Can Warnell researchers bring back the American chestnut?
November

Nov. 6-7 UGA Homecoming, Athens
  Nov. 6 Golf Tournament, 8:30 a.m.
  Sporting Clays, 10 a.m.
  Alumni School Tour, 2 p.m.
  Whitehall Mansion Open House, 4 p.m.
  Alumni Dinner, 6 p.m.
  Nov. 7: Game Day Brunch & BBQ, 9 a.m.
  UGA v. Tennessee Tech, 1 p.m.
Nov. 18 The Wood Quality Consortium meeting
  8:30 a.m. to 4 p.m. at Warnell, Athens
Nov. 21 UGA v. Kentucky Tailgate
  Mary Kahrs Warnell Garden, Athens
  $15/person. rsvp@warnell.uga.edu

December

Dec. 7-9 7th Southern Forestry and Natural Resource
  Management GIS Conference, Athens Soforgis.net
  Dec. 18 UGA, Warnell fall graduation ceremonies, Athens

January 2010

Jan 15 The Wildlife Society Chili Cookoff
  6 p.m. to 8 p.m. at Flinchum's Phoenix, Athens

February

Feb. 27 Cherokee District Boy Souts Advance-a-Rama
  at Warnell

April

April 22 Warnell Spring Awards Banquet
  The Georgia Center, Athens.

May

May 8 UGA, Warnell spring graduation ceremonies, Athens

Continue Your Education with Warnell

November

Nov. 10-11 Forest Roads in the Piedmont
  and Coastal Plains, Macon, Ga.
Nov. 10 Forestry Ethics, Macon, Ga.
Nov. 18 Fast Forestry for Slow Markets
  Georgia Forestry Association, Forsyth, Ga.
  Nov. 19-20 Estate Planning for Forest Landowners
  Dealing with Uncertainty
  The Classic Center, Athens, Ga.

December

Dec. 7-9 Southern Forestry and Natural Resources
  GIS Conference
  The Georgia Center, Athens, Ga.
  Dec. 10-11 Timber Income Tax
  Georgia Center, Athens, Ga.

Wildlife Supper

Join The Wildlife Society's student chapter
for fine dining and good company:

April 24, 2010
Flinchum's Phoenix, Athens

Social hour starts at 4 p.m. ~ Dinner at 6 p.m.
Admission: $8, children under 5 free
Tickets available at the door
Grant funds exceeded $6.6 million for the first time in Warnell’s history. This is a great testament to the quality and effectiveness of our faculty, staff and graduate students here at Warnell. With state funding and endowments declining due to the economic slowdown, these grant funds have become increasingly important to our programs. I am quite proud of our faculty and how they have increased their funding through the competitive grants process. This year we experienced a 19 percent increase in these funds due to lots of hard work and late hours writing and submitting grants.

Enrollment continues to expand with more than 330 undergraduate students and 180 graduate students enrolled here at Warnell – up from 288 and 171 last spring. In particular, undergraduate enrollment has almost doubled in the last three years thanks to our recruiting staff and many faculty who work hard to get the word out about our programs. We continue to focus our efforts on finding and matriculating individuals interested in forestry and natural resources. If, by chance, you know of a promising young high school student interested in forestry and natural resources please let me know – we want to talk with them about our programs.

We recently completed a search for a new associate dean for academic affairs here at Warnell, and I am excited to report that Dr. Sarah Covert, a professor of forest biotechnology, took over for Dr. Ron Hendrick in late October. We wish Ron well in his new position as director of natural resources at Ohio State University and will miss his sage advice and quick wit (the scurrilous dog). On another important personnel note, UGA has named a successor to Provost Arnett Mace. As I mentioned in the last edition of The Log, Arnett, our current provost and a previous dean here at Warnell, will be retiring at the end of the year. President Michael Adams has announced that Professor Jere Morehead, our current vice president for instruction, will be taking over for Arnett on Jan. 1, 2010. Jere has been associated with UGA for more than 20 years as a professor of legal studies in the Terry College of Business and was named the vice president for instruction in 2007. Provost Mace plans to continue to fill a variety of roles for UGA starting in January, including some fundraising and institutional support projects — along with a little golf! Thanks Arnett for all of the help and support over the years.

