



# CNR NEWS

*WSSI's rooftop bursts into bloom in the spring.*

## Wetlands Company Advances CNR's Capital Region Program AND Green Entrepreneurship

COLLEGE OF NATURAL RESOURCES  
 Virginia Polytechnic Institute and State University



*WSSI is a role model company for other environmental firms. Mike Rolband moved his wetland business in Northern Virginia to Gainesville, Va. a couple of years ago.*

How can a group of scientists, archeologists, engineers, and surveyors in muddy boots help a business' bottom line? Well, an innovative entrepreneur in Northern Virginia has been taking carefully planned business risks not only to be a role model himself but to green up developers in one of the nation's fastest growing areas, Northern Virginia.

Michael Rolband has carved out a niche for himself in growing a company to assist developers and governments in the permitting processes for wetlands, streams, natural and cultural resources affected by projects. His work is even resulting in state regulation changes that make it better for everyone.

In May his company, Wetlands Studies and Solutions Inc.(WSSI) of Gainesville, Va., co-hosted a low impact development (LID) demonstration day with the Potomac Watershed Roundtable, Virginia Tech's College of Natural Resources, and Virginia Tech's Department of Biological Systems Engineering and the School of Landscape Architecture.

"Stormwater runoff is one of the most critical challenges facing developers not only in Northern Virginia but everywhere," Rolband emphasized. So he has been partnering with the Potomac Watershed Roundtable to devise better solutions for developers and city planners. Bob Slusser, field coordinator for the watershed with the Virginia Department of Conservation and Recreation and a recent CNR graduate and current employee, worked diligently to put together the May program that more than 100 government officials and developers attended at Rolband's headquarters.

Slusser explained, "The headquarters for Wetlands Studies and Solutions, Inc., is the first Leadership in Environmental and Energy Design (LEED) Gold Certified building in Virginia. So after our program lectures about the issues involved with stormwater runoff and wetlands, we went outside to view the various systems that WSSI had put into place to mitigate stormwater runoff." Rolband, who was actively involved in every phase of the design and construction of his building, showed off the rain gardens, his green flowering rooftop, swales, pervious surfaces in the parking area, and other Low Impact Development (LID) features.

Developers and city planners are not the only beneficiaries of WSSI's stewardship. The college also benefits. In developing the National Capital Region's masters program in natural resources, director David Trauger has continued CNR's long tradition of partnerships with industry to expand its educational program and give students wider experience than just the classroom and book learning. "WSSI," he noted, "is a key partner with us and greatly leverages our course offerings."

The corporation ranked fifth in volume of environmental business in the National Capital Region in 2006 and is a recognized leader in the environmental consulting field. Trauger said, "Rolband has a keen interest in local natural resources, is influential in the environmental community, and has made many substantial contributions to our Natural Resources Program and the college."

He added, "Rolband has been generous in providing staff and other resources from his corporation to assist in the successful implementation of Virginia Tech's Natural Resources Program at both the Falls Church and Alexandria campus locations." Laura Giese, a wetland scientist and graduate of the college on Rolband's staff, teaches the college's wetlands ecology and policy course. In addition, Rolband has often given his valuable time to present lectures and lead field trips for the wetlands course and the Natural Resources Graduate Seminar.

"Rolband's firm provides exciting employment opportunities for graduates in wetland delineation, permitting, and creation, and the coordination of threatened and endangered species," Trauger said. He gives students opportunities to work on historic and archaeological sites with various governing agencies, as well as offers paid internships to undergraduates and graduate students of the college. Several current graduate students are Rolband's employees, who also receive his financial support for their studies in the Natural Resources Program.

"In addition to Rolband's contributions to the college, his environmental ethic and sustainability commitment is demonstrated by the fact that he has been especially supportive of the LID initiatives by Bob Slusser in his duties with the state and at our Capital Region Program."



*On both ends of WSSI's rooftop gardens are picnic and sitting areas for employees to enjoy.*



*Tess Wynn of Virginia Tech's biological systems engineer department and Mike Rolband (WSSI) demonstrate the effectiveness of the geogrid pervious parking area with Virginia Tech's rain simulator operating at four inches per hour rate.*



*Woodrow, one of the owner's dogs, measures the depth of water in the swale during the demonstration*



The time that has elapsed since the tragic events in West AJ and Norris Hall has helped to soften the edges of our continuing pain. As our world turned upside down we were greatly buoyed by the tremendous outpouring of support we received at both the college and university level in the form of literally thousands of emails, phone calls, letters, remembrances, and gifts from friends and strangers alike. These were a source of great comfort to those of us here on campus. Certainly our hearts continue to go out to those who lost loved ones, as well as those who continue to recover in both body and spirit. We thank everyone for the support provided in so many ways.

