Chair’s Message
Dr. Theodore Howard

September’s *prestissimo* signified the beginning of a new academic year, as the UNH campus came alive with new and returning students, staff and faculty. Eventually, the tempo slowed to merely *allegro* as everyone settled into the routine of the new academic year, giving me the opportunity to write this message.

I begin with a special thanks to Dr. John Halstead who served as the first chair of the new Department of Natural Resources and Environment from 2008 to 2011. Chairing an academic department as large and as diverse as NREN is a daunting task which John handled with grace, good-humor and the interests of students above all else. John is currently enjoying a well-earned sabbatical leave this semester and will be back in the classroom, to the great advantage of our students, this spring.

We have nearly 400 undergraduates, including about 60 new first year and transfer students. The graduate program is also strong, with just over 60 students in our masters programs and over 40 students advised by NREN faculty are enrolled in the Natural Resources and Earth Systems Science (NRESS) doctoral program.

Like symphonies with transitions from one movement to the next, the department, too, has had important transitions. Two long-time members of our administrative staff, Linda Scogin and Linda Isaacson retired this past spring. For those of us with long associations with both of them, we miss them and their contributions to the life of the department. In mid-spring, we welcomed Wendy Rose as our new administrative assistant. This Tally Sheet is her first edition, illustrating her talent at cajoling faculty, graduate students and others to provide material. We also welcome Dr. Rebecca Rowe, our new assistant professor of landscape ecology. Becca comes to us from the Utah Museum of Natural History. She has a BA from Bowdoin College and a Ph.D. from the University of Chicago.

Our newly renovated and expanded home, James Hall, is a wonderful facility, with up-to-date classrooms and laboratories. I urge all alumni to visit us and see how we have incorporated green technology and sustainably-produced products that helped James Hall achieve LEED gold status. We have learned, however, that operating James Hall is like an orchestra tackling a new complex symphony – it takes practice to get everything right – we have had minor issues, but overall, it is a great facility.

If there is a real sour note, it is the reduced financial support from the state. The state appropriation for UNH, Cooperative Extension, and other units was slashed nearly in half. UNH has rarely had much fat, so the reduction in state support will eventually impact our academic programs.

Inside this edition of the Tally Sheet, you will find news about student, staff, and faculty activities. On that happy note, I wish you good reading.
Faculty Update

Mimi Becker, Associate Professor of Natural Resources and the Environment Policy, was recognized by The Census of Marin Life for participating in an unprecedented scientific program and contributing to the first global baseline of marine diversity, distribution and abundance.

John Carroll, Professor of Environmental Conservation Studies, has been in high demand by groups state-wide and across the New England region to speak on his popular UNH books, The Real Dirt: Toward Food Sufficiency and Farm Sustainability in New England, and Pastures of Plenty: The Future of Food, Agriculture and Environmental Conservation in New England. Beautifully illustrated by New Hampshire artist Karen Holman, both titles are available in independent New Hampshire bookstores and directly by mail from the Department of Natural Resources and Environment. For a flyer/order form, e-mail John Carroll at carroll@unh.edu or John.Carroll@unh.edu

Russ Congalton, Professor Remote Sensing and Geographic Information Systems and Mark Ducey, Professor of Forest Biometrics and Management, began a project in Northeastern Oregon this summer funded by the USDA under the leadership of Dr. Joel Hartter (Geography). Also involved in this project are Dr. Larry Hamilton (Sociology) and Natural Resource Graduate Students Mickey Campbell and Dan Maynard. This project looks at the ecological and social effects of forest practices over the last 30 years or so in the counties of Willowa, Union, and Baker Oregon. With the reduction in timber harvesting, many communities have gone from a resource-based economy to one more dependent on tourism and services. This project not only will map the land cover change over time, but also includes a detailed survey of the citizens and land-owners in these communities. Field work was initiated this summer with all participants spending a few weeks getting set up in Oregon and testing field protocols and meetings with the locals. Dan and Mickey remained in Oregon all summer to collect additional data. The survey will be conducted this fall. The project continues for another 2 years.