On Oct. 2, Plum Creek sponsored a golf tournament for Warnell that raised more than $40,000 to support our programs. We were honored to have more than 120 golfers and a few hecklers join us on a beautiful fall morning here in Athens. A particular thanks to Rick Holley, Plum Creek’s CEO, and his management team, for spending time with our students during their visit.

As with most of you, it has been a challenging time for us this year. However, with the continued great support from our alumni, friends and supporters, Warnell continues to grow and prosper. Thanks for all you do for us!

Mike Clutter, Dean, Warnell School of Forestry and Natural Resources
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ON THE COVER:

Dr. Scott Merkle examines transgenic American Chestnut trees in a greenhouse at Whitehall Forest. Merkle should know within the next two years if a genetically engineered gene he’s introduced to the blighted trees will allow them to fight off the deadly disease that kills them.

Photo by Elizabeth Hagin.

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Warnell researchers Kris Irwin and Jay Shelton traveled to Costa Rica this year, capturing this photo of an “Emerald Basilisk.” The two received a grant that allowed them to spend several days in Costa Rica, which is home to an estimated five percent of the world’s biodiversity. Their story begins on Page 16. Photo by Jay Shelton.

THE LOG MAGAZINE STAFF:

Editor
Sandi Martin

Contributing Writers
Sam Fahmy, Kim Holt

Senior Graphic Designer
Elizabeth Hagin

HOW ARE WE DOING?

We welcome letters to the editor and feedback from our readers. Submit news items, questions or address changes to:

thelog@warnell.uga.edu

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Warnell School of Forestry and Natural Resources
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High schoolers get taste of college, lab life

If the lab techs donning white coats and rubber gloves at Warnell this past summer looked a bit young, it’s because they were. Twenty high school students jumped at the chance to attend a free week-long camp, descending upon the school for a little bit of “test tube gardening.” As part of her National Science Foundation grant, Dr. C.J. Tsai arranged for two week-long sessions to introduce some hard science to a select few 10th, 11th and 12th graders from around Georgia.

During the camp, the students learned the different ways of growing plants by hydroponics or tissue culture, how trees produce chemical weapons to protect themselves, plant DNA extraction, plant genetic improvement, how to write lab reports and how to make research presentations. They also competed in a research poster contest and were each given a copy of their posters so they would share what they learned with their teachers and fellow students back home. As part of the camp, the students worked in UGA labs, visited the Whitehall greenhouses and forest, and enjoyed the campus atmosphere in the off hours. They stayed at Myers Hall during the camp.

Tsai said it went well in accomplishing two goals: To provide students hands-on opportunities to experience the lab life of a plant and tree geneticist while exposing them to different aspects of biological study and research, and to give them a taste of college life. Tsai credits Research Professional Kate Tay, who led the classes, with the success of the camp. “My personal favorite was a quote from a student who wants to go to medical school,” Tsai said. The student wrote, “Kate taught me to look outside, see the trees and realize that they are our living environment.” That’s what they were aiming for, Tsai said. “Our goal was not necessarily to turn every kid into tree geneticists, but to broaden their world and their perspectives.”

Center for Forest Business rises to investing top

Warnell’s Center for Forest Business gained a stronger foothold internationally earlier this year as the place to go for forest business management ideas. The Center had an all-star lineup of speakers, including several former faculty members, and drew nearly 250 people from around the world to its very successful and popular conference, “The Timberland Asset: Stable investments for Turbulent Times.” It was just the latest conference that has helped propel the Center to the forefront of new alternative asset class investment thinking. “Our conference brought together experts from around the world, including former Center faculty members Jon Caulfield and Chris Zinkhan,” said Director Bob Izlar. “This reflects strongly on the credentials the Center has gained through the years as the ‘go to’ place for operational forestry information.”

The conference featured keynote speaker Dr. Zinkhan, CEO and Managing Director of The Forestland Group LLC, who described several countervailing forces that will determine the future course of timberland investments. Also speaking at the conference was Dr. Court Washburn, CIO and Managing Director of Hancock Timber Resources. Several Warnell leaders also spearheaded discussions for attendees, which included asset managers, TIMOs, private investors, insurance companies, endowments, hedge funds, investment consultants and forest professionals.