In today's world an event of this sort can occur anywhere, but it is particularly traumatic that it happened right here on our campus, a place we all know and love. A place we all thought was safe from events of such magnitude. As I travel about the Commonwealth and beyond, one of the most frequently asked questions is "have things begun to return to normal yet?" While we are doing much to get back on our feet, my honest answer has to be no. I am not sure that we will ever return to normal as we knew it. Instead, I think it is fair to say that we are adapting to our new reality, one in which we have lost our innocence. Having said that, I want to be quick to reiterate that those things that made this a great university prior to mid-April are still here and have been strengthened by the individual and collective resolve that has come out of this experience. And while there are many things that one could point to as evidence of this, none was more prominent than our students. Throughout this event and in the days to follow our students were poised and well spoken and even more important they were supportive of each other and the greater university community. This strength was not lost on those who observed us from a distance and it is the one aspect of this tragedy that has been commented on by everyone that I have spoken with in its aftermath.

The university graduation ceremony and college commencement provided us with an important step in our long-term recovery process as we celebrated the completion of a total 110 graduate and undergraduate degrees. We wish these new graduates the best as they begin their careers or continue their education. The college will also look forward to the arrival this fall of four new faculty members working in the areas of remote sensing applications, forest management extension, and wildlife disease. These are all new positions within the



Dean Kelly receives the first scholarship awarded by the CNR Alumni Board. The Board sponsored the first Wildbird Bingo fundraiser in the Fall 2006 and will continue its fundraising to award scholarships in the future to CNR students.

college and reflect the continued expansion of our college in important growth areas. This fall will also witness the formal initiation of our new interdepartmental doctoral program in geospatial and environmental analysis. Not only has the university provided funding for additional faculty positions to support this new program, it has also provided 10 doctoral assistantships to assist in the initiation of this new and exciting graduate offering. We also anticipate another strong year of external support for our research efforts. So as we begin another academic year we have much to be thankful for, as well as a renewed commitment to be the best we can be in our learning, discovery, and engagement activities.

*J. M. Kelly*



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## College Recognizes Friend



Ross and Nancy Parsons, CNR development director.

Dean Mike Kelly presented William O. Ross with the Friend of the College Award at the 42nd Annual Honors Banquet. While presenting the award, Dean Kelly stated, "William Ross truly exemplifies friend of the college," as he honored Ross for his generous contributions put towards the advancement and programs of the College of Natural Resources.

After graduating from the University of Tennessee with a degree in geology, Ross was employed by the U.S. Geological Survey, where he was on the research staff for the Smithsonian Institution's National Museum of Natural History. Before fully retiring, Ross was an inspector and consultant for VDOT.

He became interested in the college through the landowner tours and seminars sponsored by the

Virginia Tech forestry Extension staff. In managing his property in Culpeper, Va., Ross became acquainted with Virginia Tech faculty and staff. After meeting Virginia Tech's Extension team, Ross grew increasingly involved in supporting the college.

Ross generously provides a scholarship endowment that supports two to four undergraduate students per year. The scholarship is awarded to students with an interest in contributing to the field of natural resources. On top of the donation, he has named the college as co-beneficiary of an annuity to facilitate the advancement of the college's programs. Along with the scholarship and annuity, Ross is currently in the process of donating land to the college to support a graduate fellowship for students interested in Extension forestry.

**NEWS NEWS, SEND US YOUR NEWS** Please let us know what is happening in your life so we can include the news in our next college newsmagazine. Send your information to Crystal Beach at [cbeach@vt.edu](mailto:cbeach@vt.edu); or 324 Cheatham Hall, Blacksburg VA 24061. Thanks. We would love to hear from you. Send it NOW while you are thinking of it!





Alex Miller and former Governor Mark Warner at the Envirofusion kickoff.

## CNR Celebrates Earth Week Envirofusion

You've heard of Earth Day, which fell on April 22, but not many people know about Earth Week. It was held

at Virginia Tech, April 13-20. Centered around the theme, "Envirofusion," the event was sponsored by students from all the colleges.

The goal of Earth Week was to "bring together professionals, educators, and students in order to increase public eco-awareness," said project head Alexander Miller, a recent fisheries graduate, now a research assistant studying environmental and natural resource economics.

