Chair’s Message
Bill McDowell

Fall has ushered in a new crop of undergrads and grads and we are well underway in a new semester of study and exciting research. Many of our students have been busy this past summer working with faculty in the forests of the White Mountains to the wetland marshes of the New Hampshire seacoast. We invite you to visit our Department website to read all about our students’ adventures in our NEW “Student Spotlight” page. We also encourage you to drop in to our homepage on a regular basis (like the Sunday morning paper) to see all the good work our students are involved in. From our forestry quiz bowl champions to our soil judging competition winners, our students are doing great things. Also, we would like to hear from you and encourage you to write and let us know what you are up to. Our alumni are located around the globe, while many have set roots here in New Hampshire. Don’t forget to keep in touch, wherever you are.

Our faculty are involved in interesting opportunities. Serita Frey and Scott Ollinger have been selected to participate in planning activities for the National Ecological Observatory Network. Serita Frey received a prestigious CAREER award from the National Science Foundation. Serita was awarded the Class of 1944 Professorship, a university-wide professorship that recognizes outstanding faculty members. Tom Lee received the College of Life Sciences and Agriculture Outstanding Teacher Award.

The milder weather has extended the fall season making outside wildlife, dendro, water, and soils labs a treat. Our University owned woodlands are a valuable classroom resource and are in our campus back yard. Please note “The College Woods Coalition” article on pages 4 and 5. Members of the Coalition are working with UNH administration to permanently protect and manage the College Woods and other UNH outdoor classrooms. Please consider the possibility of becoming a member of the Coalition. College Woods is only a ten-minute walk from indoor classrooms and the woods are a living library for continual education.

As always, we thank you for your continued support through alumni contributions that enhance our programs and make possible scholarships that help our students achieve their goals. Have a good year.

Faculty Update
Mimi Becker, Associate Professor of Natural Resources and Environmental Policy attended the Ninth Annual GLOBE Conference, 31 July-5 August 2005, Prague, Czech Republic celebrating “Ten Years Together.”

High School students from the Czech Republic parade around the Old Town Square in Prague at the opening ceremony. These students have come up through the GLOBE program and are doing some amazing things. The Prague Symphony Orchestra was playing during the parade and television crews were on hand for the event. Picture below is a view of St. Mikolas Church in Old Town Square. Mimi represented the UNH GLOBE LandCover Team and presented the paper entitled “Androscoggin County, Maine Land Cover Change Analysis: A Successful Collaboration, authors Russell Congalton, Mimi Becker, and Jennifer Bourgeault. The meetings were held at the Masarykova Conference Center.
Earlier in the summer, Mimi and John Coon, NRESS doctoral candidate attended the International Joint Commission’s Bienniel Meetings June 8-12 in Kingston, Ontario to hear progress reports for ecosystem recovery in the Great Lakes, and to engage with the Great Lakes scientific community leadership who developed the initial model for the ecosystem approach under the Great Lakes Water Quality Agreement to assess the results of a journey which has engaged thousands of Great Lakes Citizens and Scientists in working toward the lakes recovery between the mid-1970s and the present.

On June 8 Dave Burdick, Research Associate Professor, and a group of about 40 New Franklin School students gathered in the morning to plant about 1,100 mussels in the cord grass along the south edge of North Mill Pond in Portsmouth, NH. It’s something fourth-graders from the school have been doing for the past several years. Dave oversees the project along with Ann Smith, president of the North Mill Pond Advocates. Burdick and Smith had paid earlier visits to the school to familiarize the students both with the pond’s ecology and the role mussels play within it. Wednesday’s efforts were the culmination of this year’s project. The mussels will filter about 20,000 gallons of water, recycle pond nutrients and enhance the food supply for local amphibians and birds. During their visit to the pond on Wednesday, the New Franklin students learned to identify the grasses and plants growing along the shoreline. They also had a chance to see some of the wildlife the pond supports. (excerpt from the Portsmouth Herald, June 9, 2005)

Dr. John Carroll, Professor of Environmental Conservation writes, “What we eat, our choice of food, significantly determines our land use, as well as our energy use and our environmental quality. Our use of land and energy, our environmental quality, significantly determines the environmental questions, the natural resource questions, we face. If we don’t get our approach to what we put in our mouth right, we cannot resolve natural resource and environmental challenges. Eating is, indeed, our most direct impact on our environment, on our natural resources. The Wisdom of Small Farms and Local Food: Aldo Leopold’s Land Ethic and Sustainable Agriculture lays out a path as to how we in the land grant universities are to proceed.

Focusing on the land grant universities, particularly in New England and in Leopold’s own Midwest, their work in sustainable agriculture and their increasing attention to small-scale farming and local food, John Carroll’s The Wisdom of Small Farms and Local Foods provides a vision of where our public land grant universities might go, in research, in teaching, in outreach, inspired by the farmers who know best from their own experience, and providing vision and hope for many who want to play a role in increasing their own food security.

To order a copy of The Wisdom of Small Farms and Local Food: Aldo Leopold’s Land Ethic and Sustainable Agriculture, see page 14.

Serita Frey, Assistant Professor of Soil Microbial Ecology, received a National Science Foundation Faculty Early Career Development Award to integrate her research, teaching and outreach activities over the next five years. The research portion of this project will examine how soil warming and nitrogen deposition interact to influence microbial metabolism and soil carbon storage. An outreach program will be developed for the State of New Hampshire to provide accessible information to the general public on the goods and services that ecosystems provide and how global change may be altering the ability of ecosystems to sustainably provide these benefits. Dr. Frey is also collaborating on two research projects with Dr. Virginia Bouchard, a wetlands ecologist at Ohio State University. The first, funded by the U.S. Department of Agriculture, is evaluating how constructed wetlands of various ages compare to natural wetlands in terms of C and N cycling. Their second project, funded by the National Science Foundation, will examine how changes in wetland plant communities impact methane cycling.

