

Project Leader's Report

September - 2003

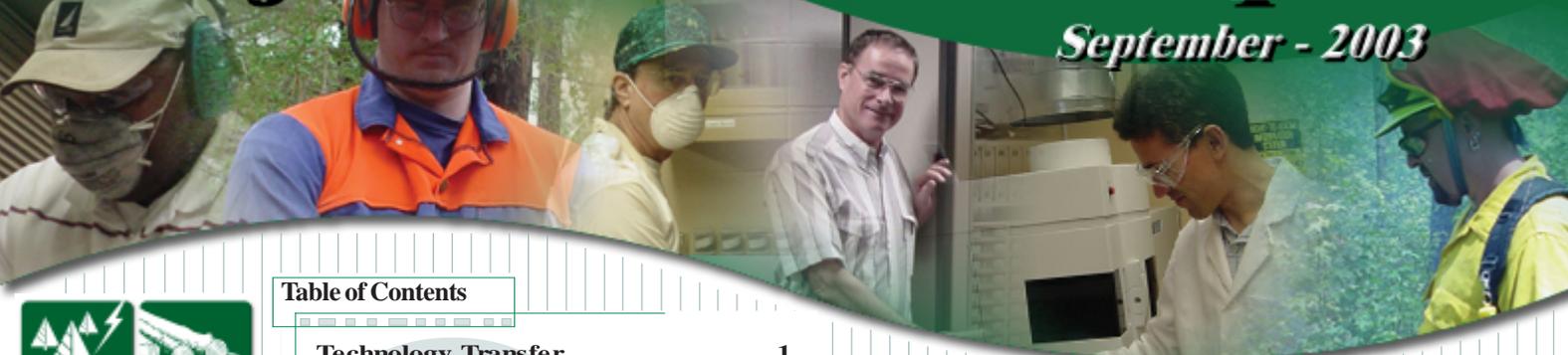


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OF SOUTHERN ECOSYSTEMS

Third Year Celebration

Outreach Activities:

Technology Transfer :

- John Stanturf attended the 12th World Forestry Congress, Quebec City, Canada where he presented a paper, "Plantation forests in the US, past present and future" with co-author Daowei Zhang, Auburn University; two posters, "Temperate forest restoration" with Palle Madsen, Danish Forest and Landscape Research Institute, and "Promises and pitfalls of reference wetlands in forested ecosystem restoration."
- Ken Outcalt attended the IUFRO Conference "The Question of Conversion of Coniferous Forests" held in Freiburg, Germany. Outcalt presented an invited paper, "Conversion of loblolly pine back to native longleaf in the southern USA." Eighty-four scientists and managers from 19 countries attended the conference, which was sponsored by the Faculty of Forestry and Environmental Sciences,

Albert-Ludwigs-Universität Freiburg and the Forest Research Institute of Baden-Württemberg.

- Stanturf also attended the IUFRO Conference "The Question of Conversion of Coniferous Forests" held in Freiburg, Germany. He presented a volunteer paper "It's not just semantics: The importance of clear communication" with co-author Palle Madsen, Danish Forest and Landscape Research Institute. Stanturf was on the Scientific Committee for the conference, and presented the welcome from IUFRO.
- Outcalt attended the Natural Areas Conference held in Madison, WI and presented a paper on "Fire and fire surrogates for management of southern coastal plain flatwoods."

Three organized groups with a total of 86 people visited the Brender Forest during the month of September. These groups included the Georgia Military College leadership class, who were shown the prescribed fire research and red cockaded woodpecker habitat work, and two groups from Mercer University Biology Department studying the early successional forest and bottomland hardwood ecology.

Approximately 30 visitors came by the office at the Brender Forest for information and 102 people signed the register at the Hitchiti Interpretive Trail.

Over 700 visitors attended the University of Georgia's Agro-Forestry Field Day at the Brender/Hitchiti and saw demonstrations of planting techniques by the Brender crew.

- Alex Clark attended the Forest Products Society Chesapeake and Carolinas Chapter Annual meeting held in Raleigh, NC and presented an invited paper on the effects of silvicultural practices on southern pine wood properties.