Serita Frey, Associate Professor of Soil Microbial Ecology, received the Associate Professor of the Year Award and the Karen Von Damm Leadership Award (2010-2011). She received a National Science Foundation grant in collaboration with Anne Pringle at Harvard to examine the changing diversity and evolution of decomposer fungi in response to soil warming and nitrogen additions. She also presented several invited research talks this year, including at the Bay Paul Center, Marine Biological Laboratory, Woods Hole, MA; The Environmental Studies Program, Dartmouth College, Hanover, NH; and the Department of Microbiology, University of Massachusetts—Amherst

William Mautz, Professor, Natural Resources and the Environment, has retired after 40 plus years at UNH. He thoroughly enjoyed his time here and enjoyed working with the continuous stream of great undergraduate and graduate students coming through the door. It was tough for him to give up, but new adventures beckoned. Bill and his wife, Sue, will be spending more time traveling as well as spending time at their spot in Wisconsin. “Exploring, whittling” and trying to keep up with the grandkids should keep me out of mischief in the years to come.” –William Mautz

Fred Short, Professor of Natural Resources and the Environment, has received a Lifetime Achievement Environmental Merit Award from the U.S. Environmental Protection Agency. He has been a “strong voice for the conservation and protection of Great Bay and its resources”. Dr. Short was honored in particular for his work in protecting New Hampshire’s Great Bay estuary. He also leads a global program to monitor seagrass health in 115 locations in 32 countries.
The following scholarships were awarded to graduate and undergraduate students at the 5 May 2011 Department Banquet Awards Ceremony

**Clark Stevens:** Sarah J. Dudek

**Ruth E. Farrington:** Sarah J. Dudek, Janet E. Gorman, Josh G. Kozikowski, Pavel J. Pluhar, Kelsey Wellington, Anne Fuller, Benjamin M. Metcalf, Sarah Tierney, Jessica Veysey, and Amanda K. Weise

**Lloyd W. Hawkensen:** Catherine Childs

**Cass Adams:** Jill F. Bartolotta

**Richard B. Johnston Award:** Lisa Graichen

**Alumni Scholarship Award:** Jessica Giguere, Sarah Tierney and Jacqueline Amante

**George “Curly” Frick Fellowship:** Jewel McKenzie

**College Woods Scholarship:** Amanda Close, Kelsey Wellington, Sarah Tierney, Pavel Pluhar, Lucy Parham

**Richard A. Andrews Memorial Award:** Melina-Sarah Elwy

**Outstanding Student Awards went to the following undergrads:**

- **Environmental Science:** Chris Dorich
- **Environmental Conservation Studies:** Emily Troisi
- **Forestry:** Daniel Kilham
- **Wildlife:** Henry Jones
- **Tourism:** Karah Johnson
- **CEP:** Lucy Corwin

**Nancy Coutu Scholarship:** Melissa Bolton

**Paul Bruns Award:** Elizabeth Flager

**Faculty and Alumni Awards:**

- **Teacher of the Year Award:** Dr. Bruce Lindsay
- **Distinguished Alumni Award:** Adrien Finzi
Staff in the News

Mel Knorr - Lab Manager for the Soil Microbial Ecology Lab, received the 2010-2011 COLSA Staff Achievement Award for Outstanding Performance in Research Support.

Students in the News

James Airey - was named “Undergraduate Student of the Year” by the Granite State Division of the Society of American Foresters.

Maria Susana Alvarado-Barrientos - NRESS Fellowship

Alix Contosta, NRESS PhD - completed her PhD in Spring 2011. Her research examined the effects of chronic soil warming and nitrogen fertilization on microbial community and nutrient cycling dynamics. She is currently working as a postdoc at UNH on a project to evaluate the greenhouse gas potential of different land-use practices along an agricultural to suburban gradient.

Lisa Graichen - ECS - received an NSF Research Experience for Undergraduates Fellowship to conduct independent research in the Soil Microbial Ecology Lab during Summer 2011.

Daniel Hocking (NRESS PhD Program) - received a Graduate School Dissertation Year Fellowship for the upcoming year.

Sarah Jamieson (EREC) — received a Winant Fellowship.

Henry Jones (Wildlife) - P.F. English Award (Awarded to the top Wildlife undergrad in the Northeast)

Adam Marquis (Wildlife) - Summer Undergraduate Research Fellowship 2011 from the Undergraduate Research Opportunities Program.

Joyce Massicotte (RAM) has been awarded one of this year’s Graduate Student Teaching Awards.