Serita Frey and Scott Ollinger are part of a group of ecologists, physical scientists, and education specialists designing the National Ecological Observatory Network (NEON). NEON will be the first national ecological measurement and observation system designed to study continental-scale environmental questions, and to forecast how environmental change (e.g., global warming) and extreme events (e.g., drought) will impact the goods and services that ecosystems provide to society.

In response to grand challenges in ecology and the environmental sciences, the National Science Foundation (NSF) has proposed that Major Research
Equipment and Facilities Construction (NSF-MREFC) funds be used to implement a new and unprecedented research and education platform—NEON, the National Ecological Observatory Network. NEON is envisioned as “a continental scale research instrument consisting of geographically distributed infrastructure, networked via state-of-the-art communications. Cutting-edge lab and field instrumentation, site-based experimental infrastructure, natural history archive facilities and/or computational, analytical and modeling capabilities, linked via a computational network will comprise NEON. NEON will transform ecological research by enabling studies on major environmental challenges at regional to continental scales. Scientists and engineers will use NEON to conduct real-time ecological studies spanning all levels of biological organization and temporal and geographical scales. NSF disciplinary and multi-disciplinary programs will support NEON research projects and educational activities. Data from standard measurements made using NEON will be publicly available.”

Ted Howard, Professor of Forestry Economics Director, Center for International Education, was an observer at an international disaster training exercise in Chisinau, Moldova in late July. The exercise was run by the U.S. Army Corps of Engineers and involved delegations from Moldova, Romania, Ukraine, Turkey, and Azerbaijan. Over the last three years, UNH has been host to six delegations from former Soviet Block nations as part of a program organized by Dr. Howard to acquaint emergency management professionals from those countries with their counterparts in the U.S. and to illustrate how emergency planning and response works (or doesn’t) in an open society.

George Hurtt, Assistant Professor of Natural Resources and Earth, Oceans, & Space has been appointed as a “Contributing Faculty Member” in the Global Change Ecology section of Faculty of 1000 Biology. Faculty of 1000 is a new online research tool that highlights the most interesting papers in biology, based on the recommendations of over 1000 leading scientists. For more information, see http://www.facultyof1000.com/home/.

George’s abstract entitled, “The underpinnings of land use history: three centuries of global gridded land use transitions, wood harvest activity, and resulting secondary lands,” was selected as a platform presentation for the upcoming 6th International Carbon Dioxide Conference to be held in Boulder September 25-30. Of 375 submitted abstracts, 65 were selected for oral presentation. Fifteen of the 65 were selected as double length “platform” presentations.

Since 1981, the international community of carbon dioxide research scientists has held a Carbon Dioxide Conference every four years. The first meeting took place in Bern, Switzerland, called the “Bern Carbon Dioxide Symposium,” and focused primarily on atmospheric measurements of carbon dioxide and related species. The purpose of this conference is to bring together scientists from different disciplines to communicate the most recent results pertinent to the global carbon cycle, with an emphasis on the contemporary increase of atmospheric carbon dioxide.

In June 2005, Scott Ollinger, Assistant Professor of Natural Resources and Earth, Oceans, & Space, and his research crew conducted a field sampling campaign at the Wind River Experimental Forest in Washington. The primary objective was to sample foliage from a variety of tree species and forest communities in support of a NASA-funded project to study carbon cycling in forests. The work was timed to coincide with an overpass of a hyperspectral remote sensing called Hyperion, which is part of the Earth Observer-1 satellite. The samples will be analyzed for nutrient and pigment concentrations, which are useful for predicting forest growth rates. Wind River contains forest types ranging from young Douglas fir stands, growing in recent clear cuts, to undisturbed old-growth forests with 250 foot tall canopies. A unique feature of the site is a 280 foot tall construction crane that can hoist researchers up above the tree tops, giving them access to a 6.5 acre section of the forest canopy. Other sites the team plans to collect samples from are in Colorado, Indiana, Quebec and Vancouver Island.

cont’d page 14 Faculty Update
Permanent Protection for UNH Outdoor Classrooms

Every woodland or forest, in addition to yielding lumber, fuel, and posts, should provide those who frequent it a liberal education about nature. This crop of wisdom never fails but, unfortunately, is not always harvested.

--Aldo Leopold

The College Woods Coalition

College Woods: A Living Legacy for UNH
UNH students are lucky enough to be in touch with nature on a walking campus. College Woods is only a ten-minute walk from indoor classrooms. The woods provide a lovely, living library for continual education, recreation, and aesthetic and spiritual renewal. Other UNH lands, including the East and West Foss Farms and the Thompson Farm, also contribute to the excellence of natural classrooms at UNH.

Our Goal
The Coalition is an organization of stakeholders - a user group - that is working with UNH administration to permanently protect and manage College Woods and other UNH outdoor classrooms so that they can remain an integral part of the educational and recreational experience of UNH and the Durham community.

The Many Benefits of College Woods

Education and Extension - Hundreds of students use the campus woodlands for convenient outdoor classes in forestry, earth sciences, surveying, wildlife, kinesiology, biology, ROTC, and watershed ecology. Outreach, including extension, workshops, and public school education, is also important.

