Welcome to the first issue of “Forestry”, a publication of the Department of Forestry, College of Natural Resources at Virginia Tech! The objective of this publication is to inform our clientele, alumni, and friends about our teaching, research and extension activities and other associated events.

Forestry in the 21st Century is likely to experience a sea of changes. Pinchot’s utilitarian philosophy, Muir’s preservation sentiments, Leopold’s land ethic, Carson’s environmental concerns, and Krutilla’s multiple use will continue to influence forest resource conservation and management more than ever. Furthermore, emerging complex issues such as biotechnology and intensive forestry, forestry certification, climate change and carbon markets, environmental and ecosystem services, bioenergy, the wildland-urban interface, and continued degradation of forests in parts of the World will offer new opportunities.

The Department of Forestry at Virginia Tech, one of the premier forestry institutions in the nation, is uniquely positioned to maintain its leadership in educating tomorrow’s leaders, investigating emerging issues, and engaging stakeholders of sustainable forest resources and the environment. This year, we have strengthened our position further through several strategic actions:

- Hired four tenure-track faculty members (see page 5) in forestry operations and business, resource policy and economics, geomatics, and urban forestry areas
- Partnered with the Virginia Department of Forestry and the Department of Horticulture in hiring two faculty members
- Received Society of American Foresters’ Accreditation for Urban Forestry program—we are the first in the nation to receive it!

Similar to the situations elsewhere, our budget situation is not very pleasant. However, with talented faculty, dedicated staff, committed students, and the support/advice of our stakeholders, we are confident that we will get through these hardships without compromising excellence in our teaching, research, and extension.

Virginia Tech’s Urban Forestry program is the first in the nation to receive the Society of American Foresters’ Specialized Accreditation. Urban forestry faculty Drs. Eric Wiseman and Susan Day have constructed a new interdisciplinary curriculum for undergraduates, working closely with other forestry faculty, the department advisory board, and coordinating with departments in the college and across campus. During the past year, the new curriculum has been under review by both the SAF and the university. At their annual meeting in Reno, Nevada last month, the SAF granted the curriculum Specialized Accreditation in Urban Forestry, making it the first in the nation to receive the new accreditation, developed by the SAF in 2007.

The curriculum has been approved by the department and college curriculum committees and is under final review at the university level.

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Dr. Keith Blatner, Chair of the SAF Committee on Accreditation noted, “Virginia Tech’s new option in Urban Forestry is well designed and was a pleasure to review. Virginia Tech is commended for its leadership in this area.”

The new curriculum offers students the core fundamentals of urban forestry biology, practice, management, and policy, while allowing students to build their own career path by supplementing the core with a suite of restricted electives in each of eight areas: advanced forestry and environmental science; applied horticulture; finance and business; geospatial analysis; pest management; policy, law, and planning; supplemental plant identification and genetics; and written and verbal communication. Current students will be able to transfer into the new curriculum immediately if they wish or may continue to complete the old curriculum through 2010.

According to program director Dr. Eric Wiseman, “There are so many stakeholders in urban natural resource management that urban forestry is, by its very nature, an interdisciplinary profession. We wanted students to be ready for that yet still have a rock-solid urban forestry education. That’s why we broke the study of urban forestry down to its essentials, and then built an interdisciplinary curriculum around this core that will really prepare students for careers in urban areas.”

“We are dedicated to keeping our undergraduate program on the cutting edge of urban forestry education,” added urban forestry faculty Dr. Susan Day. “By pursuing an interdisciplinary approach and maintaining an active graduate research program, we plan to keep bringing Virginia Tech students the best that urban forestry science and practice has to offer.”

Urban forestry has been taught in the department for over 30 years. Dr. David Wm. Smith (now Emeritus faculty of the department, and former Dean and SAF President) first developed an urban forestry class as a special study in 1976 based on his experiences with the then new concept of environmentally sound planned communities such as those that became the Brandermill

and Woodlake Developments around Swift Creek Reservoir in Chesterfield County; adjacent to Richmond.