Jonathan Trudeau (Wildlife) - Summer Undergraduate Research Fellowship 2011 from the Undergraduate Research Opportunities Program.

Emily Troisi - received a full TIDES Fellowship that will fund her MS program.

Zack Steele/Kathryn Rosengren are current TIDES Fellows.

Gabe Roxby (FOR) - Granite State Division Society of American Forester’s Graduate Student of the Year

Emily Spognardi (Wildlife) - Research Experience and Apprenticeship Program 2011 from the Undergraduate Research Opportunities Program.

Lauren Valliere (Wildlife) - Outdoor Writer’s Award

Linda van Diepen - Postdoctoral Research Associate in the Soil Microbial Ecology Lab received a travel award to attend a workshop as part of the 2011 Mycological Society of America annual meeting in Fairbanks, Alaska. She also presented a talk of her research during the meeting.


**Class Trip to Yale-Meyers Forest**

The silviculture and forest management classes visited the Yale-Meyers Forest in northwestern Connecticut over the October 22-23 weekend. Associate Professor Heidi Asbjornsen arranged for faculty and graduate students from Yale University’s School of Forestry and Environmental Studies to explain and discuss silvicultural treatments practiced on the Yale-Meyers Forest. Over the course of two very busy days, our students visited shelterwood and seed tree regeneration harvests, crown thinning treatments, and areas that had undergone special prescriptions to enhance wildlife habitat. Our students also participated in tree grading and crown thinning exercises. They stayed overnight in bunkhouses on site, enjoyed a barbeque, campfire, and several rounds of Long Pong (ping pong with heavy, rustic, wood paddles, a waffle ball and a table about twice the length of a regulation table).

**Commencement Breakfast ~ 2011**

Natural Resources and the Environment Seniors and their parents and families enjoyed “Commencement Breakfast” on a what turned out to be a sunny Saturday morning, May 21 from 7:00 a.m. - 9:00 a.m. in the Courtyard of James Hall. There was hot coffee, tea, hot chocolate, juice, bagels, muffins, donuts, and fresh grapes and strawberries for everyone.

**Graduate Research**

**Sarah Andrews**

**Topic 1: Understanding the role that plant community structure plays in mediating methane dynamics in freshwater wetland systems**

**Topic 2: Integrating student-centered active learning into an introductory soil science course: Exploring relationships amongst students’ learning, perspectives on their experiences, and their ways of knowing**

5th year PhD student in the Natural Resources and Earth Systems Sciences PhD program with a concentration in Earth and Environmental Science

Advisor: Dr. Serita Frey

I entered the PhD program at UNH with a desire to understand more about links between above and belowground properties and processes in wetlands. This was, and still is, important to me because of the variety of roles that wetlands play, including flood control, water filtration, and providing habitat to a diverse community of wildlife. Wetlands are also important mediators of methane and carbon dioxide fluxes and can act as sources or sinks for carbon depending on a variety of factors such as flooding duration and depth of water. Little work to date has focused on exploring links between aboveground plant community structure (such as species and functional group composition, richness, or diversity) and belowground processes (such as methane production and oxidation). My work on this topic has revolved around a comparative field study of four freshwater wetlands and an experimental wetland mesocosm study (both in Columbus, OH).
While I was working on the above studies most of my funding came from teaching assistantships, and most of my experiences as a TA had been teaching labs for Dr. Serita Frey’s Introduction to Soil Science class. It was during this time that I realized that I loved to teach. It was also during this time that I began to realize that no matter how well the lecture and lab portions of the class were coordinated, the students always seemed to feel that the two were disconnected. This and other observations really got me thinking about effective teaching strategies. When Serita decided to transform her class from the traditional structure of a lecture with separate labs to a studio-style structure where the lecture and labs are combined into one class session, I jumped at the chance to be involved. We began the re-design in the summer of 2010 and taught it in the new style for the first time in the fall of 2010 (now called Studio Soils). The basic curriculum covered remained the same, but the structure of the course was vastly different: lectures were mostly cut down to 15 minutes or replaced entirely with collaborative group activities and lab projects (research based) were revised to better fit in with the material covered by the readings, mini-lectures, and collaborative group activities. Based on my experiences in this process I decided to make education-based research a major component of my dissertation so I began to consider ways to study the effectiveness of the course transformation. I have become really interested in the students’ own perspectives on the effectiveness of the course, so in addition to the usual measures of student learning such as grades and differences between pre and post-tests, I am interviewing students about their learning and experiences in the class. In addition, I am interested in seeing if their previously held views on education (such as the role of the instructor or the role of peers) are related to their perspectives on the course, so I am comparing my interview findings to students’ responses to a questionnaire on learning in college (the Measure of Epistemological Reflection). Interview and questionnaire findings will also be compared to measures of student learning to provide a rich description of the effectiveness of the Studio Soils course as a learning environment.