Recreation - Miles of heavily-used recreational trails weave through College Woods and other nearby UNH woodlands, supporting jogging, walking, cross country skiing, snowshoeing, birding, and, in some areas, trail biking. A trail for wheelchair use is being established.

Athletics - College Woods is regularly used for cross-country and orienteering competitions. These sports bring various groups such as scouts and homeschoolers to the UNH campus.

Research - Students use the woodlands for research projects every year, including undergraduate, graduate, and long-term environmental monitoring studies.

Watershed Protection - A 1-mile stretch of the Oyster River winds through College Woods, and provides drinking water for the University and Town.

Scenic Surroundings - College Woods provides an easily accessible “wilderness” area for the University of New Hampshire -- the refreshing, uplifting, and relaxing values of the College Woods are literally invaluable to all who experience them.

The new UNH Master Plan states “Significant natural assets surround the core.... These natural assets are a microcosm of the New England landscape, living laboratories for the University, and opportunities for community use.... They give the University an incredible asset that should be maintained as open space.” The College Woods Coalition supports this vision.

Did you Know That...?

Negatives
- The College Woods has been threatened in the past with a proposed road near the Natural Area and buildings near or in the woods.
- Much of the College Woods, including the lower part of the Oyster River Watershed, still is not permanently protected.
- Administrators come and go with some valuing woodlands more than others. Yet the woodlands don’t come and go. When they are gone, they are gone, gone, gone.

Positives
- We have administrators who greatly value the UNH woodlands. President Hart considers our woodlands a “wonderful resource” and Vice President Corvey refers to the College Woods and other large parcels of nearby open land as “truly a precious asset to the University and the region.”
- President Hart recommends pursuing a legal conservation Easement for the College Woods Natural Area.
- We will work as partners with administrators in protecting woodlands.

Development in any part of College Woods reduces its usefulness for teaching, research, wildlife habitat, skiing, biking, orienteering, running, and open space, as well as outreach to school groups and the general public.

Are you a user/lover of College Woods and other UNH Woodlands?

Join the College Woods Coalition in its efforts to obtain permanent legal protection for all of College Woods and recognition and support for the value of adjacent woodlands.
About the Coalition

Paul Bruns, former Chair of the Department of Forestry and Wildlife Management, believed that nearby woodlands are of unique value. Dr. Bruns was the driving force behind designation of the College Woods Natural Area. After his death, friends and family came together to recognize his contribution to College Woods and to continue his work. On May 12, 2003, the so-called “Bruns Group” installed a stone commemorating Dr. Bruns in the Natural Area. This group has evolved into the College Woods Coalition, a semi-independent organization working with the UNH College of the Sciences and Agriculture in order to seek permanent protection of College Woods. Founding members include:

Susan Bruns, Emery Booska, Harold Hacker, Tom Lee, Jim Barrett, Tony Federer, Pat Neff, Don Closey, Dick Weyrick

Where is College Woods?

The 290 acres of College Woods forms the southwestern part of the campus of the University of New Hampshire. It extends from Mill Road on the south to Rt. 153 on the north, and from the Entrepreneurial Campus on the east to the UNH Sawmill on the west. College Woods includes the Oyster River Reservoir, which is a drinking water supply for UNH and Durham. East and West Foss Farms and the Thompson Farm lie south of College Woods, forming a nearly unfragmented forest area of 220 acres adjacent to the UNH core campus.

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 at least $10 will be used for further outreach by the Coalition. If you provide your email address, we can keep you up-to-date on our progress and activities. Your address will be neither shared nor overused.

Please contact me about how I can help. Phone (            )___________

( ) Please do NOT use my name in any public list.

Name__________________________________________________________________________
Address________________________________________________________________________
Town_____________________________________________State___________ Zip____________
Email (optional)___________________________________________________________________

Check as appropriate:

_____Individual     _____  Organization     _____Department

Send this form and a check for $ _________($10 minimum) payable to “UNH” with “College Woods Coalition” in the memo line to:

Dr. James Barrett, Emeritus, Department of Natural Resources, 215 James Hall, 6 College Road, University of New Hampshire, Durham, NH 03824-3589.
Department of Natural Resources 2005
BBQ and Awards Ceremony

The following scholarships were awarded to grad and undergrad students at the 4 May 2005 Department Awards Ceremony.

Clark Stevens: Erinn Hamel, WL
Ruth E. Farrington: Robert Graves, TSAS; Ethan Pierce, For; Mary Dellenbaugh, For; Joseph Shannon, For; Joyce Quinn, For; Matthew Spinnler, For; Joanne Ducas, EC; Christopher Lalmond, EnvSci; Katelyn Dolan, EC
Lloyd W. Hawkensen: James Roney, EC
Cass Adams: Kate Randall, WL
Elizabeth Greene Award: Shannon Buckley, EC
Richard B. Johnston Award: Whitney Schwartz, EC
James J. DiStefano: Joshua Borgeson, WL
Class of 1974: Lori McIntosh, WL
College Woods: Abby Finamore, EC
Alumni Scholarship Award: Leonard Smock-Randall, EC; Margo Mosher, EC; Joanne Ducas, EC; Kevin Blacker, Soil; Chris McLean, WL

Outstanding Student Awards went to the following undergrads:

Soils: Amy Ladner
Environmental Conservation: James Roney
Wildlife: Christopher Habeck
Forestry: Matt Spinnler

Nancy Coutu Scholarship: Brianna Heath
Paul E.Bruns Memorial Award: Tom Fletcher, For

Faculty and Alumna Awards:

Teacher of the Year Award: Peter Pekins
Distinguished Alumni Award: Florence L. Reed (BS EC ’90)