The week featured a number of guest speakers from many fields including architecture, energy, and public policy. The most notable speaker of the week was former Governor Mark Warner, who spoke at The Inn at Virginia Tech to kick off the week. Other notable events included a town hall meeting at the Lyric Theater, an exhibit by the non-profit organization Rhizome Collective; a global video conference with people from Latin America, Europe, and Africa; and a week-long design competition sponsored by C2C Home. The competition selected the design that best reached the goal of meeting the new standards of sustainability, and the design will lead to actual construction.

## New Geospatial Ph.D. Program First In U.S.



Ph.D. candidate Dave Kramer studied the influence of landscape characteristics on mercury levels and its impact on bald eagle populations. He says, "I have been very happy with the program thus far. The faculty is great, and I have been very impressed with the flexibility of the program. That flexibility has allowed me to merge my interests in geospatial technologies with my interests in wildlife toxicology."

The college began offering a new interdisciplinary Ph.D. program in geospatial and environmental analysis in fall of 2006 that combines geospatial research with environmental analysis using Geographic Information Systems (GIS), the Global Positioning System (GPS), remote sensing, and imagery analysis to study complex interactions among people, non-human biota, and environmental conditions. The combination of geospatial and environmental analysis uniquely enhances research in natural resource management and other contemporary environmental issues.

Students in the program address the need for sustainable management and conservation of natural

resources. They study globalization and its effects on the economy and environment; ecology; and human-wildlife interactions. The challenges created by increased consumption of resources have caused a shift towards sustainable resource management. Consequently, the geospatial industry is one of the fastest growing fields in the U.S. The program currently offers nine assistantships and should grow over the next few years.

The program is administered by the Geospatial Program Committee, which is composed of five members from the college who are selected by the dean, Mike Kelly. The Geospatial Program Committee is chaired by Larry Grossman, and also includes James Campbell (geography), Stephen Prisley (forestry), Randolph Wynne (forestry), and Brian Murphy (fisheries and wildlife sciences). The program also involves the wood science and forest products department, as well as departments in other colleges, including crop and soil environmental science, civil and environmental engineering, and biological systems engineering.

## Tree Seedlings Planted Across The Commonwealth



At commencement the CNR graduating class planted its traditional tree, this year a cherry bark oak, the official Jamestown Anniversary tree, which was included in some of the seedlings distributed across the state.

In commemoration of Jamestown's 400th anniversary, the college and the Virginia Cooperative Extension partnered with the Virginia Department of Forestry (DOF) along with the Virginia Museum of Natural History in order to get 11,000 tree seedlings planted across the Commonwealth. Forestry was an early industry for the colonists and has been important to the state ever since.

DOF's Augusta Forestry Center, which grew the seedlings, sent out bundles of 100 to each Virginia Cooperative Extension Office in the state, where the 4-H clubs handled the free distribution to citizens on Arbor Day, Friday, April 27. The college's forestry department paid for the shipping costs, and along with DOF and 4-H helped prepare a planting guide and information sheet that was given out with each seedling.

Harold Burkhart, forestry department head, said, "It was natural to think about giving seedlings to citizens. At maturity, these trees will provide over 200 acres of canopy cover, which will shade buildings, intercept precipitation and help absorb storm water, provide wildlife habitat, and purify the air. That is a legacy."

## On Sabbatical, State Climatologist At Virginia Tech

David Trauger, director of the college's Northern Capital Region program, brought onto his faculty this year the widely published Patrick Michaels. According to Nature magazine, he is one of the most popular lecturers in the nation on the subject of global warming.

Michaels, visiting professor and Senior Fellow at the Cato Institute, was on sabbatical leave until June from the University of Virginia. Michaels, who also serves as the state's climatologist, taught a class about the interface between science and environmental policy, and assisted with and chaired some graduate committees.

"In addition to teaching and advising responsibilities, Michaels assisted with a proposal development for an undergraduate major in Meteorology to be offered by our Geography Department in the College of Natural Resources," said Trauger.

"Throughout my long career at UVA, I have often wondered if an application-oriented scientist like myself might find Virginia Tech an appropriate atmosphere," Michaels said. "I believe I found that to be true."



Patrick Michaels



## New River Valley Takes Cover

Athletes, rock stars, and Hollywood celebrities are frequently featured on the covers of nearly every imaginable magazine. Now, several Virginia Tech students may consider themselves part of the magazine-cover club.

Fisheries Magazine, published by the American Fisheries Society, is a monthly trade journal that goes out to about 10,000 American Fisheries Society members. In January 2007, the New River Valley Naturalist Chapter made the cover. They were working to educate stakeholders about the value and complexity of river ecosystems.