**Ryan Bechtel,**  
**White-tailed deer as facilitators of plant invasions in early-successional habitat**  
**MS: Natural Resources: Wildlife**  
**Advisor: Dr. John A. Litvaitis**

We are conducting a study on the impacts that white-tailed deer have on plant communities as succession occurs. Early-successional habitats are important for a number of shrubland obligate bird and mammal species (e.g. cottontail rabbits, chestnut-sided warbler, golden-winged warbler); however, these habitats are rapidly being invaded by non-native shrubs (e.g. glossy buckthorn, multiflora rose, autumn olive) that may be having detrimental effects on a multitude of species. Early-successional habitat provides an abundance of forage for deer during winter months when herbaceous food is scarce. Because deer are a large generalist herbivore, they may be able to create vegetative shifts that compound the effects of non-native shrubs by over-browsing native shrubs, thus providing openings for exotic species.

**Daniel Brubaker**  
**Population Estimation and Genetic Structure of New England Cottontails in New Hampshire and Southern Maine**  
**M.S. Natural Resources: Wildlife**  
**Advisor: Dr. Adrienne Kovach**

My master’s work will investigate the use of non-invasive genetic sampling of New England Cottontails (NEC) through the collection of fecal pellets. The goal will be to develop a method for estimating population size of NEC that could be used in other parts of its range. Other aspects of the research may involve genetic dispersal of NEC’s and what landscape features promote or restrict dispersal.

**Andrea Frey**  
**Allorecognition and Genetic Identity of the Invasive Tunicate, Botrylloides violaceus**  
**M.S. Natural Resources: Environmental Conservation**  
**Advisor: Dr. Marian Litvaitis**

My Master’s project focuses on allorecognition (self from non-self recognition) among different color morphs of the colonial tunicate Botrylloides violaceus. B. violaceus is an invasive tunicate in the Gulf of Maine and can be found in several different color morphs. I am specifically interested in understanding the processes involved in the fusion or rejection reaction when two colonies of different colors meet. To this end, I plan on setting up trials between different color morphs and following fusion/rejection reactions using histology. I also will use mitochondrial sequence data to determine if all color morphs belong to the same species. Furthermore, I want to document latitudinal distribution patterns along the northeastern coast of the US. Finally, I am also interested in quantifying the effects of fusion (or a fusion challenge) on the fitness of the tunicates.
Dan Hocking
The role of terrestrial, woodland salamanders in ecosystem functions
NRESS PhD Program
Advisor: Dr. Kim Babbitt

My current research focus is on the role of terrestrial, woodland salamanders in ecosystem functions. Terrestrial salamanders of the genus *Plethodon* can be incredibly abundant in forest ecosystems. In many eastern US forests they are the most abundant vertebrate and can makeup twice the biomass of all the breeding forest birds. As abundant predators of forest floor invertebrates, salamanders have the potential to affect ecosystem processes through alteration of the detrital food web and through direct nutrient cycling. I am specifically testing how the removal of salamanders from forest plots affects nitrogen mineralization rates, leaf litter decomposition rates, and oak seedling growth and survival. Additionally, I am examining how salamanders affect other top forest floor predators including spiders, centipedes, and carabid beetles. These predators are likely competing for resources and their roles in the food web and ecosystem may be altered in the absence of salamanders. Given the global decline of amphibians, it is important to understand how amphibians contribute to ecosystems services and what we’re losing. This knowledge can help to inform and prioritize conservation and management decisions.