A number of Department of Natural Resources Undergrad and Grad Students received prestigious awards over the past semester. Congratulations go to the following:


UNH Soil Judging Team Placed 4th in regional Competition in Wilmington, Ohio. The UNH Soil Judging Team competed against 43 students, 10 teams and 8 universities in the Northeast Regional Intercollegiate Soil Judging Competition. The four-member team of Amy Ladner, Dan Miller, Jay Malouin and Matt Trippel, overcame the elements to take 4th place. Amy Ladner placed 3rd in the individual competition, and Dan Miller placed 7th which contributed to the overall team standing. As a result of the standing, the UNH team competed in the 45th National Collegiate Soil Judging Competition at Auburn University in Auburn, Alabama. The competition took place April 7 & 8, 2005, and was attended by twenty-two collegiate teams. Even though the team did excellent in describing and interpreting the soils, it was Virginia Tech that took top honors, followed by Arizona and Rhode Island.

Chris Habeck (WL Sr.) was selected as this year’s recipient of the P.F. English Memorial Award at the 61st Annual Northeast Fish and Wildlife Conference in Virginia Beach. The conference was held April 17-20, 2005. The award recognizes outstanding student accomplishment in the area of wildlife in the northeastern U.S. and Atlantic Canada.

Garrett Barr (NRESS) won Best Oral Presentation at Graduate Research Day on April 6, 2005. The Graduate Research Day event was part of the Graduate Student Organization’s (GSO) Graduate and Professional Student Appreciation Week. Garrett also accepted an Assistant Professor position at King’s College in Pennsylvania for Fall 2005.

The UNH Forestry Club retained their title of Quiz Bowl Champions at the 2005 College Quiz Bowl on March 17, 2005. The Quiz Bowl was held at the New England Society of American Foresters annual meeting in Portland, Maine. The UNH team consisted of Jennifer Weimer and Tom Fletcher, both Forestry seniors in the Department of Natural Resources. They defeated their title against the University of Maine and Paul Smith’s.

Mary Dellenbaugh (For Sr.) was named “Student of the Year” at the Society of American Foresters Annual Meeting.

Heather Moulton (WL) received a SURF Abroad Fellowship for Summer, 2005, to work with Dr. Kim Babbitt on threatened Hochstetter’s frogs in New Zealand.

Joseph Shannon, (For Jr.) was awarded a UROP scholarship for research involving watershed vegetation species composition effect on stream chemistry at Bartlett Experimental Station. Joseph will work with Dr. Jacqueline Aitkenhead-Peterson and Dr. Mary Martin in the Fall 2005 semester.

Lindsey Scott (EC) received a SURF Fellowship to do an independent research project in Serita Frey’s lab over summer 2005.
“Spring Thing” then, 1966 ....and....now, 2004

In May 2004 we took some great photographs of NR 542, Forestland Measurement and Mapping, alias, Spring Thing, taught by Dick Weyrick. The course teaches elementary measuring equipment and techniques; preparation of maps; public land survey; and, court-house deed search. The two-week field session follows the end of Spring Semester. Neatly tucked away in the Department archives were pictures recording the 1966 Spring Thing. Also included is a picture from the Dimond Library “Special Collections.” If you have taken Spring Thing and have fond memories of that two-week session, please write us and send pictures if you have any in your UNH memorabilia.

1966

Ed Obdens (For ’67) and Dick Weyrick:
Steel tapes can be troublesome.

Gary Burns (L) (For’67) and Colen Sutherland (R) (For’67)

Preparing to set up on a station. Plane-table mapping is ideal for mapping a small area in great detail.

Plane-table mapping on Mendum’s Pond.

Planning the Survey in College Woods.

It can’t be that difficult.

Staff compass in College Woods.
Graduate Research

The Relationship Between Groundwater Quality and Land Use in the Lamprey River Watershed
Lauren Buyofsky
M.S. Natural Resources
Water Resources Management
Advisor: Dr. William McDowell

Water is one of our most basic and valuable natural resources. Clean drinking water is a necessity for human survival, yet there is still much to be learned regarding the influence that humans have on water resources and the way that the potential effects of human activities are manifested. While studies have shown that both agriculture and urban land use have the potential to introduce various contaminants into groundwater, relationships between the number of people or the level of development and groundwater quality in an area are not well understood.

The Lamprey River watershed, located in southeastern New Hampshire, is of particular interest because it encompasses both areas of relatively high human population density and development as well as areas that have minimal human influence. Over the course of the past year, I have collected groundwater samples from private wells located throughout fifteen sub-basins of the Lamprey River watershed. The variation between these fifteen areas will allow me to compare groundwater quality, as assessed by the levels of various contaminants, including nitrate, arsenic, lead, and uranium, to the level of urban development and to the population density within each sub-basin. Preliminary data shows that nitrate is positively correlated with both urban land use and population density, indicating that increased levels of human activity are contributing to high nitrate levels in groundwater.

This research also includes a broad outreach component. The owners of the private wells used in this study receive the water test results from their individual well along with a summary of the water quality within their sub-basin and the entire watershed. Furthermore, this research gives me the opportunity to hold informational sessions for the public sector and to speak to school and youth groups about the importance of preserving clean water in an everchanging landscape.