Held over three days at the Ritz-Carlton Lodge at Reynolds Plantation on Lake Oconee, Georgia, it was the second investment conference featured at the scenic lake. Plans are underway to return in 2011 to review changes in the industry and to present results of ongoing research.

Drawing attendees to the conference was the idea that investors should start considering less-traditional places to put their money, such as investment-grade timberland. Conference speakers heavily touted the benefits of investing in timberland, as it possesses unique qualities as an investment class. Drawing people from the U.S. and 10 countries, the conference’s message was well-received, Izlar said. Because timberland is an alternative asset class that offers an inflation hedge and stable alternative for many portfolios, it’s an attractive investment in today’s volatile economy, he explained.
Conclave Clout

Warnell forestry and wildlife club members brought home top honors from 2009 conclaves earlier this year. The UGA Forestry Club placed third at the 52nd Annual Southern Forestry Conclave held in March in Alabama, while the UGA chapter of The Wildlife Society competed at the Southeastern Wildlife Conclave the same month in Arkansas and was named the Overall Conclave Winner and Quiz Bowl Champion for the fourth consecutive year. The wildlife team also won the Team Field Competition for the third time in four years.

Enrollment climbs with Warnell’s presence, recruitment efforts

Warnell’s enrollment keeps reaching new heights, jumping nearly 31 percent in the past two years. In Fall 2007, Warnell had 253 pre-professional and professional students. Fall 2009, said Associate Dean of Academic Affairs Ron Hendrick, the school had 332, a phenomenal increase in enrollment. “We continue to see the positive effects of dedicating time and resources to recruiting, as well as our efforts to increase Warnell’s presence and program recognition, both on and off campus.”

The school’s upward trend in enrollment can be attributed to a greater focus on recruitment, Hendrick said, as Warnell has added a full-time recruitment coordinator and increased visibility in places with students who would be interested in our majors. Those efforts have also increased Warnell’s visibility on UGA’s campus and across the state. Boosting Warnell’s enrollment, said Student Recruitment Coordinator Emily Lakemaker, happened with intense on and off-campus pushes. “At UGA, we focus on reaching out to new students through The Red and Black, fairs and new student orientation,” she said. “We have also focused on developing more connections with our pre-professional students to help get them more involved in Warnell while they complete their core classes. Off-campus, we work with potential transfer students, and we are very active in middle and high school FFA and 4-H events. We also attend college and career fairs across the state. Working on both fronts has helped recruitment increase over the past three years.”
Warnell Alums inducted into Hall of Fame

By SANDI MARTIN

Mike Clutter followed his father’s footsteps to the Warnell School. But it was his own trailblazing career in forestry that led him to the Georgia Foresters Hall of Fame. The Warnell dean became the second Clutter inducted into the honorary organization this past summer, along with Warnell alumnus Hank Haynes Jr. Rounding out the 2009 inductees by becoming the first woman to join the Hall of Fame was Kate Robie, who serves on Warnell’s external advisory board.

Being chosen for the Hall of Fame, Dean Clutter said, was an honor but a surprise. It’s an honor you hope to receive near retirement, the Warnell alumnus and school legacy said, and he’s not ready to retire. Being inducted with Haynes and Robie makes it even more pleasing, he said. “Hank Haynes was a long-time family friend and mentor for me and many other students here at Warnell – to be in a group with him is truly an honor. I have also had the privilege to work with Kate for many years during my time in the private sector, she has made great contributions to forestry here in Georgia and around the world.”

Overseen by the Georgia Division of the Southeastern Society of American Foresters, the Georgia Foresters Hall of Fame recognizes those who have made outstanding and significant contributions to the profession of forestry. Foresters have been recognized dating back to 1969, and the Hall of Fame includes such Georgia dignitaries as former state legislator James L. Gillis Jr. and UGA’s Provost and former Warnell Dean Arnett Mace.