Chris Keeley
New Hampshire Coastal Communities adapting to climate change
M.S. Natural Resources Management
Advisor: Dr. Mimi Becker

This past summer, Chris Keeley worked as a Climate Fellow at Clean Air - Cool Planet in Portsmouth, New Hampshire. He worked closely with the 16 member organizations of the New Hampshire Coastal Adaptation Workgroup (NHCAW). NHCAW provides communities with education, facilitation and technical guidance to help prepare for the impacts of climate change. Chris supported the group's efforts by researching the NOAA Roadmap Vulnerability Assessment tool to describe how communities in coastal New Hampshire can begin to how local infrastructure, natural resources, and human health and safety will be impacted by climate change. It was an exciting summer for Chris as he worked with NHCAW and planning professionals around the country to learn about the intricacies of helping communities plan for such challenges as increased precipitation, higher temperatures, sea-level rise and higher storm-surge levels. The Fellowship came at an opportune time for Chris. He is entering his second year in Natural Resources Management and beginning his thesis research on New Hampshire coastal communities adapting to climate change.

Daniel W. Kilham
Balancing economic and ecological values in New England's northern hardwood forests
MS: Natural Resources: Forestry
Advisor: Theodore Howard

I will be comparing economic and ecological values of individual trees to their stands and how tree removal (harvest) would change the economic and ecological value of the stand overall. The project is modeled after the French inventory method Marteloscope. Research will be primarily collected in Kingman Farm, Madbury NH.

Meghan MacLean
A Multi-Temporal Image Analysis of Habitat Modification in the Coastal Watershed, NH
NRESS PhD Program
Advisor: Dr. Russ Congalton

One of my current research streams centers on studying the effects of forest fragmentation and how to monitor these effects using remote sensing and geographic information systems (GIS). Current remote sensing technologies allow scientists to create continuous and timely land cover maps of any location that has available imagery. However, when monitoring land cover change over time, imagery from appropriate time periods
can be difficult to find. For studies looking at the most recent history of land cover change, Landsat satellite imagery is invaluable, since it has taken images of most of the United States approximately twice a month for nearly the past 40 years. Due to the recent free availability of Landsat data to the public, more and more people are using this data to complete land cover change analyses. However, although Landsat has ideal temporal resolution, the imagery is limited in its uses by its spatial resolution. The 30 meter pixels of the imagery can make it difficult to classify complex systems such as the forests of the Northeastern United States. Recent advances in image classification, which improve land cover map creation, include object-based image analysis (OBIA) techniques. My research pushes the boundaries of creating land cover maps from Landsat data even further. I am creating a new image processing analysis model that combines the OBIA techniques with a multi-temporal image analysis process that uses the phenological changes of vegetation throughout the growing season to more accurately classify vegetated areas on land cover maps.

A second aim of my research is to create a user-friendly program that quantifies measures of landscape fragmentation on a land cover map. The new software is written in Python so that it can be used in ESRI’s ArcGIS programs. The program is designed to allow anyone with access to ArcGIS to be able to produce a map that shows the amount of landscape fragmentation in a certain region, as well as produce metrics that are used to describe the amount of fragmentation in a landscape. Through the study of fragmentation of a landscape, we can start determining the relationship between fragmentation and changes in biodiversity. It is crucial to the study of biodiversity that researchers at different levels of technical proficiency can study how landscape change is affecting different species. The power of this software will stem from the fact that any researcher with a land cover map and ArcGIS will be able to use the program. There are numerous potential applications of this program. For example, city planners could use this program to model how urbanization will affect different land cover types. In a different context, forest management companies could use this program to determine which forests are most affected by edge effects and incorporate that information into their management plans.

Within the larger scope of this program development, I am specifically studying how woody invasive species respond to forest fragmentation. In particular, I am investigating the correlation between woody invasive species locations and different areas of forest fragmentation. The correlation of the invasive species with certain types of fragmentation can be used in conjunction with land cover maps to locate areas with high potential for invasion. The invasion potential of certain land cover types can help determine priority rankings for conservation. The maps that I am creating will be used by local conservation agencies and published on the statewide invasive species database to help locate and manage these species. In a broader context, the methods defined by this research can be used in any situation where land is being fragmented, representing great value to both research and conservation communities. Additionally, whereas my current research studies the impacts of forest fragmentation on woody invasive species, the same methods could be used to investigate issues such as tree health decline due to invasive insects like the Asian Longhorn Beetle, or the impacts of fragmentation on the movement of different mammalian species.