An Assessment of Soil Microbial Communities Among Natural and Created Wetlands in Ohio
Eric Saas
M.S. Natural Resources
Advisor: Dr. Serita Frey

My ongoing research is part of a coordinated effort among researchers from our department’s Soil Microbial Ecology lab and scientists at The Ohio State University. Our research addresses the implications of wetland mitigation, where wetlands are created anew in order to compensate for land developments which necessitate the destruction of existing wetlands. The project is designed to explore various functional components of human-created wetlands in order to compare created wetlands to a reference set of five naturally existing wetlands. The study sites are all located in central Ohio and include several created wetlands in each of three age classes: 0-5 years old, between 5 and 10 years old, between 10 and 20 years old.

My specific role in this project is to analyze and compare the microbial communities found in the soil organic layer of each wetland. Because it would be nearly impossible in my lifetime to culture and identify every bacterial strain which inhabits these soils, I am using a laboratory method that enables one to compare the functional eveness of the wetland microbial communities. The procedure is a bit like setting up a buffet for several groups of people and afterward making comparisons between the groups based upon which and how much of each kind of food was eaten. Each wetland soil is separated into a series of 25 vials, and then each vial is given a different carbon source typically utilized by soil microbes. After a four-hour incubation, we remove the headspace gas and analyze it for methane and carbon dioxide using a gas chromatograph. The catabolic eveness is determined in this way and is
used to compare the functional diversity of the wetland microbial communities in question.

In addition to my graduate research, I have also been selected to represent Natural Resources as a PROBE Fellow. This position is carried out in coordination with the Leitzel Center for Mathematics, Science and Engineering Education at UNH, and involves my becoming part of a local high-school science classroom. The teacher and I will work through the school year to improve the curriculum and foster inquiry in the classroom. I look forward to working with some bright young minds this fall and I hope to help engage students in exploring science.

Age and Age Structure of Purple Loosestrife, an Invasive Plant Species
Kim Therrien
M.S. Natural Resources
Environmental Conservation
Advisor: Dr. Tom Lee

The naturalization and continued expansion of exotic plant species, a process called invasion, may alter fire regimes, nutrient cycles, hydrology, and soil structure, and reduce biological biodiversity. Approximately 5,000 introduced plant species now exist in natural habitats in the United States, invading 700,000 hectares per year. Approximately 30% of the New England flora is exotic. Purple loosestrife is an exotic plant that invades wetland habitats and may outcompete and replace native species. Unfortunately, plant invasions are rarely studied in the early phase of development, so we know little about the conditions that existed during the initial invasion. Knowledge of population dynamics can provide insight about the mechanisms of invasion, including the role of disturbance, dispersal, or community structure. The ability to age individuals within a population may be a useful tool to identify the patterns and processes controlling the invasion. The population dynamics of herbaceous plants have not been well studied.

To provide insight to the process of invasion, I am investigating the age structure (number of plants in different age classes) of purple loosestrife populations. Four sites in the seacoast area were selected to test a method to age purple loosestrife by studying the pattern of stem growth. My hypothesis is that each loosestrife plant produces one new rank of basal stems per year and I have tested this idea by tagging a sample of living stems at each site and monitoring them for one year. If the hypothesis is correct, I will use the growth pattern to estimate the age of the purple loosestrife individuals and the age structure of natural populations. Herbivory or stem damage may complicate the method of aging by releasing lateral buds and producing additional stems in the same year. A stem clipping experiment was used to test the effect of herbivory or stem damage on the plant’s production of additional stems, and initial results suggest that, in general, stem damage does not affect the annual pattern of stem production.

This summer I will determine the origin of this year’s stems on last year’s tagged stems and then excavate the entire plant for age structure analysis. The age structure of a population may provide insight to the history of the invasion, perhaps associating invasion with a particular human disturbance, and may allow me to determine if the population is increasing or on the decline. The ability to predict future population structure may be a useful tool for developing more efficient management and to assess the long-term environmental impact of the invasion.

Seven Universities and 40 contestants from as far away as Ohio participated in the Regional Soil Judging Competition hosted by the University of New Hampshire. Ten Teams of 3 or 4 students examined and described soil features as well as determined soil behavior under different kinds of land use. The students evaluated different soil types throughout the New Hampshire seacoast region. On Friday, October 14, the students participated in the individual competition. On Saturday, October 15, the students competed as a team. The top 3 schools were invited to participate in the National Soil Judging Competition to be held in San Louis Obispo, California in April of 2006. First place went to Ohio State, 2nd place the University of Maryland, and third place the University of Rhode Island. Congratulations!
Alumni News

1941

William Jahoda (For) writes that their 450+ acre Johnson Memorial Forest, in Pittsburg, New Hampshire, the first Forest Legacy parcel in New Hampshire (since April 26, 1996) has been honored by being the “poster boy” for a 20-state push by the Forest Service to encourage landowners to put their land into the Forest Legacy program. For details, get in touch with Dr. Roger Monthey at the Louis C. Wyman Forest Sciences Laboratory, 271 Mast Road, Durham, New Hampshire.

Bill married the sister of one of his brother forestry 1941 students, Bill Johnson, and their 450+ acre Johnson Memorial Forest was named for their parents.

From the Editor: In answer to your question about your classmate, James Barrett, from the class of 1941, Dr. Barrett (from the Dept. of Natural Resources)saw the picture in the Fall 2003 Tally Sheet and, to his knowledge, he isn’t a relative. Good luck in tracking him down.

1959

John E. “Jack” Sargent (For), ('86 MPA) on December 31, 1996, retired from the New Hampshire Division of Forests and Lands after 37+ years. He served as the Director of the Division for eleven years and enjoyed every day of his work at every level of employment. He states “Forestry is a very rewarding career!”