Clutter, who received his Ph.D. in 1993 and his Master’s degree in 1983 from Warnell, said he is honored to have been chosen to join such an elite group. Clutter has been Warnell’s dean since July 2007. His father, Jerome Clutter, a fellow Hall of Famer, was a longtime professor at the school. Dean Clutter has a long career in the private forestry industry, becoming the Hargreaves Distinguished Professor of Forest Finance at Warnell in 2001. He still serves on the board of directors for several forestry corporations around the state.

Haynes received the posthumous honor. A 1948 graduate of Warnell, Haynes died in 2005 at the age of 83. A leader in the forest and timber industry, he had worked for Union Camp and Bag for 31 years. Haynes championed genetic tree improvement programs and research on forest health and sustainable forest management. Haynes began teaching at Warnell in 1981. Haynes helped map out plans for the school’s Center for Forest Business, later leading fundraising efforts for Warnell.

Robie is the founder of TimberLink, a timber investment consulting firm serving institutional investors. A timberland owner and registered forester, she was a vanguard and principal of one of the first timber investment managers in the U.S. “Few things are as gratifying as being recognized by one’s peers,” Robie said. “Joining so many wonderful Georgia foresters in the Hall of Fame is quite an honor, and very humbling.”
You have degrees in geology and economics. What led you to Warnell?

When I was in college I had no idea what I wanted to be when I graduated, but I had figured out that environmental problems weren’t really “science” problems, they were social problems caused by conflicting opinions and competing needs for resources. I figured that policy makers might be more likely to listen to economists than scientists, so I took that route in graduate school. Since then, I’ve learned two things: Policy makers don’t really listen to economists either, and good economic research is meaningless if it oversimplifies or misunderstands the science. Better environmental decisions are only going to be made by working across disciplines. Being at Warnell I get to be interdisciplinary. I can collaborate on research with experts in all natural resource disciplines, and I get to teach courses that expose students to the economic aspect of environmental management.

As a natural resource economist, you help estimate the value of environmental goods, such as in one project where you’re estimating the non-timber value of Georgia’s private forests. How difficult is it to determine values like those?

It’s difficult to identify the value of these resources because they aren’t bought and sold. The value of cars or groceries is made clear when people spend money to purchase those items. If I’m willing to spend $15,000 on a new car, the value of that car to me must be at least that much. With many environmental resources, like the clean air and scenic beauty that forests provide, we don’t pay for them. We enjoy these benefits until the forests are replaced with another land use. But just because something is free, that doesn’t mean it has no value. I would be willing to pay for the scenic forest even if I don’t have to pay, and the value of the forest reflects what I would be willing to pay. This is incredibly difficult to tease out.

How do you balance the needs of humans with the costs associated with protecting animal species and the environment?

There are tradeoffs to every decision. What economists try to do is identify what these tradeoffs are in order to make the best, or least painful, decision. If we restrict fertilizer use in order to protect our watersheds, will the water quality benefits make up for any lost agricultural production? It comes back to the idea of valuing that water quality improvement.

One of your current projects is determining whether it’s worth the costs and time to save Hemlock trees from the wooly adelgid. At what point should humans give up on trying to save an endangered species?

In that project, we are mainly investigating the best way to attack the wooly adelgid problem. There are several treatment options, each with different costs, ecological impact and predicted effectiveness. We want to weigh the costs and benefits, including those non-market ones like ecological impact and aesthetic value. No one ever wants to give up on a species; in an ideal world no species would be threatened or endangered. But again there are tradeoffs. Money, time and effort spent to protect Hemlock trees from the wooly adelgid are resources that can’t be spent on another endeavor – saving the environment, repairing bridges or improving schools.

How do you stress to undergraduate students the need to put a price on the environment?