- Dave Cleland was an invited speaker at a Society of American Foresters meeting in East Lansing, MI on fire risk, disturbance regimes, planning and management.

- Dave Cleland presented a talk to the Healthy Forest Initiative Team in R-9 on his networking ecological units to assess past and current fire risk and the reconstruction of presettlement conditions (species composition, stand structure, and disturbance regime) using General Land Office data. This landscape ecosystem approach to assessing historical and current disturbance regimes and forest conditions is used in research, National Forest planning, the President’s Healthy Forest Initiative, and the WO funded sustainability pilot.

- Joe O’Brien traveled with Chris Bergh and Ron Myers of The Nature Conservancy to Abaco National Park in the Bahamas to establish research and demonstration plots in Caribbean pine stands. They met with park officials, the Bahamas Ministry of Agriculture, and the Bahamas National Trust to discuss research needs.

- Gary Achtemeier assisted scientists from Golder Associates with information on how to capture ash from sugar cane fires. They are seeking to extend the work Achtemeier did in 1993 in Florida and published in the journal “Sugarcane.”

- Scott Goodrick assisted the Florida Division of Forestry to determine the technology available to help preserve pilot safety during military training exercises on Whiting Field near Pensacola. Visibility has been a problem during prescribed burning on the Blackwater State Forest and in surrounding areas near Whiting Field.

- Mac Callaham assisted Peg Althoff, a graduate student from Kansas State University, with some earthworm identifications. These worms were collected as part of the Land Condition Trend Analysis monitoring project at Fort Riley, a major Department of Defense training facility in Kansas.

- Joe O’Brien conducted an open house of the Ecophysiology Lab and demonstrated equipment for measuring photosynthesis, transpiration, plant moisture stress, infrared thermography, hydraulic conductance and meteorology.

- A workshop on temporary haul roads will be held at the Brender Demonstration Forest/Hitchiti Experimental Forest in October. This first workshop is to train the trainers, who will then instruct loggers on how to locate and construct temporary roads to better protect soil and water. The Forestry Commission says temporary roads present the greatest number of problems with BMP compliance during harvesting. Topics covered in this workshop will be location and design; the plan is to construct a road on site, including a stream crossing. Instructors will be John Moore, Experimental Forest Manager; Tommy Carroll, Southeastern Wood Producers; Frank Greene, Georgia Forestry Commission; Ben Jackson, Georgia Extension Service; Dick

Rightmeyer, soil scientist Chattahoochee-Oconee National Forest; and Nipper Bunn, logger from Forsyth.



Joe O'Brien and group that visited the Abaco National Park in the Bahamas.



Joe O'Brien demonstrating Ecophysiology Lab equipment.



Brender Demonstration Forest/ Hitchiti Experimental Forest.

- Rick Reitz presented a draft technology transfer plan for the unit. Strategies include strengthening the researcher-stakeholder relationship; improving methods of delivering information; increasing knowledge about adult education in modifier groups; improving adoption success through audience stratification; and assisting end users by identifying and helping to remove barriers to adoption.

- The unit staff meeting was held in Athens. Gary Achtemeier presented ideas on how the resources and capability of the Southern High Resolution Modeling Consortium (SHRMC) can benefit other scientists in the unit. Joe O'Brien presented an overview of fire ecology of tropical pines, illustrated by experience from his recent technical assistance trips to the Dominican Republic and the Bahamas.

- Yong Liu attended the VISTAS (Visibility Improvement State and Tribal Association of the Southeast) Atmospheric Modeling Meeting held at Research Triangle Park, NC. Participants set up MM5 and CMAQ configurations based on sensitivity simulations (Phase I) conducted by contractors. They exchanged ideas on how to decide which year (1999-2002) to use for the final annual simulations (Phase II). Liu was asked by the VISTAS coordinators to provide some statistical analysis of precipitation and temperature in the southeastern states conducted by the Smoke Management Team to assist in choosing the year that best represents normal atmospheric conditions.