Jack’s wife, Rita, and he retired to Florida in early ’97 first as campers in various campgrounds and then to a home that they purchased in November 1999 in North Port, Florida. They stay busy at numerous activities in their community, and spend June to September in their RV at their daughter’s home in Center Barnstead, NH. Jack has met a number of UNH alumni at events in Florida, however no forestry grads. The former State Foresters of Iowa and Massachusetts live in North Port, also.

1965

David Eastman (For) writes, “I continue my weekly column in the MountainEar newspaper in the Conway’s, also my radio show of the same name: “COUNTRY ECOLOGY: over WMWV-fm about birdlife and native NH forage shrubs and trees. I also lecture on Bluebirds and cavity nesters at AMC and other appearances; spoke at the annual meeting of the Squam Lakes Conservation Society in August on the wildlife forage shrubs that grace the shoreline of NH’s most beautiful lake. My book, OUTLAWS IN VIETNAM, is being very productive for reconnecting helicopter crewmembers from Vinh Long in the Mekong Delta, after 36 years!

My son, Dave, is completing two master’s degrees at Johns Hopkins. He has already been in Afghanistan twice, including 9-11 and escaping that country then! Before that he was in the Peace Corps in Kazikstan; he likes the Mid East and wants to work in world health there! He will visit occasionally when he is not globe trotting with his future wife from northern Italy. She has a Ph.D. in Math from Carnegie Tech and guides firms with financial management needs.

I see UNH’ers from my generation at home football games. I will be speaking to Tim Churchard’s class on motivation in the Spring. The early sixties were still the best time on campus, in my opinion. Bob Walther ’75 is retired from the FBI, now, and I work with Peter Randall ’63 in publishing work. I will miss Pat Neff and Dick Weyrick, both of whom I have been in contact with while managing UNH’s Five Finger Point and West Rattle-snake Mtn. Snipping and pruning, chain-sawing deadfalls, and digging out the water bars on the Old Bridle Path keeping in good stead with the Squam Lakes Association. And, I will miss the Paul Bunyan pine; I still remember Dr. Clark Stevens first showing us that grand old tree my freshman fall. I was there with my butterfly net when they dedicated the Natural Area, Spring of 1962.”
Chris Holmes (For) retired in December after 34 years with the USDA Forest Service. For the past 19 years Chris provided public service in the Washington Office on three different staffs and deputy areas under 5 Chiefs. He recently worked with the Ecosystem Management Coordination Staff where he leaves behind three others from UNH to carry on. Chris continues to engage in his profession as President of the Maryland Forests Association while planning a variety of RV tours of various parts of North America over the coming years.

Joseph Carbone (For ’78) sent the above write up. He worked with Chris for the past seven years in Washington, D.C. and they enjoyed swapping many stories of New England and UNH.

Alumni Sighting – Dick Weyrick encountered Mark Phillips (For ’71) on a Conservation Commission site walk on August 11. Mark lives in Newington, NH.

Michael Koterba (Hydrology) went to Mexico, and worked for five years for the Mexican Resource Assessment; then the University of Arizona, Tucson, AZ and received his Ph.D. in Hydrology/Watershed Management; then five years at the Pacific Rim out of Hawaii US AID type projects; then USGS in Baltimore, Maryland NAWQA (National Water-Quality Assessment Program) as a certified hydrologist. Michael’s eldest son attended the University of Maryland, Silver Spring as a computer science engineer major and is now attending Johns Hopkins APG. His youngest son is attending the University of North Carolina, Chapel Hill.

Hubert Karreman (Soil) is now in his 10th year as a dairy practitioner in Lancaster County, PA. He is very involved with organic dairy farms nationally and the natural treatments that are allowed for USDA Certified Organic livestock. He writes, “I have just published a book, “Treating Dairy Cows Naturally: Thoughts and Strategies” (Paradis Publications, Paradise, PA 2004, 267 pgs. Hardcover). I have been invited to speak at many events that focus on organic dairy cow health, most recently in California, Vermont, New York, Minnesota, Massachusetts, even an invitation now to Denmark. My colleagues in the European Union are very interested in how certified organic cows are treated here in the U.S. since we cannot use antibiotics and hormones. By the time this is printed, I will have also been a participant at a UNH event, “Antibiotics in Animal Agriculture and your Health” sponsored by the UNH Office of Sustainability Programs and the Union of Concerned Scientists. My talk will be “Alternative Livestock Production Systems,” focusing on grazing, organic production and complementary and alternative veterinary medicine (CAVM).

My wife, Becky, and I enjoy living in a quiet part of the county and often hear more horse and buggies going by than motor vehicles. We laugh a lot while enjoying our daughter, Emily, who will be two in October. She’s high energy and always on the go and never likes to be asleep – she’ll miss something!”

Florence Reed (EC) received the Distinguished Alumna award at the Department of Natural Resources Award’s Barbeque May 4, 2005 for her outstanding work as Executive Director of Sustainable Harvest International. Florence launched Sustainable Harvest International in 1997. It is, as far as she knows, the only organization in the world providing long-term technical assistance to rural families in the tropics, offering them alternatives to slash-and-burn agriculture. Farmers in Central America working with Sustainable Harvest learn a number of sustainable techniques—including crop rotation, erosion control and pest management—that help them farm the same land year after year without depleting the soil. They also learn to plant agro-forestry plots, fields that mimic a natural forest with an overstory of hardwood trees high above plants like bananas, coffee and ginger, all of which thrive in the shade. This method brings with it an economic benefit, too: If the market value of one crop drops, as has been the case with coffee in recent years, other crops can help make up for the lost income. In
eight years, SHI has helped more than 746 families in 76 communities convert more than 3,000 acres to sustainable agriculture. You can read more about SHI by visiting their website http://www.sustainableharvest.org/.

excerpts from the Spring 2005 “New Hampshire Magazine”

1994

Lieutenant Dan Somma (EC) is serving his seventh year of active duty in the United States Coast Guard. Dan is currently assigned to the Port of New York, where he boards oil tankers, barges and passenger vessels for environmental compliance and safety. He was previously assigned to the Port of Seattle in a range of positions, including marine environmental response, hazardous material response, cargo inspection, and passenger terminal security. He received the US Customs Best Practice Award (2002) and the US Coast Guard Commendation Medal (2002) for these efforts after the 9/11 tragedy.