Urban Forestry (now FOR 3354, Urban Forestry & Arboriculture) was added to the course catalog in 1979. In 1989, Dr. Peter Feret took over the class until his sudden death in early 1993. Dr. Smith resumed teaching urban forestry and, under his leadership, the department offered an Urban Forestry option for undergraduate students majoring in Forestry in 1999. This option was closely based on the Forest Resource Management option with additional courses in urban forestry and was accredited along with the other forestry options by SAF.

In 2002, the department hired its first faculty member dedicated to urban forestry instruction and research, Dr. Brian Kane (now at the University of Massachusetts). A second undergraduate course in urban forestry (senior capstone) was added to the curriculum in 2004. In 2005, Dr. Eric Wiseman was hired as a new faculty member to lead the program. In 2008, Dr. Susan Day was also hired with a joint appointment in the Department of Horticulture in the College of Agriculture and Life Sciences.

Currently the program has 10 undergraduate students and 8 graduate students. To learn more about the undergraduate program or current research, visit the department website (www.forestry.vt.edu) or the Urban Forestry Gateway (www.cnr.vt.edu/urbanforestry).
Dr. Carolyn Copenheaver, Associate Professor, completed a two-phase research sabbatical in 2008. She spent the summer working with Dr. Holger Gärtner at the Swiss Federal Institute for Forest, Snow and Landscape Research. Recently, the Mediterranean has been experiencing increased drought frequency; however, the shrub-dominated vegetation lacks a tree ring record to reconstruct long-term drought histories. Drs. Copenheaver and Gärtner worked with the annual rings and anatomical features in small shrubs and determined that in the absence of trees, shrubs can be used for reconstructing historical drought. In the fall, she worked with Dr. Bryan Black at Oregon State University’s Hatfield Marine Science Center where they combined annual rings in clam shells with annual rings in tree rings to reconstruct sea surface temperatures.

Remarkable Trees of Virginia Book Exceeds Expectations!

*Remarkable Trees of Virginia,* the book co-authored by VT Forestry Professor and Extension Specialist Dr. Jeff Kirwan, will soon go into its second printing, if plans now underway come to fruition. University of Virginia Press, the book’s distributor, sold all of the original 5,000 copies of the book in just two months, exceeding everyone’s expectations. “Although copies may still be found in bookstores, they can no longer be obtained directly from the distributor,” says Dr. Kirwan. Plans are underway to print an additional 2,500 copies of the book. Dr. Kirwan hopes the book will engage a new generation of Virginians in the care and appreciation of trees. Please visit the website for more information http://www.cnr.vt.edu/4h/remarkabletree.

VT College of Natural Resources Supports Community Viability along the Blue Ridge Parkway

Dr. John McGee, Virginia Geospatial Extension Specialist and Assistant Professor in the Department of Forestry, is working on a project championed by Congressman Rick Boucher, and funded through the National Park Service and Blue Ridge Heritage, Inc. The goal of the project is to support the planning and development of a sustainable tourism centerpiece and information center for the Rocky Knob area of the Blue Ridge Parkway. This collaborative research effort includes faculty from VT’s Department of Hospitality and Tourism Management and Clemson University. Outcomes of the project will include: an assessment of tourist travel patterns and preferences in the region, aided by surveys and GPS dataloggers; a comprehensive GIS-based community resource inventory of community tourism attributes and attractions; and a site suitability analysis to support the location of the visitor center.

CNR Students host 2,000 4th-Graders on Campus

Students in Dr. Rich Oderwald's Introduction to Natural Resources class got hands-on experience teaching others about natural resources during Jr. Hokies Showcase, a week-long event organized by 4-H Extension Agents Michelle Adcock, Chris Lichty, Charles Lytton, and Extension Specialist Dr. Jeff Kirwan in October. Fourth-graders from Floyd, Giles, Montgomery and Pulaski Counties came to the Virginia Tech campus to learn about agriculture and natural resources. Dr. Oderwald's students led hikes to Stroubles Creek, the Duck Pond, and the Grove, where children learned about things like aquatic invertebrates, wildlife habitat, and biodiversity.