Kalle Matso

**Supporting More Useful Science: New methods for designing, implementing and assessing applied coastal research.**

**NRESS PhD Program**

**Advisor: Mimi Becker**

Billions of dollars are spent every year on "applied research" in order to solve urgent societal problems involving the environment, such as flooding, pollution, and overfishing. But many point out that much of this good science isn't getting used by intended audiences. My research involves studying a dozen efforts to implement science in a new way—a way that hardwires intended users into the entire research process—in order to tease out why science doesn't get used and what are the possibilities for improving this situation.

Cody Merrill

**I will be investigating the use of trail cameras in estimating the abundance of Bobcats (Lynx rufus)**

**MS:Natural Resources: Wildlife**

**Advisor: John Litvaitis**

I will be testing the ability of trail cameras to perform a mark-recapture test with the back-up methods of abundance indices. The project is designed to create a citizen science protocol that may be used by the Fish and Game Department.
Alexej Siren


M.S. Natural Resources: Wildlife
Advisor: Dr. Peter Pekins

My research will examine the use of high elevation spruce-fir habitat by American marten, and assess the impacts of wind farm development on marten in these forests. I will also measure home ranges, fidelity, movements, habitat use, and densities to estimate marten populations statewide. These metrics will be compared with other studies to gauge the productivity of northern New Hampshire’s forests for marten, and to develop a landscape connectivity model to identify and predict abundance, distribution, and expansion of marten populations in New Hampshire and neighboring states. I propose to develop a cost effective method to index marten abundance that can be used by New Hampshire Fish and Game to monitor marten populations.

TIDES PROGRAM

The four new TIDES graduate students (Emily Troisi, Meg Gardner, Helen Perivier and Catherine Bushalski) are getting ready to go to the annual National Estuarine Research Reserve System (NERRS) conference in Ponte Verde, Florida. There they will learn more about the NERRS system connect with NERRS and NOAA staff and begin the process of negotiating their internships for next summer and fall. The second year TIDES students (Kathryn Rosengren, Zack Steele, Kenny Daher, and Colin Lentz) are off campus, working hard at their internship sites (Katechamak Bay, AK, Hudson River, Wells, ME and Great Bay, NH) where they are engaged in NERRS Science Collaborative funded projects. The TIDES program is centered around learning how to link coastal ecosystem science and decision making, and why it is so vital to our environment and society. TIDES students will be engaged in projects that involve fostering collaboration between decision makers, communities, and scientists on solving local and regional issues. These projects range from freshwater resource management to climate change impacts on coastal communities and sea level rise adaptations. Stay tuned to future newsletters for updates on their exciting journey!

Sarah Smith (BS FOR) is the author of a new book, *They Sawed Up a Storm*, which was recently published by Jetty House, an imprint of Peter E. Randall Publisher of Portsmouth.

The author, UNH Cooperative Extension's Forest Industry Specialist Sarah Smith, describes her book this way: "*They Sawed Up a Storm* is about an extraordinary group of women who operated a sawmill during World War II at Turkey Pond in Concord. The sawmill, one of two on the pond, was built to saw up what remained of logs still floating in the water from the 1938 hurricane.

"The book begins with the hurricane and its path of destruction from Long Island to northern New England. As a result, The Northeast Timber Salvage Administration (a federal, Roosevelt-Era program) was established to recover the felled timber. "Four years later, when the U.S. had entered WWII, the salvage program was still operating and struggled to find laborers. In 1942, copying other wartime industries that recruited women, the U.S. Forest Service built a sawmill and hired women to run it. The October 26, 1942, Concord Daily Monitor headline read, *Women-Operated Sawmill, First Of Kind in Country, Will Start Work Soon At Turkey Pond*. Interviews, family stories, and historic photographs bring the women of Turkey Pond to life."

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sarah.smith@unh.edu
Website: www.turkeypond.com

Roberta Barbieri (BS ECS/IA) graduated with a dual major in International Affairs and Environmental Conservation, completed Italian language study through the advanced level and spent a semester studying in Urbino, Italy. She went on to get an MS in Environmental Engineering from the University of New Haven. She is now Global Environmental Director of Diageo Plc (Norwalk, CT), the world’s largest distributor of alcoholic beverages.