Paul Angermeier wrote the article, which featured the NRV Naturalist Chapter. Among the members of the chapter are a Virginia Tech undergraduate student and at least one graduate student. Angermeier's article was titled "The Role of Fish Biologists in Helping Society Build Ecological Sustainability." It explains how unsustainable use of ecosystems causes aquatic biodiversity and ecosystem services to be damaged and how fish biologists can help prevent this by encouraging conservation education.



*David Garst, Virginia Tech grad student, lecturing his peers about reptiles and amphibians.*



*Erica Baugh, Virginia Tech undergraduate, studying cells under a microscope.*

## Roethle Showcased For WoodLINKS Recruiting

CNR student Daniel Roethle found something in high school that he loved to work with — wood. Now that work has won him an award and made him the showcase student for Virginia Tech's recruiting strategy for WoodLINKS school programs. The WoodLINKS program is designed to teach high school students the knowledge and skills required for a career in wood manufacturing.

Roethle constructed an unusually designed rocking chair for the WoodLINKS program at Hartford High School, and he and his chair design will be showcased to nearly 100 WoodLINKS school programs across 18 states. The WoodLINKS-Wood Science recruiting poster featuring Roethle and his chair will be used to recruit other WoodLINKS students to consider Virginia Tech as one of their prospective college choices. Roethle was also selected as the student of the month in January by Wood Digest Magazine.



*Roethle's unusual rocking chair.*

## 42ND ANNUAL HONORS BANQUET

### Alumni Award for Outstanding Scholarship

Department of Fisheries and Wildlife Sciences  
*Katharine L. Sanford*

Department of Forestry  
*Salli F. Johnson*

Department of Geography  
*Melinda K. Butterworth*

Department of Wood Science and Forest Products  
*Jonathan E. Frey*

College of Natural Resources  
*Katharine L. Sanford*

### A. B. Massey Honorarium

Department of Fisheries and Wildlife Sciences  
*Sarah E. DuRant*

Department of Forestry  
*Beyhan Y. Amichev*

Department of Geography  
*Candice R. Luebbering*

Department of Wood Science and Forest Products  
*Omar A. Espinoza*

**The Outstanding Sophomore Scholar Award**  
*Allison J. Sullivan*

**David Wm. Smith Award for Outstanding Service**  
*Lorenza Cooper, Jr.*

**Outstanding Science Award**  
*Benjamin E. Saylor*

### The Curriculum Clubs' Outstanding Member Awards

American Fisheries Society  
*Mike Duncan*

Fisheries and Wildlife Graduate Student Association  
*Nicholas W. Lapointe*

Forestry Club  
*Laura E. Hendrick*

Forestry Graduate Student Association  
*James W. Freeman.*

Forest Products Society  
*Jesse Paris*

Geography Society at Virginia Tech  
*Leslie C. Harwood*

Natural Resource Recreation Society  
*John T. Martello*

Society of American Foresters  
*John L. Eide*  
*Christopher W. Fields-Johnson*

Urban Forestry and Arboriculture Student Society of Virginia Tech  
*Stephen G. Jordan*

The Wildlife Society  
*Nathan J. Lambert.*

Xi Sigma Pi  
*Steven D. Mason*



## Former Eastman Employee Heads East



Kevin Edgar

The Department of Wood Science and Forest Products has welcomed Kevin Edgar as professor. A former Technology Fellow of Eastman Chemical Company in Kingsport, Tenn., Edgar was one of nine new faculty members employed under Provost Mark McNamee's recent cluster initiative. The initiative added faculty in bioprocessing and biomaterials across four

departments in three colleges. This multidisciplinary approach is aimed at enhancing knowledge and training students in the field of conversion of biomass to fuels, energy and materials, which has been targeted as a critical national initiative under the Biomass Research and Development Act.

Edgar focuses his research on the development of synthetic processes for polysaccharides and carbohydrates. He also studies structure-property-performance relationships related to their usefulness in critical applications such as drug delivery systems. Edgar commented, "the delivery of drugs to the right location in the body, in the right quantity, at the right time, and for the right duration, is a critical patient need. Polysaccharide derivatives are ideally suited for enhancing precision delivery of drugs."

The new professor has an extensive background in chemistry, including a B.S. in chemistry from Bucknell University and a Ph.D. in organic chemistry from Duke University.

## Loferski "Decks" Building Code



Joe Loferski

Department of Wood Science and Forest Products professor Joseph Loferski has rewritten the book on deck building. He recently presented a paper before 100 attendees at the Southern Forestry Products Association (SFPA) annual meeting in Hot Springs, Va. on "The safety of residential decks."