Prior to joining the Coast Guard, Dan spent two years teaching environmental education at the Newfound Harbor Marine Institute, Big Pine Key, FL and at Catalina Island Marine Institute, CA. He spent six months at Scripps Institute of Oceanography, La Jolla, CA using SCUBA to study larval sea urchin recruitment. He went on to spend a year with Foster Wheeler Environmental Corp working on total environmental restoration contracts (TERCs) in contaminated areas in Connecticut and Cape Cod, MA.

Dan received an M.S. in Transportation Management from SUNY Maritime College (2005). He is certified by the Association of Ship Brokers and Agents in ship chartering.

1996

Ed Sharron (EC) is proprietor of Moss Glen Naturalist (MGN) an environmental education service where he travels to a mountain, forest, classroom, lecture hall, or other facility of a group’s choosing and delivers environmental education programs on topics such as global warming, wildlife tracking and ID, Bird ID, Abenaki culture and history, lead hikes, and more. You can contact Ed at naturalist@mossglenphoto.com

1997

Trevor Croteau (WL) is Sergeant with the Cheshire County Sheriff’s Office in Keene, NH. In the “off time” he manages the family’s 150 acres which include forest and wetlands and haying fields. He sees a variety of wildlife and has a pair of Pileated woodpeckers on the property. Trevor married Ranee’ on 5 October 2002 and their daughter, Kimberly, was born 11 October 2004. Trevor and his family live in Winchester, New Hampshire.

1998

Dan Gardoqui (M.S. EC) is the founder (1999) and Executive Director of White Pine Programs, a non-profit organization that offers nature-based learning opportunities for folks of all ages. He also teaches Natural History and Winter Ecology at the College for Lifelong Learning. White Pine offers internships for college students. We’ve had wildlife, EC, and Outdoor Education majors take part in this program. You can contact Dan at dan@whitepineprograms.org

Dan is the proud dad of Jay, who will be two years old in May and he is celebrating 10 years with his exceptional wife, Kate!

Amy Manzelli (EC) recently received her juris doctor and master’s in environmental law at Vermont Law School. She had a great academic experience at VLS with some wonderful internships in criminal and environmental law, excellent professors, and momentous volunteer opportunities. Amy’s husband, Chad, started a new job at UNH. He’s the design engineer in charge of building a humungous buoy that will float over aquaculture cages and dispense food to the growing fish. He is happy to finally break into the ocean engineering field. Amy and Chad live in Rochester, New Hampshire.

Laura Morton (Soil B.S.) (1995, M.S.) transferred from the Public Affairs person for the New Hampshire Natural Resources Conservation Service in Durham, NH to the USDA-sponsored Executive Director for a local nonprofit in the Tampa Bay, Florida area. She is currently implementing a grant program for farmers to hook up to the reclaimed water distribution system the county is building. She says that water is a huge issue. Laura is also developing the Sustainable Community Agriculture Initiative and is doing the management plan for a new community farm. Sustainability is just getting started down there.
1999

**Jonathan Szalewicz (For)** was recently announced as the Appalachian Mountain Club’s new Regional Trails Coordinator working in the Berkshires and Connecticut. Jon first worked with AMC as a Berkshires Volunteer Trail Crew Leader in 2002, and later went on to be an AMC Backcountry Caretaker. Rounding out his northeast mountain club circuit, he has been a caretaker/summit steward and Lead Caretaker on Mt. Mansfield for the Green Mountain Club, and recently worked as Fall Trail Crew and Caretaker for the Randolph Mountain Club. Jon also brings new diversity to AMC’s trail construction skills, having spent a recent winter on the Haleakala National Park Trail Crew in Maui doing projects that included bridge and staircase work. Jon’s skills will be put to good use running the Berkshires Volunteer Trail Crew, the Ridgerunner Program, and working with AMC Chapters to fulfill their management responsibilities on the Appalachian Trail in Connecticut and Massachusetts.

2001

**Adam Block (EC)** after completing a Masters degree at the University of Michigan, School of Natural Resources and Environment in May 2004, accepted a position in the Maryland Governor’s Policy Fellows program to work in State government. He has been assigned to the Department of Natural Resources’ Rural Legacy Program, which works to protect rural lands through conservation easements and fee simple acquisition. Adam will be working on designing an easement monitoring program and developing forest management policy on State-held conservation easements.

**Brendan Kelly (M.S. For)** is a Forester with NYS Division of Lands and Forests and loves it. Working with local land trust, TNC, the Division of Lands and Forests, a citizens’ group, and another state authority, he recently put together a local forestland holders’ guide. He enjoyed working with the different groups and seeing the project come together for a nice 2004 publication. Last summer Brendan visited UNH Horticultural Farm, the woods at Kingman Farm with some of his old friends from the Madbury Fire Department, walked the skid trails at Mendum’s Pond and checked on the trail maintenance at Foss Farm and College Woods. These were areas he used to maintain when he was Woodland’s Manager in the Department of Natural Resources.