- Stanturf attended a meeting of the North American Forestry Commission, Silviculture Working Group while at the World Forestry Congress. Attending were Hans Ottens, Canadian Forest Service; John Parrotta and Clark Baldwin, WO; and Chair Margaret Devall, Stoneville. Until recently, the WG had a tropical focus, which has been broadened to include temperate forest issues. A proposal to establish a plantations working party will be considered by the Board of Alternates at their meeting in October. Meanwhile, the Silviculture and Genetics Working Groups are planning a joint field trip at the next meeting of the Commission, which will be held in conjunction with a Mexican Forestry Congress, planned for next August or October in Guadalajara.

- Scott Goodrick attended a meeting of the Fire Program Analysis Team at the Missoula Fire Lab to discuss weather data needs of the project. Goodrick presented several different methods of weather analysis that may meet the team's needs. A proposal is being developed for the team that will compare the various analysis methods outlined at the meeting and produce the needed weather data for the project's four test regions: Alaska, central Oregon, southern Cascades and southern Mississippi.



Richard Reitz studying the Technology Transfer Plan.



Gary Achtemeier waiting to tell scientists about SHRMC capabilities.



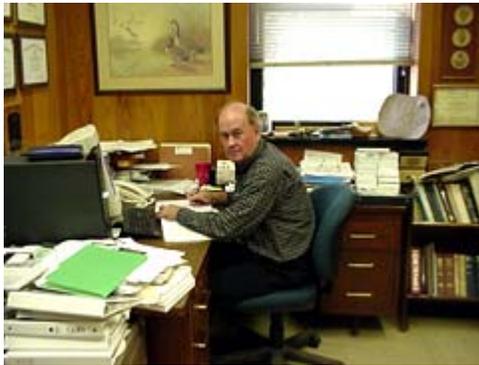
Mac Callahan monitoring soil.



Joe O'Brien presenting overview of fire ecology of tropical pines.

Funding :

- National Fire Plan funding to the unit in fiscal year 2004 will again be reduced. The full impact won't be known until the appropriations bill clears conference.
- Joe O'Brien received funding from the Foreign Agriculture Service to cover travel costs to the Bahamas.
- Alex Clark will receive funding from the Pacific Northwest Research Station to cover travel costs to attend the Wood Quality Workshop in Portland in October.



Alex Clark going over travel budget

Visitors :

- Palle Madsen, Senior Scientist with the Danish Forest and Landscape Research Institute will visit Stanturf in November to finish editing the book on restoration from the IUFRO meeting in 2002.
- Bruce Jewell, Assistant Director SRS, will be in Athens October 23 to conduct year-end reviews.

Personnel News :



- Dave Cleland recently joined the unit on a part-time detail. The Eastern Regional Office, the Southern Research Station, and the Lake States National Forests share his current position. He has national and regional responsibilities for technology development and transfer in ecological land classification and ecosystem management, and research responsibilities in landscape and disturbance ecology. He is co-principal investigator of a National Fire Plan funded research project entitled

Assessing Risk of Wildfire and Vulnerability of Human Populations and Development in the North Central Region, and principal investigator of a Joint Fire Science Program funded research project entitled Characterizing Historic and Contemporary Fire Regimes in the Lake States. His research interests include classification and mapping of multi-scaled ecological systems, and understanding patterns and processes associated with these systems including forest growth, succession, and disturbance regimes. He received a Ph.D from Michigan State University with specialties in forest ecology, soils, silviculture, and quantitative methods. During his twenty-five year career with the Forest Service, Dave has worked at national, regional, station, and National Forest levels with responsibilities in management, research, and policy. He began his career in 1978 as a Forest Soil Scientist and then Forest Ecologist on the Huron-Manistee National Forests. In 1991, he became a Research Liaison stationed with the Landscape Ecology Research Work Unit in Rhinelander Wisconsin. In 1993 he received additional duties as a shared-service Washington Office employee responsible for assisting in the development of national guidance and policy. In 1999 he received additional responsibilities as a part-time Research Ecologist in a three-year detail with the North Central Research Station. Dave now works in a shared-service position that includes duties as a Research Ecologist with the Southern Research Station's Research Unit 4104, Disturbance and Management of Southern Ecosystems. Dave can be reached at 5985 Hwy K, Rhinelander WI 54529; Phone 715-362-1117; FAX 715-362-1166; email dcleland@fs.fed.us.