There are a lot of misconceptions among students and others about what economics is about, especially seemingly obvious concepts like price and value. I try to identify and correct these misconceptions with examples from my own research. I might ask the students how they might decide if a policy to reduce pollution is a good policy. We discuss the tradeoffs, weighing the benefits and costs, and they soon realize that money is used as a tool – a common measuring stick – to compare the value of reduced pollution to the cost of reducing it. While we are in fact estimating a monetary value of the environment, the phrase “putting a price on the environment” is often interpreted much differently.
The good-natured ribbing began very soon after news spread that Ron Hendrick was deserting the Warnell School for colder, northern pastures. Hendrick, who has been with Warnell for 16 years and was named associate dean of academic affairs in 2007, recently took a top job at Ohio State University. That’s when the teasing began from colleagues happy for his success, but sad to see him go. Over the summer, Hendrick was tapped to be OSU’s Director of the School of Environment and Natural Resources and Associate Dean of the College of Food, Agriculture and Environmental Sciences.

Hendrick said he will miss Warnell but is looking forward to beginning work at OSU. “It has been a privilege to work with, and on the behalf of, so many outstanding faculty, staff and students during my time at Warnell. I have been very happy here, but this position at Ohio State furthers my career goals, and also brings my wife Michelle and me considerably closer to our families in Michigan, something that has become more of a priority over time.”

Warnell Dean Mike Clutter didn’t have to go far to find his successor. Sarah Covert beat out a highly-qualified pool of internal candidates to replace Hendrick. The Warnell professor of forest biotechnology is excited about the new challenges that face her – including continuing Hendrick’s streak of increased enrollment at the school. Also on Covert’s to-do list: Improving the school’s instructional quality and expanding its study abroad programs. “I am honored to have this opportunity to work with Warnell’s excellent faculty and staff towards a further strengthening of our instructional programs,” she said.

Choosing Covert wasn’t a hard decision, Clutter said. “While we have many extraordinarily well-qualified faculty for this position, I believe that Dr. Covert’s strong administrative and analytical skills make her uniquely qualified for this position,” he explained. “Sarah brings a wealth of knowledge about UGA and natural resources with her to the position. She has the respect of both her faculty colleagues and students that have worked with her. I expect she will be a

Changing Directions: Hendrick heads north, Covert takes over as Associate Dean

By SANDI MARTIN
strong advocate for both students and faculty here in Warnell.”

Covert, who received her Ph.D. from the University of Wisconsin-Madison and her bachelor’s degree from Dartmouth College, first joined Warnell in 1993 as an assistant professor. She also has served as an adjunct faculty member in the Department of Plant Pathology, Department of Genetics and Department of Plant Biology during her tenure, and was chair of the Warnell Teaching Effectiveness Committee from 2001 to 2008. She was promoted to full professor in 2008 at Warnell. Covert has authored or co-authored dozens of publications and is a Fellow of the American Association for the Advancement of Science. She has most recently been researching the control of annosum root disease, which is a common cause of southern pine tree death.

Hendrick leaves quite a legacy: As Warnell’s associate dean of academic affairs, Hendrick oversaw the promotion and tenure of faculty, as well as the school’s undergraduate programs, graduate programs, recruitment and placement efforts, and instructional technology. He has headed up intense efforts to increase student enrollment at Warnell, and succeeded admirably: During Hendrick’s tenure as associate dean, Warnell’s enrollment grew by nearly 31 percent from Fall 2007 to Fall 2009. (See page 5 for more information about Warnell’s enrollment.)

Hendrick joined the Warnell School in 1993, first as an assistant professor of forest ecology. Over the years he moved up the ranks, from associate professor and graduate program coordinator before being named associate dean of academic affairs in 2007. Since 2006, Hendrick has also been an affiliate faculty member of the University of Alaska-Fairbanks, and an affiliate faculty member of UGA’s Ecology School since 1994. He has also taught programs in Warnell’s study abroad program, serving as academic director for three years for programs in Antarctica and New Zealand. He has a bachelor’s degree in forestry and a Ph.D. in forest ecology, both from Michigan State University.

Covert said she’s eager to keep up Hendrick’s efforts. “We will continue to emphasize student recruitment, the development of up-to-date instructional programs and facilities, and the provision of excellent student services...” –Dr. Sarah Covert

Emily Nuckolls takes over Alumni Affairs

W arnell alumni will see a new face at school events. Emily Nuckolls is taking over as the school’s director of alumni relations and annual giving from Bridget Harden, who recently left after 6 ½ years with Warnell. Nuckolls, who most recently worked at UGA’s library, said she is excited to help Warnell’s alumni stay in touch and stay involved.