Rich Courtemanche (BS FOR) Rich is now the Assistant Land Commissioner for Aiktin County which manages 224,000 acres of land in the heart of the Minnesota Lake Country.

Terri Emmer Cook (MS RAM) is returning to the work force with a firm called Resource Systems Group based in White River Junction, Vermont. The company was founded 25 years ago by Dennis Meadows and two other Dartmouth faculty. Terri will be working on their marketing efforts and managing their proposals.

Brian Pellerin (BS NR, PhD Natural Resources and Earth Systems Science) was a National Research Council Postdoctoral Associate at the USGS California Water Science Center. He has been a Research Soil Scientist with the USGS since 2008 and focuses on the application of in situ optical sensors for studying carbon and nutrient dynamics in freshwater systems.

Brennan J Sheahan (BS FOR) has been working in CT for the past 11 years as a procurement forester. He recently started working for Hull Forest Products, which is a very well-run organization which is focused on educating private landowners on the benefits of long term forest management.

Lori Harnois (BS TOUR) was approved by the governor and executive council to be Commissioner of the Division of Travel and Tourism for the State of NH. Lori has spent more than 10 years working for the division including the last eight years as international and domestic marketing manager.
Ryan Loysen (BS ECS) Upon graduation from Southern Oregon University with his M.S. in Environmental Education, he returned home to Rochester, NY in Fall 2002. He worked as the Conservation Education Coordinator for the Seneca Park Zoo Society from 2002-2008, and managed their wildlife conservation education programs and classes. In late 2008, he moved to the Monroe County Department of Parks and has worked as the Recreation & Environmental Education Coordinator since then. In this role, he works with 21 parks, 12,000 acres, and countless recreation & environmental education organizations to coordinate, develop, and implement programs and activities in the parks, and to foster an environmental ethic within the community. He continues to volunteer with several environmental organizations in his community.

Amy Manzelli (BS ECS, BA Spanish) is a member of Baldwin & Callen, PLLC. She brings to the firm an extraordinary depth and breadth of experience. Before joining the firm, she successfully served clients for over six years at one of New Hampshire’s largest law firms. She guides green developers through all phases of projects, especially permitting of innovative and low-impact techniques. She also assists those who oppose or wish to obtain modifications to projects of others. Ms. Manzelli regularly advocates for clients’ issues at the State House, with lawmakers and with officials of executive agencies. She uses her governmental relations skills to encourage passage, modification, or defeat of proposed laws. Ms. Manzelli holds an advanced degree in environmental law and a juris doctor from one of the country’s top environmental law schools, Vermont Law School. Ms. Manzelli excelled at the University of New Hampshire, where she earned her B.S. in Environmental Conservation (and her B.A. in Spanish). She is now a Distinguished Alumna of the School. Ms. Manzelli appears regularly before all superior courts in New Hampshire, local land use boards, and several administrative agencies. Ms. Manzelli has filed briefs with the New Hampshire Supreme Court and practiced in the federal New Hampshire District Court. Ms. Manzelli is extremely active in the environmental community in New Hampshire. Governor Lynch recently appointed her as a Commissioner to the 15-member Water Sustainability Commission. The appointment follows over two years of service on the legislative (HB1295) Stormwater Commission, representing the new Hampshire Business and Industry Association, which honored her with an Above and Beyond Award for her service. Ms. Manzelli makes her home in Pembroke, along with her husband, toddler, and two dogs. She enjoys family time, local food, gardening, edible landscapes, hiking, biking, cooking, and travel.

Corinne Pinkerton Sierzant (MS RAM) has worked in the land planning field for two years and then moved out to CA for a job position working as an economist for the National Marine Fisheries Service (part of NOAA). While out there, she obtained an MA in Economics from CA State Univ. (Long Beach) by taking night classes. Living and working out in CA was an overall great experience; however, she decided to move back to her east coast roots about 9 months ago. She had her first try at teaching recently as an adjunct for Arcadia University teaching intro to macro and recently started a new job as an economist for the Dept. of Agriculture in DC. Corinne got married this past October.