GPRA Accomplishments:

Category	FY 2002	FY 2003
	Total	To Date
Number of Refereed Journal Publications	24	2
Number of Non-Refereed Publications (include abstracts)	50	6
Number of Publications (refereed + non-refereed)	74	8
Number of Tours	66	3
Number of Short Courses/Training	8	2
Number of Invited Presentations to Scientific Organizations	8	1
Number of Invited Presentations to Lay Organizations	45	2
Volunteer Presentations to Scientific Organizations (non-GPRA)	27	6
Number of Technology Transfer Activities (other than above)	135	9
Outside Funding	\$1,955,455	\$1,000

News from around the Region :

- In recognition of the 50th anniversary of the National Tree Seed Laboratory (NSTL), Robert Luxmoore, Deputy Coordinator of IUFRO Division 2, presented an IUFRO plaque to Dr. Ken Arney, Deputy Regional Forester, during the opening program of the IUFRO Tree Seed Symposium held in Athens, Georgia, USA on August 11-14, 2003.



- Prof. em. Dipl. Ing. Dr. Walter Bitterlich, inventor of the relascope and other forestry tools, as well as the Bitterlich method for inventorying trees, celebrated his 95th birthday in February.

- The MacArthur Foundation named Pedro Sanchez, tropical soil scientist now at Columbia University, as one of its 24 Fellows. The \$500,000 “genius awards” recognize creativity and talent. Sanchez recently received the World Food Prize.

- Jack Vozzo, Research Plant Physiologist in Starkville, is on a 6-month detail with USDA’s Foreign Agriculture Service, serving on the Provisional Reconstruction Team given the task of re-building agricultural and forestry infrastructure and jobs in Afghanistan. He is located at Firebase Gardez, near the Pakistani border at 7500 ft elevation. He reports routinely working in the mountains at 9300 ft. It’s already cold in his a mud-brick room, but he has a great sleeping bag. Jack is looking for donations of small trinkets, stickers, pencils, (please no ballpoint pens; they are a treasured item in fuse

making, as they are components of IED, Improvised Explosive Devices, or booby traps). Jack is looking for small items to distribute, to help win over the populace in the area that have an annual income of about US\$200. Baseball caps would be extra special, as many people have little clothing during the harsh winter. Anyone interested in sending something should contact Ted Leininger in Stoneville, MS.

- News from the Washington Office includes the announcement of Deputy Chief Robert Lewis’ retirement in January 2004. Rumors abound that a successor has been chosen and will be announced soon. Other personnel changes include Tom Crow, formerly with the North Central station; he will join the Wildlife, Fish, Water, and Air Research staff (vice Jack Waide).

- The International Union of Forest Research Organizations (IUFRO) has appointed Dr. Peter Mayer as its new Executive Secretary. He will assume the position on 1 December 2003 following the retirement of the current Executive Secretary, Dipl.-Ing Heinrich Schmutzenhofer. The Secretariat has been based at the IUFRO Headquarters on the premises of the Austrian Office and Research Center for Forests (BFW) in Vienna, Austria, since 1973. Dr. Mayer, an Austrian citizen aged 35, holds a Ph.D. in forestry from the University of Natural Resources and Applied Life Sciences (BOKU) in Vienna, and a post-graduate diploma in political sciences from the Institute of Advanced Studies in Vienna. Since 1998 Dr. Mayer has been heading the Liaison Unit of the Ministerial Conference on the Protection of Forests in Europe (MCPFE). (Source: IUFRO)

- A man from Hampton, TN pleaded guilty in U.S. District Court in Greeneville, TN to setting seven fires that burned more than 26 acres of NFS lands on the Watauga RD. He faces a maximum sentence of five years in prison and a \$250,000 fine. He was a passenger in a vehicle driven by his brother. He asked his brother to stop every quarter mile, at which time he got out of the vehicle, piled up leaves and brush, and set them on fire. He was quoted as saying he was “burning the mountain down.” The brother has been charged with aiding and abetting arson. (Source: LEI Report)

- The Forest Research Extension Partnership (FORREX) in British Columbia reports that Andra Bismanis and Stephen Dewhurst at the University of Northern British Columbia have produced a guidebook for managers and researchers on how to conduct historical forest ecology projects. Copies of the handbook, “A guide for managers and researchers: Incorporating forest history into sustainable forest management,” may be downloaded from the website: <http://teamsbc.unbc.ca>. FORREX publishes an electronic newsletter LINK (Linking Innovations and Networking Knowledge); check out their website at <http://www.forrex.org>.