Success in Forest Service NEPA processes and its determinants

Dr. Marc Stern has been awarded $234,500 from the Pacific Northwest Research Station of the USDA Forest Service to investigate Forest Service planning processes associated with the National Environmental Policy Act. The research examines the key determinants of differential outcomes in these processes, including project implementation, staff morale, public responses, environmental sensitivity of agency actions, and compliance with the law.
Faculty and Staff Set Up Inquiry-based Educational Project

Dr. Carolyn Copenheaver, Dr. John Seiler, and Mr. John Peterson have set up an inquiry-based educational project with a local high school (Freedom High in Woodbridge, VA) in collaboration with the Mason Neck National Wildlife Refuge. This project is being led by Dr. Nick Fuhrman (formally at Virginia Tech) who is now at the University of Georgia. One of the objectives of the project is to develop more educational opportunities at National Wildlife Refuges. High school students will go to Mason Neck and measure fixed area plots of forest in various stages of succession. They will do tree identification; examine soils and growth rates of the trees. For more information, visit http://www.cnr.vt.edu/DENDRO/mason/

Loblolly Pine Growth and Yield Research Cooperative

The Loblolly Pine Growth and Yield Research Cooperative held its 30th Annual Meeting December 3-4, 2008, in Tuscaloosa, AL. Dr. Harold Burkhart, Ralph Amateis and member representatives from fifteen wood producing and land management organizations in the United States and one from South America toured research sites on Westervelt lands in the Tuscaloosa area for a day. More information about the Growth and Yield Research Cooperative can be found on the web site: http://www.fw.vt.edu/g&y_coop/.

Dr. Harold Burkhart – Keynote Speaker

Dr. Harold Burkhart was a keynote speaker at a conference of the International Union of Forest Research Organizations (IUFRO) on "Advances in Forest Management and Inventory", held October 13-17, 2008, at the Kangwon National University in the Republic of Korea. His keynote presentation focused on methods for modeling growth and yield of intensively managed forests. In addition, Professor Jungkee Choi of Kangwon National University, with Dr. Burkhart and Ralph Amateis as co-authors, presented results from collaborative research he conducted at Virginia Tech during the summer 2008.

Forestry Faculty Presents Research in Europe

Dr. Greg Amacher was invited to two meetings in Europe over the summer. In June, he traveled to the Department of International Development in London to present his research concerning corruption and forest concessions at a workshop focusing on forest taxation in Africa. Dr. Amacher was also appointed as an Affiliate Scientist with the Environment for Development Initiative administered by Goteborg University in Sweden. He attended their annual meeting in Goteborg, Sweden, and plans to begin working with EFD contacts at Peking University this spring on a variety of land tenure and natural resource economics and policy issues.

North American Forest Soils Conference

The Department of Forestry hosted the 11th North American Forest Soils Conference on the Virginia Tech Campus last June. This was the 50th anniversary of this meeting that has been held every five years since 1958. Over 120 forest soils scientists and managers from academia, government agencies, and forest industry attended the four day meeting. Oral papers and posters presented the state of the art in forest soil science. Field trips highlighted the relationships among forest soils and silviculture in both hardwood and pine forests of Virginia.

Forest Nutrition Cooperative Annual Meeting

Virginia Tech recently hosted the Annual Advisory Board Meeting of the Forest Nutrition Cooperative at the Hotel Roanoke and Conference Center in Roanoke. The research accomplishments during the previous year were highlighted and goals and objectives for 2009 were established at this meeting. The Forest Nutrition Cooperative is a partnership among Virginia Tech, North Carolina State University and the University of Concepción in Chile. It has over 40 members representing large industrial forest landowners in the South and Latin America. The goal of the Forest Nutrition Cooperative is to increase the productivity, profitability and sustainability of plantation forestry for both pines and hardwoods.
Dr. Gwenlyn Busby recently joined the Department of Forestry in the College of Natural Resources as an assistant professor of Forest Policy and Economics.