Nuckolls, a 2007 UGA graduate with a bachelor’s degree in international affairs, has a long history of working with the public, not only as a tour guide with the Visitor’s Center, but also as a downtown restaurant manager. “When I worked in the Visitor’s Center, I loved meeting UGA alumni and showing them the new programs and buildings we had to offer,” she said. “So moving into alumni affairs will be furthering my love of UGA and desire to show off Warnell’s unique natural resources contributions.”

Warnell Dean Mike Clutter said he is happy Nuckolls is joining the school. “A second generation UGA graduate, Emily brings an energy and commitment to helping make UGA and Warnell a better place for students,” he said. “She will be a great addition to our alumni development activities.” Nuckolls says she already has exciting ideas she hopes alumni will enjoy. As alumni director, she will also organize school events, including Homecoming celebrations, football tailgates, regional dinners and reunions.

Harden is now a stewardship coordinator at UGA’s External Affairs Division. As the school’s alumni director, she helped lead the Centennial Campaign that celebrated Warnell’s 100th anniversary and helped establish the school’s Young Alumni Committee.
Engineering a cure

The chestnut blight wiped out one of America’s most versatile hardwoods. Can Warnell researchers bring back the American chestnut?

By SANDI MARTIN
It wasn’t too long ago that the American chestnut dotted the landscape, towering over the East Coast as the versatile hardwoods wound from New England through the Appalachians.

They dominated the Appalachians for thousands of years. It took mere decades to wipe them out. Finding a cure for the blight that killed millions of acres of chestnuts has proven to be a long, patience-testing endeavor: Dr. Scott Merkle has been working to restore the American chestnut for 20 years. It’s only now that the Warnell professor has perfected a propagation system and method of inserting a gene he hopes will repel the blight. But he won’t know for another two years if this genetically-engineered solution works.

He hopes his work will become part of an integrated effort to restore the tree. “This effort would not only include genetically engineered trees, but conventionally bred trees, biological control of the blight fungus that devastated the tree and the development of silvicultural approaches to reintroduce the tree into the forest,” he said.

A Blight on America
Hidden in Tennessee is one of the largest remaining blight-free American chestnut trees. Standing 75 feet tall with a 24-inch diameter, this chestnut has survived against all odds. Over the span of just 60 years, billions of American chestnuts just like the one in Jackson County, Tennessee, were stricken with a killer fungus, which came to America innocently enough. Back in the 1880s, people in the Northeastern U.S. imported Japanese and Chinese chestnut trees to plant in their gardens — bringing the fungus with them. It wasn’t long before American chestnuts planted street-side in what is now the Bronx Zoo began dying. The fungus, first positively identified in 1904, started moving 200 miles south every 10 years until it was in Georgia by the 1940s, killing nearly every American chestnut in its path. The fungus was brutal: Once the fungus entered through a wound in the chestnut’s bark, it fanned out, killing the inner bark layer and girdling the tree so that food and water could not move up or down the stem.

Even now, chestnut trees will continue to grow — to a point. But once they are infected with the *Cryphonectria parasitica* fungus — dispersed by spores in the air, raindrops and animals — the tree dies, never growing to the 100 feet in height or 10 feet in diameter their ancestors used to reach. Very few grow bigger than the size of a shrub, Merkle says. And most people — researchers, citizens and tree enthusiasts — had long ago decided working to save the hardwood is a futile effort. “It’s almost like a lost cause,” he says. “People had given up on it.” The few American chestnuts that have grown tall are unlikely to survive. It is “sheer luck” any made have grown more than a few feet tall, says Bryan Burhans, president and CEO of The American Chestnut Foundation (TACF), which was founded in 1983 to develop a blight-resistant version and restore the
trees to their native forests. “Ultimately all these trees succumb to the disease and die,” he explains. “Unfortunately it’s only a matter of time.”

Existing trees may be doomed, but Merkle’s working to produce a future generation of American chestnuts that will have encoded in their DNA the ability to fight off the fungus – and produce other trees that have the same capabilities.