- A full on-line calendar of IUFRO meetings is on the IUFRO Web site. <http://iufro.boku.ac.at/> or directly under <http://fbva.forvie.ac.at/i7/iufro.meeting.show>; Non-IUFRO meetings can be found at: <http://iufro.boku.ac.at/iufro/meetings/meet.htm>

- Experimental manipulations of forest ecosystems are becoming increasingly multi-disciplinary in scope and approach. Individually and collectively these studies represent major investments by research and land management organizations to meet public demands for forests that provide healthy environments for people, support biological diversity, and sustain economic productivity. A conference to present state-of-the-art research results and techniques relating to the design, management and analysis of Applied Forest Ecological Experiments was hosted by the Swiss Federal Institute for Snow and Avalanche Research and held in Davos, Switzerland. Scientists from 21 different regions in North America, Europe and Asia convened for 3 days (5-7 August 2003) to share information and experience. Altogether, 12 papers were presented featuring important forest ecological experiments. The workshop is the first in a series of 3 meetings on large-scale forest ecological experiments. Other meetings will be held in Portland, Oregon, USA, 15-20 August 2004 and in Brisbane, Australia during the IUFRO World Congress.

- Space Imaging's Wildland Fire Risk Assessment System (WFRAS) was selected by the Southern Group of State Foresters (SGSF) to support ongoing fire management planning and wildland fire risk analysis in each community, county, congressional district and fire response zone of the organization's 13 states. The organization also includes the U.S. Forest Service's Region 8 Office in Atlanta. The Texas Forest Service is administering the project on behalf of SGSF. Space Imaging's WFRAS is a wildland fire risk assessment methodology that employs both GIS and remote sensing to describe fuels and analyze wildland fire risk at multiple scales. The wildland fuels are mapped using 30-meter resolution Landsat-TM imagery as a baseline. Optionally, high-resolution multi-spectral imagery from Space Imaging's IKONOS satellite may be used for mapping fuels for specific areas of interest. The Wildland Fire Risk Assessment Model contains calculations to derive indices of Wildland Fire Susceptibility, Fire Effects, Fire Response Accessibility and Wildland Fire Risk. This award follows successful completion of the statewide Florida fire risk assessment project by Space Imaging. The contract began in July and allows 12 months to conduct a baseline analysis. Additional years are planned to ensure proper technology transfer occurs with State representatives.

"If you reject the food, ignore the customs, fear the religion and avoid the people, you might better stay at home."

—James A. Michener

FY 2004

- ***Dagley, Christa M.** and O'Hara, Kevin L. 2003. Potential for old forest restoration and development of restoration tools in Coast Redwood: A literature review and synthesis. 72 p. Report to the Save-The-Redwoods League; download from their website <http://www.savetheredwoods.org/>
- ***Liu, Yongqiang.** 2003. Prediction of monthly-seasonal precipitation using coupled SVD patterns between soil moisture and subsequent precipitation. *Geophysical Research Letters*, 30(15): 1827.
- ***Outcalt, Kenneth W.** 2003. Conversion of loblolly pine back to native longleaf in the southern USA. In Hansen, Jörg, Spiecker, Heinrich, von Teuffel, Konstantin, editors. "The question of conversion of coniferous forests." *Berichte Freiburger Forstliche Forschung* Heft 47, p. 10. [Abstract]
- *Schwendenmann, Luitgard; Veldkamp, Edzo; Brenes, Tania; **O'Brien, Joseph J.**; Mackensen, J. 2003. Spatial and temporal variation in soil CO₂ efflux in an old-growth neotropical rain forest, La Selva, Costa Rica. *Biogeochemistry* 64: 111-128.
- ***Stanturf, J.A.** 2003. Promises and pitfalls of reference wetlands in forested ecosystem restoration. 12th World Forestry Congress [Poster].
- ***Stanturf, J.A.** and Madsen, P. 2003. Temperate forest restoration. 12th World Forestry Congress [Poster].
- ***Stanturf, John** and Madsen, Palle. 2003. It's not just semantics: Why clear communication matters. In Hansen, Jörg, Spiecker, Heinrich, von Teuffel, Konstantin, editors. "The question of conversion of coniferous forests." *Berichte Freiburger Forstliche Forschung* Heft 47, p. 29. [Abstract]
- ***Stanturf, John A.** and Zhang, Daowei. 2003. Plantation forests in the US, past present and future. In Proceedings 12th World Forestry Congress, vol. B: Forests for the Planet p. 41 [Abstract]. [Full paper available at FAO website: <http://www.fao.org/DOCREP/ARTICLE/WFC/XII/0325-B1.HTM>]