Allison Percival (BS EREC) started working at EF Education in Cambridge, Mass in October 2006 and worked there for 2 years. It’s a company that specializes in international education programs for students. She then moved to Switzerland with EF in October 2008 and worked at their headquarters in Luzern (it is a small city near Zurich) for another 2 years until last fall 2010. She decided to leave last fall because she was not making that much money and wanted to be able to save up to hopefully go back to school sometime in the next few years. So since January this year she has been working for Merck (an American Pharmaceutical Company) based in Switzerland. Allison works in the Supply Chain and Logistics department.

Erin Susan Cubley (BS ECS, focus in Wetland Management) worked as an Environmental Educator in the United States Peace Corps, Morocco from 2009-2011. Her responsibilities included teaching environmental classes in the Berber dialect and coordinating community development projects such as toilet construction for schools, tree planting, and GPS mapping of backcountry hiking trails for the Moroccan Water and Forestry Department. Currently, Erin is a Raft Guide leading day trips on the Salmon River in Stanley, Idaho.

Abby Everleth (BS WL) is a second year teacher at Erskine Academy, which is one of the 10 independent schools in the state of Maine. During the summers, Abby does bird rehabilitation (and some turtle rehabilitation) with a facility called Avian Haven.

Angelic DeButts (MS WL) works for the USDA Wildlife Services as a Wildlife Specialist in Concord, NH.
College Woods- A Place to Learn, to Play, to Muse
By James Barrett, Professor Emeritus, Forest Biometrics and Management

On an August day in 1962 Professor Paul Bruns introduced me to College Woods. Until then I had spent my days working and strolling through the great variety of forest types in the South. Along the trail in the Natural Area of College Woods I experienced my first view of northern woodland. It was the beginning of many good days teaching students in this outdoor classroom that’s within a ten minute walk from the campus. It also marked the beginning of thousands of saunters through the lovely woodland: walking, jogging, and skiing.

For almost four decades College Woods was my classroom to teach hundreds of students tree measurements and inventory. In my last decade I had the opportunity to teach thousands of General Education students forestry and ecology.

On many of my excursions into College Woods I sauntered through the Natural Area into a place I call “Polecat Hollow,” a 15 acre tract mostly bound by rock walls. I jokingly told students that only forestry and wildlife majors were allowed to enter the scared grove of Polecat Hollow. For decades Polecat Hollow acted as a classroom so students could practice tree measurements and forest inventory. The area was big enough for students to get a meaningful experience in fieldwork, yet small enough so I could easily visit each three-person team to help them with measurements.

The good days spent teaching most students measurements and inventory ended more than a decade age. I still, however, continue to enjoy my strolls through Polecat Hollow. On a still day I faintly hear the ghostly laughter and lingering voices reaching back over the years- “hold the tape straight, white pine 14 inches, watch out for poison ivy.”

I, and my teaching assistants, took thousands of General Education students through trails in the Natural Area to identify trees, describe the value of wetlands, watershed protection, and the history of College Woods.

By the Oyster River Reservoir I reached down and grabbed a handful of sticky silt-clay soil that makes the river, though relatively free from pollution, muddy. I reached up and suddenly thrust my muddy hand toward the students so they can feel the soil. Most students jumped back, but some don’t-most often it’s the women who reached out to feel the soil.

I’m fortunate to have had the opportunity to teach so many students about forestry and ecology. I’m still at it with smaller classes of General Education students. The students and the refreshing woods seem forever young. Damn! I’m the only one getting old.

On a late spring day I sauntered through the woods to muse about why the eternal spirit of nature in College Woods touches me so deeply.

I gazed up at the crown of a large beech. Like thousands of tongues, the beech leaves spoke to me gently, a whisper, during a light breeze. They blended together under the light blue sky. As I listened, I pondered the meaning expressed by their many tongues. It must have some meaning I can understand. After all, DNA genetically links me to the beech, and to all life.

On this delightful summer day I continued musing over the meaning of the thousands of tongues. Then one word entered my consciousness, maybe even my DNA: Harmony.
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Become a Supporter of the College Woods Coalition

The College Woods Coalition seeks a large membership in order to demonstrate broad support for the permanent protection of College Woods. Your one-time membership contribution of $10 will be used for further outreach by the Coalition. If you provide your email address, we will keep you up-to-date on our progress and activities; your addresses will be neither shared nor overused.

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