His work is all about connections. He has spent the past six years engineering connections where the sole purpose is to enhance the safety of decks by preventing deck collapses and guardrail failures. "Many current decks are unsafe simply because they are under-designed; the structural plan is poor or too few fasteners are used to attach the decks to the sides of people's houses," said Loferski.

And the result? The SFPA is putting out a new publication that will be circulated among deck builders and include Loferski's findings. His research results have also been added to the Virginia, Georgia, and Indiana Statewide Building Codes and the International Building Code, which is used by communities nationwide.

## Fisheries Gets Snakehead Funding

Paul Angermeier, Yan Jiao, and Brian Murphy, all in the fisheries and wildlife department, have received a grant to research the invasion of the Northern Snakehead in the Potomac River. Joining them on their research, which runs to September 2007, will be graduate student Nick Lapointe.



Northern Snakehead

Native to Asia and Africa, the Northern Snakehead in the United States first came from Crofton, Maryland, in 2002. It is believed that the fish were pets, released into the pond by owners who were tired of taking care of them. The Northern Snakehead has invaded other waterways, so the federal government now bans the importation of the species into the U.S.

The Potomac River is considered to be the first established open system population of the non-native species in North America. Unlike the pond in Crofton, where the first Northern Snakehead was found, eradication by poisoning is not an option.

Research is required to understand the species' basic biology and how it will interact with the native biota. The Virginia Tech study will focus on radio-tagging fish and tracking them to understand their habitat use, home range size, and dispersal ability. Other information, including spawning habits, diet, and growth rates, will also be collected.

## RESEARCH SPOTLIGHT



### Hopkins Continues Research Efforts

One of the nation's leading ecology toxicologists, associate professor Bill Hopkins, recently co-authored an article in the journal *Functional Ecology*. The piece is based on research that examines the influence of sex and reproductive condition on terrestrial and aquatic locomotor performance in the semi-aquatic snake *Seminatrix pygaea*.

Hopkins' research program focuses on physiological ecology and wildlife ecotoxicology. The article is one of nearly 70 peer-reviewed manuscripts and book chapters he has published on subjects pertaining to environmental stress and pollution, as well as physiological ecology of amphibians, reptiles, and bats.

## College Welcomes Visiting Scientist

The college welcomes Israeli research scientist Avner Cnaani, and his family, wife Nurit, five-year-old daughter Shai, and three-year-old son Guy, to the Department of Fisheries and Wildlife Science.

Cnaani conducts research on transgenic salmon, along with two others in the department, professor Ewen McLean, and Eric Hallerman, department head.

Cnaani said, "My research is part of a risk assessments project to evaluate fitness traits in transgenic Atlantic salmon. I plan to compare the immunological and physiological response to stress between transgenic fish that are over-expressing the growth hormone gene and their non-transgenic siblings."

Cnaani received his degrees in animal science from the Hebrew University of Jerusalem in Israel and this year finished a post-doctoral program at the Hubbard Center for Genome Studies at the University of New Hampshire.



## Wood Science Professor Emeritus Spends Time Abroad



*The School of Wood Science and Engineering of the University of Nancy.*

World-renowned composite chemist, Wolfgang Glasser, spent two months in Europe sharing his knowledge. As visiting professor at the Université Henri Poincaré – Nancy 1 in Nancy, France, Glasser gave numerous lectures at the Laboratoire d'Etudes et de Recherche sur le Matériau Bois (Wood Science Research Institute) as well as to the affiliated Ecole Nationale Supérieure des Technologies et Industries du Bois (Engineering School of Wood Technology) in Epinal.

In Florence, Italy, he presented a lecture, "About Bonding to Cellulose: A Biomimetic First Step," at the International Conference on Integrated Approach to Wood Structure, Behaviour, and Applications. The conference, jointly held by the European Society of Wood Mechanics and COST Action E35, attracted over 150 researchers from all over Europe. He represented the joint work of professors Paul Gatenholm of Chalmers,

Sweden, and Thomas Heinze of Jena, Germany.

"The 'We are addicted to oil' quote by President Bush is a nice new sound bite in the U.S., but it represents a long-recognized piece of wisdom in Europe, where it has become part of the cultural and educational fabric that shapes livelihoods," noted Glasser. "France in particular is at the forefront of implementing technologies that are based on biological systems everywhere, from the gas pump, where you fill up on biodiesel, to automotive parts reinforced with natural fibers. Seeing France covered with wheat fields and vineyards impresses on the visitor that 'sustainability' on the basis of natural renewable resources is not a pipedream."