Upcoming Events :

2003

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|-------------------|--|---------------------|---|
| Oct 2 | Chief Bosworth will provide the annual Hartzog Lecture at the Clemson University Strom Thurmond Institute of Government and Public Affairs. | Nov 2-6 | Soil Science Society of America annual meeting, Denver, CO |
| Oct 2-3 | Enhancing the Southern Appalachian Forest Resource Symposium, Kanuga Conference Center, Hendersonville, NC. Rideout to present.
http://www.ces.ncsu.edu/nreos/forest/feop/symposium | Nov 3-7 | Invasive Plants in Natural and Managed Systems: Linking Science and Management and 7th International Conference on the Ecology and Management of Alien Plant Invasions, Ft. Lauderdale, FL
http://esa.org/ipinams-mapi7/abstractcall.htm |
| Oct 4-8 | 3rd International Wildland Fire Conference, sponsored by the North American Forest Commission's Fire Management Working Group, Sydney, Australia.
http://www.wildlandfire03.com | Nov 4-6 | SAMAB Fall Conference, Asheville, NC.
http://samab.org/Conf/Conf03/conf03.html |
| *Oct 5-8 | Southeastern Society of American Foresters annual meeting, Mobile, AL | *Nov 6 | Financial management training, Asheville; Janet Revell to attend |
| Oct 7-9 | Management Team Meeting, SRS; Huntsville, AL | Nov 16-19 | National Fire Risk Assessment Conference, Portland, OR. |
| Oct 14-21 | International Conference on ECO-RESTORATION, Dehradun and New Delhi, INDIA. | Nov 16-20 | Second International Congress On Wildland Fire Ecology And Fire Management, in conjunction with the Fifth Symposium on Fire and Forest Meteorology. http://www.ametsoc.org |
| Oct 21-23 | Science and Management Integration Committee, National Fire and Fire Surrogate Study, Sequoia National Park; Outcalt and Waldrop to attend | *Nov 18-19 | Southern forests sustainability first workshop, Charleston SC http://sustainableforests.net |
| *Oct 23-24 | Wood Quality Workshop, Portland, OR; Alex Clark to attend and present paper | Nov 19-22 | Society for Ecological Restoration 15 th International Conference, Austin, TX (note new dates).
http://www.ser.org |
| Oct 25-29 | Society of American Foresters Annual Meeting, Buffalo, NY; Reitz to attend | 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 Reissensburg, Germany,
http://www.sustman.de |
| Oct 26-29 | Annual Entomological Society of America Symposium in Cincinnati, OH.
Callaham invited to give presentation. | Nov 27-Dec 5 | IEA Short Rotation Bioenergy (Task 30) meeting, New Zealand and Australia
http://www.shortrotationcrops.com/events.htm |
| | | Dec 8-10 | Bioenergy Australia 2003, Sydney; Stanturf to present paper |

“Not everything that can be counted counts, and not everything that counts can be counted.”

—Albert Einstein

“It is not who is right, but what is right, that is of importance.”