Dr. Busby’s primary interest is the use of economic analysis to inform sustainable resource management and policy. She has research experience and ongoing interest in the areas of wildfire risk management, incentive-based policy design, and conservation. Much of her work focuses on landscapes with mixed ownership and the interaction between landowners in their resource management decisions. She is particularly interested in issues where there are cross-ownership spatial interdependencies, where decisions made by one landowner have a direct impact on neighboring landowners’ values. In addition to these research interests, she will be teaching Forest Resource Policy (FOR 4434) this spring and is very excited to meet and interact with the undergraduate students at Virginia Tech.

Dr. Busby received her B.A. degree in Economics from Middlebury College, her Master of Environmental Science from Yale University, and her Ph.D. in Forest Resources from Oregon State University.

Dr. Valerie Thomas joined the Department of Forestry in the College of Natural Resources as an Assistant Professor in Forestry Remote Sensing on August 10, 2007.

Dr. Thomas’s research examines forest canopy structure and function using lidar and hyperspectral technology, the integration of these data with micrometeorological measurements to model canopy-scale photosynthesis, and the evaluation of the impact of local heterogeneity on estimates of carbon exchange. She teaches FOR/GEOG 6984 Forestry Lidar Applications and FOR/GEOG 5984 Hyperspectral Remote Sensing for Natural Resources. In addition to forestry graduate students, both of these courses also support students in the Ph.D. in Geospatial and Environmental Analysis program.

Dr. Thomas has a B.S. (Eng) Environmental Engineering, University of Guelph, Guelph, Ontario, Canada, a M.S., Earth System Science, Dept of Geography, Queen’s University, Kingston, Ontario, Canada, and Ph.D., Earth System Science, Dept of Geography, Queen’s University, Kingston, Ontario, Canada.

Dr. M. Chad Bolding has joined the Department of Forestry in the College of Natural Resources as an Assistant Professor of Forest Operations/Engineering.

Dr. Bolding’s research interests are primarily focused on forest operations, harvesting, and harvesting/silviculture interactions. His most recent work has investigated mechanical forest fuel reduction approaches to reduce the risk of catastrophic wildfire, utilize forest biomass, and assess environmental effects of mechanical entry. He is also interested in wood supply chain and forest business issues including the influence of markets, operational constraints, and regulations on forest operations and small business owners. Bolding is active in professional organizations such as the Society of American Foresters (SAF) and the Council on Forest Engineering (COFE). He has recently served as co-chair of COFE and both chapter chair and science and technology chair in the SC division of SAF.

Dr. Bolding has a B.S. and M.S. in Forestry from Auburn University, and an MF in Silviculture and Ph.D. in Forest Engineering from Oregon State University.

Dr. Susan D. Day joined the Department of Forestry in the College of Natural Resources as an Assistant Professor in Urban Forestry on October 1, 2008. Dr. Day holds a joint appointment in the Department of Horticulture.

Dr. Day’s research addresses urban forest biology with a particular focus on the role of soil management in creating sustainable urban environments. Recent projects include an investigation of a stormwater management system using trees and under-pavement reservoirs of structural soil that allow both root growth, runoff storage and infiltration; and a long-term study of urban soil rehabilitation techniques and their effects on tree growth and soil carbon.

In addition to a graduate class in Forestry, Dr. Day will be teaching classes in urban horticulture and landscape establishment & maintenance.

