEP on the Hitchiti-Breder since February 2001, has been diagnosed with a serious illness and is in the Coliseum Hospital in Macon. Ira, age 68, hails from Jeffersonville, Twiggs County. Ira and the crew have been responsible for the upkeep of the Hitchiti Experimental & Breder Demonstration Forest. We continually get compliments about their work. We pray for a speedy recovery.

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Richard Reitz participated in “Truck and Tool Days” at Burney Harris middle school in Athens, GA. Demonstration of fire tools and general forestry field equipment was viewed by about 150 students.



The Demonstration of fire tools and forestry field equipment included; nomex and leather clothing, hardhats and head lamp, pack with fire shelter, weather kit with sling psychrometer to determine relative humidity; clinometer to determine steepness of topography; wind gauges to determine wind speed; and map, compass, and GPS for location. Shovel used to build fireline.

Upcoming Events :

2004

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| <p>*Jan 22-23 Short Rotation Woody Crops Cooperative Research Program Annual update and planning meeting, Aiken, SC</p> <p>Feb 2-3 2nd Annual Western Gulf Forest Soils Tour, Alexandria, LA</p> <p>*Mar 1-2 SRS Management Team meeting, Atlanta</p> <p>Mar 2-4 Southern Research Station All Scientists Meeting, Atlanta</p> <p>Mar 3-5 National Fire Plan and Wildland Fire Conference 2004, Reno, NV http://www.iafc.org/pdf/conf/WF04_attendee.pdf</p> <p>Mar 17-19 14th Central Hardwood Forest Conference, Wooster, OH. http://www.oardc.ohio-state.edu/chfc2004/</p> <p>*Mar 24-27 Coastal Plain Chapter, Society for Ecological Restoration Annual Meeting, Raleigh, NC; www.ser-coastalplains.org</p> <p>*May 25-29 IUFRO Conference, Restoration of forest soils in polluted areas, Praha, Czech Republic, http://www-ldf.mendelu.cz/konference/rfspa/</p> <p>May 3-7 12th meeting of the International Boreal Forest Research Association, "Climate-Disturbance Interactions in Boreal Forest Ecosystems", Fairbanks, Alaska http://www.lter.uaf.edu/ibfra/default.cfm</p> <p>May 4-5 AF&PA's Agenda 2020 Wood and Wood Composites Task Group—formerly the Committee on Research Evaluation (CORE)—meeting, Forest Products Lab in Madison, WI</p> <p>May 18-20 Interagency Fire and Air Group meeting, Athens; contact Gary Achtemeier (gachtemeier@fs.fed.us) for information</p> | <p>Jun 14-18 IUFRO Division 1 - Silviculture Conference, CIRADForet, in Montpellier, France. Note date change.</p> <p>Jun 24-26 Greenhouse gas emissions and abrupt climate change: Positive options and robust policy, Paris, France; dates and location tentative; http://www.iiasa.ac.at</p> <p>Jun 27-Jul 2 First Agroforestry World Congress, Orlando, FL http://conference.ifas.ufl.edu/wca/#background</p> <p>Jul 25-31 7th INTECOL International Wetlands Conference, Utrecht, The Netherlands. http://www.bio.uu.nl/INTECOL</p> <p>*Aug 15-20 Large-Scale Experiments for Sustainable Forestry: Balancing Ecosystem Values; International IUFRO Workshop, Portland, OR. http://outreach.cof.orst.edu/ecosystem Call for papers now out, abstracts due January 30!!</p> <p>*Aug 23-27 Society Ecological Restoration International annual meeting, Victoria, BC; http://www.ser.org/meeting.php?pg=call4abstracts2004</p> <p>Sep 1-2 Forest IT 2004 Exhibition and Congress, Jyväskylä, Finland; http://www.ForestIT.net</p> <p>Sep 3-7 European Forest Institute (EFI) Annual Meeting, Bangor, Wales (UK).</p> <p>Sep 12-16 IUFRO Conference Regenerating Mountain Forests, Kloster Seeon, Bavaria, Germany; http://www.forst.tu-muenchen.de/events/rmf2004/index_en.html</p> <p>*Sep 27-30 IUFRO Conference: The Economics and Management of High Productivity Plantations, Lugo, Spain; http://www.lugo.usc.es/iufro</p> <p>Oct 1-7 The National Wilderness Summit and Expo will be held, Denver, CO; http://www.wilderness.net/40th</p> |
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- Oct 2-6** Society American Foresters Annual Meeting, held jointly with Canadian Institute of Forestry, Edmonton, Alberta
- Oct 18-22** Advancing the Fundamental Sciences - A Conference for Forest Service Physical Scientists San Diego, CA
- Oct 19-21** SRS Management Team meeting, Coweeta or New Orleans
- Mar 2-4** Southern Research Station All Scientists Meeting
- Oct 31-Nov 3** Soil Science Society of America Annual Meeting, Seattle, WA.
- Nov 6-8** Southeastern Society American Foresters Annual Meeting, Jacksonville, FL "Managing forests for wildlife"
- Nov 7-11** Short Rotation Woody Crops Operations Working Group Biennial Meeting, Charleston, SC
- *Nov 8-12** Short Rotation Woody Crops Operations Working Group Biennial Meeting, Charleston, SC (date change)
- Nov 17-25** IUCN Third World Conservation Congress (WCC), Bangkok.
- Nov 24-26** Introduction of broadleaf species for sustainable forest management, international conference sponsored by SUSTMAN project at the University of Ulm, to be held in Reisenburg, Germany, <http://www.sustman.de>
- 2005**
- Aug 8-13** IUFRO World Congress, Brisbane, Australia. Stanturf to attend. <http://www.iufro2005.com>
- Aug/Sep** Society for Ecological Restoration 17th International Conference, Zaragoza, Spain.

- Oct 19-23** Society American Foresters Annual Meeting, Ft. Worth, TX
- Nov 6-10** Soil Science Society of American Annual Meeting, Salt Lake City, UT
- TBD** 5th International Conference on Forest Vegetation Management, IUFRO Research Group 1.13.00 Forest Vegetation Management. Corvallis, Oregon, USA Contact: [Robin Rose](mailto:Robin.Rose@orst.edu), robin.rose@orst.edu.
- 2006**
- Jul 9-15** 18th World Congress of Soil Science, in Philadelphia, PA <http://www.18wcss.org>

Knowledge

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“Knowledge speaks,
but wisdom listens.”

- Jimi Hendrix

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Wisdom

SRS-4104 Project Leader's Report

John Stanturf

Editor

Lynne Breland

Technical Writer

Pat Outcalt

Production Manager

Dmitry Paladino

Design and Layout