—Thomas Huxley

2004

- Feb 2-3** 2nd Annual Western Gulf Forest Soils Tour, Alexandria, LA
- Mar 2-4** Southern Research Station All Scientists Meeting
- Mar 17-19** 14th Central Hardwood Forest Conference, Wooster, OH. <http://www.oardc.ohio-state.edu/chfc2004/>
- *Apr 19-22** Second International Symposium on Fire Economics, Planning, and Policy: A Global Vision; Cordoba, Spain; <http://www.rfl.psw.fs.fed.us/firemgmt/symposium/en>
- Jun 21-25** IUFRO Division 1 - Silviculture Conference, CIRADForest, in Montpellier, France.
- Jun 27-Jul 2** First Agroforestry World Congress, Orlando, FL <http://conference.ifas.ufl.edu/wca/#background>
- Jul 25-31** 7th INTECOL International Wetlands Conference, Utrecht, The Netherlands. <http://www.bio.uu.nl/INTECOL>
- Aug** Society for Ecological Restoration 16th International Conference, Victoria, British Columbia.
- Aug 15-20** Large-Scale Experiments for Sustainable Forestry: Balancing Ecosystem Values; International IUFRO Workshop, Portland, OR *contact Charley Peterson: cepeter@fs.fed.us*
- Sep 3-7** European Forest Institute (EFI) Annual Meeting, Bangor, Wales (UK).
- Sep 12-16** IUFRO Conference Regenerating Mountain Forests, Kloster Seeon, Bavaria, Germany; http://www.forst.tu-muenchen.de/events/rmf2004/index_en.html
- Oct 31-Nov 3** Soil Science Society of America Annual Meeting, Seattle, WA.

Nov 7-11 Short Rotation Woody Crops Operations Working Group Biennial Meeting, Charleston, SC

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 Reissensburg, Germany, <http://www.sustman.de>

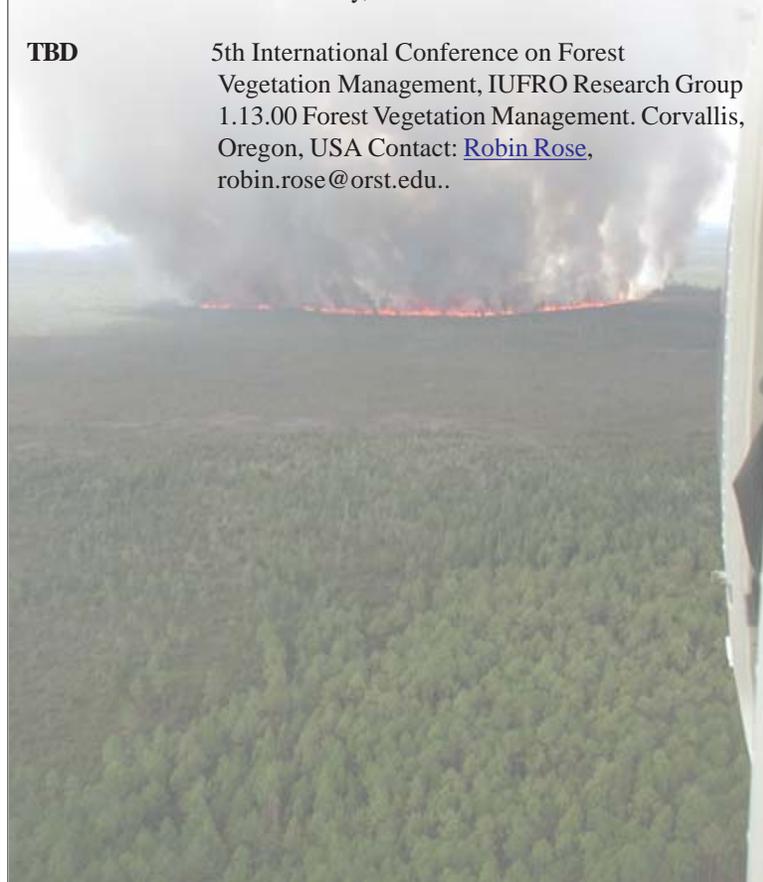
2005

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.

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.



SRS-4104 Project Leader's Report

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