Before retirement, Glasser produced thirteen patents and since then, while working at Weyerhaeuser, an international forest products company, he has worked on three more patents. Today Glasser continues to take part in the industry's innovation process and can be found in his Cheatham Hall office.

## ALUMNI UPDATE

### Career Opportunity

Alums, please take note and spread the word: the College of Natural Resources is looking for a person to head up its Natural Resources Program in the National

Capital Region. The current director, David Trauger, is serving as the Interim Associate Dean of the Graduate School for Virginia Tech's National Capital Region. Trauger plans to retire during 2008. For details go to [www.cnr.vt.edu/](http://www.cnr.vt.edu/)

### Otto Appointed CSREES Associate Administrator



*Ralph Otto*

Ralph A. Otto, a '75 M.S. in fisheries and wildlife science, was recently appointed to the position of Cooperative State Research, Education, and

Extension Service (CSREES) Associate Administrator. "I am genuinely happy to have this opportunity to continue working with the land-grant university system," Otto said. "Our agency is relatively small, but we believe we make a big difference in our nation's ability to generate knowledge. Any success is largely due to our partnership with land-grant universities, such as Virginia Tech. We make available a modest amount of federal funding, and the universities then use this to leverage considerably more resources to develop and deliver research, Extension, and education programs."

Otto has earned three degrees from land-grant universities: a B.S. and Ph.D. from Rutgers and an M.S. from Virginia Tech, all in the quantitative aspects of wildlife biology. A native of New Jersey, he currently resides in northern Virginia.

## Upcoming Alumni And Friends Receptions And Special Events

**Sept. 4, 5:30 – 7 p.m.**

American Fisheries Society 137th Annual Meeting  
Pacific Room C, Marriott  
San Francisco, CA

**Sept. 3-8, Wood Week 2007**

[www.woodscience.vt.edu/woodweek](http://www.woodscience.vt.edu/woodweek)

**Sept. 15,**

CNR Homecoming  
(VT vs. Ohio University, 1:30 p.m.)  
10:30 a.m. – 12:30 p.m. Tailgate Party  
Cheatham Hall  
Registration required

**Sept. 23, 5-6:15 p.m.**

The Wildlife Society 14th Annual Conference  
Cottonwood Room, The Hotel Arizona,  
Tucson, AZ

**Oct. 21 – 24, Date/Location TBA**

61st Annual Conference of the Southeastern  
Association of Fish & Wildlife Agencies  
Charleston, WV

**Oct. 24, 6-9 p.m., TBA**

Society of American Foresters  
2007 National Convention  
Oregon Convention Center  
Portland, OR

## EXTENSION AND OUTREACH

### Virginia Receives Sustainable Forestry Initiative Award

At the SFI Annual Conference in Toronto, the Virginia SFI Implementation Committee (SIC) was recognized for their multiple accomplishments, and awarded the Eighth Annual SIC Achievement Award.

One such accomplishment involves the college, in which they co-sponsored a project to catalog local forest ordinances on a web-based database. The database helps SFI program participants meet compliance objectives of the SFI Standard. Forestry professor Bob Shaffer, Extension associate Scott Barrett, and forest landowner educator Jennifer Gagnon, all played a part.

The college has an active role in the SHARP Logger Program, which is responsible for training loggers and foresters in the principles of sustainable forestry, environmental protection, and workplace safety. Under the guidance of Shaffer and others in the college, SHARP has become the core strength in the state's program.

Executive vice president of the Virginia Forestry Association, Paul Howe, said, "The SHARP logger training program and the landowner education component is a core strength of the state program."

The SIC was awarded a plaque to commemorate the achievement, as well as \$1,000 cash award so that they may continue their work in advancing sustainable forestry practices.



# Belize Journal

by Nancy Parsons

For the second consecutive year the Conservation Management Institute, a research center in the college, sponsored a study tour to Belize. The destination was Chan Chich Lodge, a jungle resort located on a 130,000 acre private nature reserve in northwestern Belize at the heart of "La Selva Maya." Situated in the plaza of an ancient Mayan city and surrounded by pristine forest, Chan Chich is a perfect location for bird-watching and wildlife observation. Led by professor Brian Murphy, the study tour participants included Martha Murphy, Lou Merryman, Ellen Jamerson, Martha Olson, Willie Taylor, Gaynelle Wolford, and Nancy Parsons, director of development for the college.



(L-R, front) Lou Merryman, Nancy Parsons, Martha Olson; (back) Ellen Jamerson, Willie Taylor, Martha Murphy, Brian Murphy, and Gaynelle Wolford.