Dr. Day has a Ph.D. in Forestry from Virginia Tech, an M.S. in Urban Horticulture from Cornell University, and a B.A. from Yale University. Dr. Day will be housed in the Forestry Department in Cheatham Hall and can be reached at sdd@vt.edu.
Dr. Robert (Bob) Shaffer Receives VFA Distinguished Service Award

Dr. Robert M. Shaffer was presented with Virginia Forestry Association’s Distinguished Service Award at the VFA Annual Convention in April. The award recognizes an individual or organization that has made a significant contribution to Forestry and/or related resources of Virginia for the best interest of current and succeeding generations. There have only been 18 Distinguished Service Awards given since 1984. In April, the Virginia Tech Board of Visitors conferred the title of “Professor Emeritus” on Dr. Robert M. Shaffer, who serves as the Charles Nettleton Professor of Forest Operations. Dr. Shaffer served as president of the VFA in 1995-96, and chaired several VFA Committees.

Dr. James Burger Retires

Dr. James A. Burger, Garland Gray Professor of Forestry and Professor of Forestry and Soil Science at Virginia Tech, retired in November after nearly 30 years of service. In 1979 he joined the Forestry Department where he established its forest soils teaching and research program, now one of the most renowned in North America. His research program included work on forest soils, plantation establishment, tree nutrition, soil quality, restoration ecology, and agroforestry. He mentored 40 graduate students (Ph.D. and M.S.) who are now among the finest in the ranks of natural resource agencies, industry, and the academy. Dr. Burger served as chair of the Forest Soils Division and on the Board of Directors of the Soil Science Society of America. He was an associate editor of the Society’s journal for 6 years and was elected SSSA Fellow in 1996. He served as chair of the Forestry Division of the American Society of Mining and Reclamation for 13 years and as the Society’s president for one year. He is the recipient of the Society’s W. T. Plass Award for career-long contributions to reclamation science and practice, the Society’s highest award. Reforestation practices throughout the eastern coalfields region of the US are largely based on his research work. He is a long time member of the Society of American Foresters. As Garland Gray Professor Emeritus of Forestry, Dr. Burger will continue his research on a part-time basis while pursuing additional professional activities.

2008 Sergei A. Wilde Distinguished Lecture

Dr. James Burger, Garland Gray Professor of Forestry gave the 2008 Sergei A. Wilde Distinguished Lecture on Forest Soils in October during the Soil Science Society of America Meeting at the George R. Brown Convention Center, Houston, TX. His talk was “Are we obligated to help apply as well as create knowledge to enhance and protect our private and public forests?”

Dr. Greg Amacher’s New Book

Dr. Greg Amacher has a forthcoming book with Dr. Markku Ollikainen and Dr. Erkki Koskela of the University of Helsinki titled "Economics of Forest Resources" that will be published by MIT Press in May of 2009. Additional details can be found at the following website: http://mitpress.mit.edu/catalog/item/default.asp?type=2&tid=11794

Dr. Randy Wynne – Certificate of Recognition

At the Society of American Foresters annual meeting in Reno, NV (Nov. 2-8, 2008), Dr. Randy Wynne was awarded a Working Group Merit Award for recognition of his significant contribution to the SAF Science Program. Dr. Wynne is the chair-elect for the A2 Remote Sensing and Photogrammetry working group.

Julia Bartens’ Research Highlighted

Ph.D. graduate student Julia Bartens’ research was published in the most recent Journal of Environmental Quality and highlighted in CSA News this month. This study was part of a collaborative project between Virginia Tech, Cornell, and University of California at Davis investigating innovative ways to maximize the potential of trees to address stormwater. A design manual, photos of demonstration sites, and other resources from the project are available at www.cnr.vt.edu/urbanforestry/stormwater.
Jeremy Stovall - Best Graduate Student Presentation Award

Jeremy Stovall is a second year Ph.D. student working with Drs. Tom Fox and John Seiler on growth responses of varietal loblolly pine to fertilization. He recently received an Outstanding Graduate Student Presentation Award for his talk at the 15th Biennial Southern Silviculture Research Conference in Hot Springs, Arkansas held November 17 – 20, 2008.