2002

**David Bryant (Natural Resources PhD)** recently returned from the West Antarctic Peninsula (WAP) where he has been studying the effects of global change on tundra communities. David spent six months at Palmer Station during the austral summer 2004-05 as part of a research team from Arizona State University.

Antarctica is currently 98% covered by ice. Annual mean air temperature on the WAP has risen more than 5 degrees C in the last 50 years causing glaciers to recede at nearly 30 m per year, exposing barren granite rubble and glacial silt. Plant colonization of these substrates has been extremely rapid, often supporting new populations of moss and Antarctic hair-grass (*Deschampsia antarctica*) within 3-5 years. Soil nutrients in recently exposed substrate are very low, but seabirds, seals and sea lions transport large amounts of concentrated nutrients on land during their breeding and nesting seasons. Increasing temperature, precipitation and ample nutrients suggest that the tundra will rapidly expand as glaciers recede. However, penguin populations and other seabirds are declining while seals and sea lions are increasing. David’s future research will focus on the nutrient connection between the population dynamics of sea animals and development of the WAP tundra ecosystem.

Currently David has returned to UNH to improve his teaching skills in the Environmental Education program but plans to return to Palmer Station often in the future.
Kate Nicholas (EC) married Walid Hamzi (MS Geology 2003) June, 2005 in Costa Rica and they live in Silverthorne, CO.

Matt Craig (M.S. EC) is Technical Program Coordinator for the Casco Bay Estuary Project, Muskie School of Public Service at the University of Southern Maine in Portland, Maine.

Chris Habeck (WL) was accepted to the Master’s Program in the Zoology Department at the University of Wisconsin-Madison. His research, under Dr. Rick Lindroth, will be “The Effects of Global Atmospheric Change on Terrestrial Ecosystems” at the Free-Air Carbon Dioxide Enrichment Facility in Rhinelander, Wisconsin.

cont’d from pg 3 Faculty Update

Andy Rosenberg, Professor of Natural Resources Policy and Management traveled to Washington DC this summer for a meeting of the National Academy of Sciences review committee on the ecosystem effects of fishing. His travels continued to Brussels to brief EU Commissioners on Long-term Management of the North Sea; to Halifax Nova Scotia to give the Elizabeth Mann Borgese Lecture in Ocean Policy at Dalhousie University; and, to Scripps Institution of Oceanography to give invited lectures on environmental policy in their IGERT course on marine conservation. In August, Andy traveled to Alaska as a member of the National Scientific Committee for the Census of Marine Life.

Fred Short, Research Professor of Natural Resources and Marine Science was elected to serve as Program Chair of the Natural Resources & Earth Systems Science Ph.D. Program (NRESS).

Fred and graduate students Jeff Gaeckle (NRESS Ph.D.), David Rivers (NR M.S.), and Caroline Ochieng (NRESS Ph.D.) attended Seagrass 2004, an international gathering of about 250 seagrass scientists held in Townsville, Australia in September, 2004. All presented papers and had a chance to interact with scientists from around the world.

David received the conference award for best student presentation at Seagrass 2004 for work he’s been doing on eelgrass–Canada goose interactions in the Great Bay Estuary. Caroline and Jeff also presented excellent papers on their dissertation research. Fred was voted president of the World Seagrass Association, an organization of scientists that promotes seagrass science and awareness worldwide.

Steve Jones, Research Associate Professor of Natural Resources and Marine Science, is Director of UNH Center for Marine Biology. Steve received a “Gulf of Maine Visionary” award in December, 2005.
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Looping Through the College Woods --
Through Space and Time

In the fall of 1962, Paul Bruns, then the Chair of the Forestry Department, took me on a loop through the UNH College Woods. That walk remains vivid in my mind, for I fell in love with the New England woods. I felt kinship to the harmony all about me.

The College Woods is a place for all seasons. They are eternally beautiful -- on a clear, crisp day in winter; a colorful or damp, foggy day in the spring or fall; or a hot day in summer. It’s amazing how an apparently dreary day can be transformed to a delightful one with only a few steps into the woods. I’ve taken some of my most attractive pictures on damp, foggy days.

I enjoy walks with equal beauty in the woods by Great Bay, by the seashore along the Marginal Way in Maine, or along the Swift River in the White Mountains. But the College Woods is my nearby companion where I can saunter almost every day.

In my loops through the College Woods, I vary the trails I take. Often I pass the sign where in the spring of 1962, under the leadership of Paul Bruns and others, the heart of the College Woods was established as a 64-acre Natural Area. Sometimes I stop by the nearby Paul Bunyon snag, which, until a couple of years ago, was a giant white pine that dominated the landscape for centuries.

A variety of trails through scattered large white pines, hemlocks, beeches, ferns, and moss-covered boulders take me to the Oyster River. I dwell on the bridge, musing and sometimes meditating. Water ripples over boulders, birds tweet, and occasionally an owl hoots. Sometimes I saunter west up trails by the river, but eventually loop back east to my starting point.

How many thousands of times have I soothed my heart and soul by looping through these lovely woods? At the completion of each loop, I’m a tad older than when I began. Actually, with each step in the woods I grow older. Since they are so small, we hardly notice the tiny increments in time during our everyday lives. But, tiny though they are, it eventually dawns on us how they add up.

Now, later, with gray hair, I still loop through the woods that I discovered so many years ago. As I continue to move through time and space I bask myself in beauty -- eternal beauty.

James Barrett ~ August 4, 2005