## Monday, March 19, 2007

The group met in Charlotte and flew to Belize City, about a three-hour flight. From Belize City we took a 30 minute charter flight to the airstrip at Gallon Jug Estate, where a van met us for the short drive to Chan Chich Lodge. Chan Chich means "little bird" in the Mayan language, and the symbol is a hummingbird. The flight to Gallon Jug took us over shrimp farms, small villages, thick jungle, and meandering streams. Ocellated turkeys, colorful birds that roam the grounds of the resort, greeted us as we arrived. Above us, Montezuma Oropendulas flew back and forth as they gathered materials for their hanging nests, and red-lored parrots perched as if posing for our cameras. The distinctive roar of howler monkeys startled those new to the jungle. The staff gave us a brief orientation, and we were assigned our thatched-roof cabanas. Our first meal in Chan Chich was a delicious dinner served by smiling staff in the spacious dining room.

## Tuesday, March 20

We set out at 6 a.m. for a guided walk down the main trail to the suspension bridge.

Our guide, a native of the area, amazed us with his knowledge of the wildlife and flora. It was exciting to see keel-billed toucans in their habitat. They look as if their bills would make flight impossible, but our guide told us that the bills are light and made of material similar to fingernails. Another walk in the afternoon took us around and over the mounds that cover the Mayan ruins surrounding the resort. Built in a city of an estimated 30,000 people, the pyramids lie beneath layers of soil and foliage, undisturbed except for the holes dug by looters. Unfortunately many artifacts have been stolen by looters and lost to history. On this walk we saw slaty-tailed trogons, a violacious euphonia, tanagers, flycatchers and woodpeckers. Spider monkeys moved along the treetops rustling the leaves and calling to one another. Biologists Carolyn and Bruce Miller gave a pre-dinner presentation on their research, Carolyn on large cats and Bruce on bats. They have been in Belize for more than 20 years supported by the Wildlife Conservation Society and Barry Bowen, owner of Gallon Jug and Chan Chich. Their presentations made us all aware of the importance of biodiversity and conserving the jungle canopy, which provides habitat for so many creatures, both indigenous and migratory.

## Wednesday, March 21

At lunch we sat on the wide veranda watching hummingbirds flit in the nearby bushes where two red-capped manikins perched. Today a trip to the escarpment rewarded us with sightings of hawks, eagles, and vultures as well as butterflies. On the way we saw some great curassows along the road. Professor Murphy described his research in China during the pre-dinner happy hour. He is consulting on some of the serious environmental problems related to China's lakes and streams. Over-fishing, pollution, uncontrolled development, and other activities have put great stress on the environment there.

## Thursday, March 22

After breakfast we set out for Lamanai Archaeological Reserve, the second largest Mayan site in Belize. To get there, we motored to the town of Orange Walk and then boarded a boat that took us down the New River whose banks were teeming with life. We spotted birds, reptiles, bats, amphibians and fish. At Lamanai we saw pyramids nearly 2,000 years old. Some of our party actually walked to the top of the highest, a steep climb up hundreds of stairs. We marveled at the feats of engineering it took for the Mayans to build them. Howler monkeys hung from the nearby trees, and we were able to get quite close to observe their movements. Mothers and clinging babies moved effortlessly among the branches to feed on the leaves.

## Friday, March 23

The finale of our visit to Chan Chich was a night tour of the jungle. Seated on benches in the back of a truck and dressed warmly in the cool night air, we were exhilarated by the possibility of seeing jungle creatures. We were not disappointed when an ocelot was caught in our spotlight. It looked at the truck and slowly turned away to retreat deeper into the jungle. We also saw a Yucatan nightjar and a northern potoo.

## Saturday, March 24

We had our last breakfast and left shortly thereafter for the airstrip and our return trip to Belize City. With a two-hour wait we had plenty of time to shop for gifts and mementoes. Still marveling about the number of exotic birds and animals we saw, we boarded the plane for Charlotte and our return to reality. Farewell to paradise!

Note: Plans are being made for next year's trip to Belize. Please watch for dates and details in the coming issues of the CNR newsmagazine.



Guests stayed in cabanas.



Howler monkey



A keel-billed toucan, the national bird of Belize.