Excellence in Teaching Poster Award

Assistant professor Dr. Eric Wiseman and undergraduate urban forestry students Matt Rhoads and Brad Levy received first place in the “Excellence in Teaching Poster Award” category at the Outreach Now 2008 Symposium held at Virginia Tech on September 8th. Their poster was entitled “An Assessment of Public Street Trees in Radford, Virginia”.

Forestry Faculty Receive Awards of Merit and Certificate of Appreciation

Drs. Eric Wiseman and Susan Day each received an Award of Merit from the Mid-Atlantic Chapter of the International Society of Arboriculture (MAC-ISA) at its annual meeting (hosted here on the Virginia Tech campus, Sept 29-Oct 1) in recognition of their exemplary service this past year.

Dr. Harold Burkhart was also recognized with a Certificate of Appreciation and was presented with an Honorary Membership for his dedication to the urban forestry program and his work towards achieving SAF Specialized Accreditation in Urban Forestry for the new urban forestry curriculum.

Virginia Tech’s Scholar of the week is.............Valerie Thomas!

On October 27, 2008, Dr. Valerie Thomas was recognized as Virginia Tech’s Scholar of the week for innovative research in applications of lidar imagery to analysis of forest canopy structure and function. Her work contributes to the improvement of national and global carbon exchange and climate models through a better understanding of forest ecosystem physiology across the landscape. By constructing the three dimensional shape of trees and their spatial arrangement using lidar data, Valerie can model light penetration through the canopy and its influence on photosynthesis.

Prysby and Downing Win First Place

Michelle Prysby (Virginia Master Naturalist program coordinator) and Adam Downing (Northern District Forestry and Natural Resources Extension Agent) won first place in the “New Initiatives” programming category for the Virginia Cooperative Extension Northern District. Their project “Armed and Dangerous: Destroying Virginia’s Invasive Species with Volunteers” trained 75 volunteers across the state, providing them with knowledge and tools for addressing invasive species issues in their communities. This project was funded by an internal grant from the Virginia Tech College of Natural Resources.

Welcome New Graduate Students!

**Ph.D. Program**
- Scott Barrett
- Euan Bowditch
- Kemal Gökkaya
- Nabin Gywwali
- Katherine Hoover
- Jobriath Kauffman
- Nilam Kayastha
- Olli-Pekka Kuusela

**M.S. Program**
- Robert Bernier
- Priscilla Boesker
- Matthew Brinckman
- Joseph Conrad
- Tripp Dowling
- Benjamin Hook
- Sara Murrill
- Tyler Wright

**M.F. Program**
- Kim Boggio
- Joe Hoffman
- Cynthia Schiffer
- William West
Greg Scheerer recently received the 2008 National SAF Young Forester Leadership Award at the Society of American Foresters National Convention in Reno, NV. Greg received both his B.S. degree in Forest Resource Management (1992) and his M.S. degree in Forest Soils (1994) from Virginia Tech. He is currently a Forest Manager with MeadWestvaco Corporation in Appomattox, Virginia, where he has been employed since 1995 in a variety of land management and timber sales positions. Greg’s previous experience also includes a year as a forestry extension associate at Virginia Tech as well as 2 summer internships with Weyerhaeuser Company in eastern North Carolina. Greg has been very active in the SAF since college: he was the Virginia Tech Student Chapter Chair in 1992, has served in the leadership positions in his local R.E. Lee Chapter as well as the Virginia Division, was the Arrangements Chair for the 2000 VA Division Meeting, and is currently the Arrangements Chair for the 2009 APSAF Annual Meeting to be held January 21-23 in Newport News, VA. Greg is also very active in other professional activities — currently serving on the Virginia Forestry Association's Board of Directors, the Virginia Reforestation of Timberlands Board, the Virginia Tech CNR Forest Resources Advisory Committee, and the Roanoke/Lynchburg Log-A-Load For Kids Committee.

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