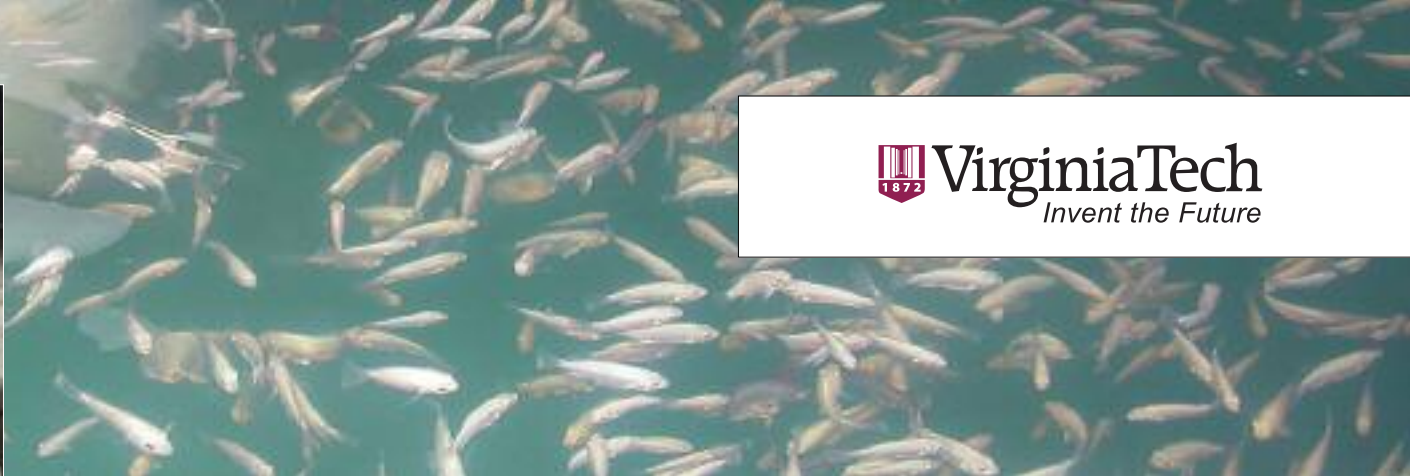


Ocellated turkey





*The cobia is the aquaculture center's main focus of research.*



*Baby tilapia in a grow-out system.*

## Rob Woods Key To Success Of Aquaculture Center

The only task Rob Woods doesn't do at the college's Aquaculture Center is mow the lawn. Responsible for overall operations of the Aquaculture Center, Woods is the key to research success at the nation's largest recirculating facility. His day includes constructing and repairing aquaculture devices, maintaining research systems, cleaning the facility, and making sure there are enough supplies. When Woods was asked what is the best part of working as an aquaculturist, he replied, "Everything. There is always something new going on in aquaculture, from technology and research objectives to having the excitement of all the fish relying on me to provide clean water and adequate food for them."

The Aquaculture Center supports graduate-level research on a variety of fish species, including tilapia and cobia. The facilities can accommodate research in fresh, brackish, and marine waters under temperate, warm, and tropical conditions.

Woods first took an interest to aquaculture in Oklahoma, where he was a game department dispatcher. After spending seven years in the military, he came to Virginia Tech to pursue a degree in

fisheries science, and graduated in 2001 from the college and immediately began working at the Aquaculture Center.

When he's not at the center, he is hauling fish to and from other facilities in Hampton and Saltville, Va. He also works with graduate students by giving them advice about fisheries management, and guiding and mentoring them in their studies.

The center also relies on many complex computer systems, and Woods is responsible for making sure they are working correctly.

Perhaps his most important responsibility at the center is maintaining the water quality data. Woods said, "Each species is so different, some fish can handle bad water quality and some can't; it's my job to make sure they have suitable living conditions."

The most memorable learning experience that Woods has had came with studying the effect of tank color on growth and stress in southern flounder. Woods and other researchers took the main colors of water tanks, which are blue, green, and black, and added red. They were surprised to find that red tanks seemed to make the fish healthier. Another interesting research study in which Woods is involved is the fishmeal replacement study. Previously, fish feed has mostly been made of fish products. Woods is currently working with Steven Craig, the center's nutritionist and associate professor with a dual appointment in veterinary medicine and CNR, and graduate students to formulate new fish feed that is made entirely of amino acids.

"Woods has been an integral part of the Aquaculture Center for the last five years, and plays a key role in its success," said Ewen McLean, director of the center. "I've learned a lot from Dr. Craig and Dr. McLean," Woods admitted, "but nothing beats the experience I've gotten by working in so many different facets of aquaculture!"



*Woods shows tilapia to Tazwell County students on a tour of the center.*



*(L-R) Steven Craig, Rob Woods, Dave Kuhn (civil and environmental engineering graduate student), Ewen McLean, and Guillaume Salze (fisheries and wildlife graduate student).*