**Tackling the ‘Lost Cause’**

Merkle had been with Warnell for just five years when his interests turned to the long lost trees. He got a lot of grief from his colleagues, most of whom were experimenting with pine trees while he “was working on weeds” (i.e. hardwoods). But he saw the potential, especially because very little research had been accomplished by 1989, decades since the blight rampaged through the Eastern United States. There was no system in place for tissue culture propagation, and although a lot of research had been done when the blight was first discovered, it had long since petered out. “People pretty much threw up their hands and said, “We’re just going to have to let the blight go,”” he says.

Merkle got to work. In 20 years he has accomplished what few researchers thought possible: He developed a culture system that allows his team to grow new American chestnut trees from single cells, found an efficient way to pick out the transgenic gene cells from those that didn’t receive the inserted gene, and most importantly, figured out a way to introduce those modified genes into the trees’ DNA. His success can be measured by the flowering American chestnuts he’s produced in Warnell labs. It hasn’t been easy. Over the years, Merkle has fought for funding, been set back by uncooperative plants that refused to grow, and before even beginning, he had to first find American chestnut trees actually producing the nuts he needed for his research. Now, scientists at TACF and the American Chestnut Cooperators Foundation help his research by supplying him with the nuts he needs. In 2001, Merkle received funding from ArborGen LLC, a forest biotechnology firm based in South Carolina, which allowed him to hire Gisele Andrade as a full-time researcher. Building on the work of former graduate students Daniel Carraway and Rod Robichaud, Andrade and Merkle found some of their first major success – whereas only a handful of trees had been produced from cultures previously, they achieved up to 50 percent success in germinating chestnut embryos produced in culture, allowing them to grow hundreds of greenhouse-ready plantlets within six months. Then came the gene transfer system, which Andrade, Merkle and Warnell colleague Joe Nairn detailed in a recent paper published in *Plant Cell Reports*. Using an anti-fungus construct supplied by ArborGen, Merkle’s team is now poised to find out if their efforts will bear fruit.

It has all led to this: Merkle’s team now has more than 100 chestnut plants in a Warnell greenhouse that have been genetically engineered to carry that anti-fungus gene. “We have no idea if it works,” he says. The “seedlings” have to grow large enough for Merkle to intentionally infect them: He has to expose them to the fungus to see if they can fight it off. He hopes that within the next two years, he and his team will have an idea if they’ve given this once-cherished tree the tool it needs to fight off a devastating disease.

But with so many other tree species out there filling the void that the American chestnuts left – and other tree diseases like Dutch elm disease taking the public spotlight – some have asked: Should we even bother to try?
Existing trees may be doomed, but Merkle’s working to produce a future generation of American chestnuts that will have encoded in their DNA the ability to fight off the fungus.

A Worthy Endeavor
Merkle would like to convince people that restoring the American chestnut to the landscape is a worthwhile endeavor, and not just because he’s spent two decades diligently working on just that. He has many reasons why losing the chestnuts was a blow to the U.S.; They were very fast growing trees, shooting up as much as six feet in a single year, which could be a tremendous asset in an era where sustainability is a growing cry. American chestnuts were also an incredibly versatile tree, used in construction, leather and food production.

Merkle thinks we should try for other reasons, as well. As part of a multi-institutional team, he’s received funding from the Forest Health Initiative (FHI) to develop high-throughput genetic transformation and regeneration systems for chestnuts. Because one of the goals of the FHI is to demonstrate how biotechnology can be used to address threats to forest health, results from the chestnut research may have broad implications for addressing other tree diseases and insect pests.

There has been public support for transgenic tree research, Merkle says, but he says that restoration of the American chestnut does have an emotional element to it: There are plenty of people still living who remember when the chestnuts stood tall. The American chestnut, he explains, had a very long history, particularly in the Southern Appalachians, where it was part of the lives and culture of so many people. The American chestnut was a tremendous food source for wildlife, Burhans adds, and produced far more abundant and nutritious nuts than oaks do today. “There’re many things that the American chestnut offers the forest,” he says. “It returns something back to help wildlife, provides them more stable and abundant food.” It would also bring back a valuable wood product for forest landowners. Burhans also notes that research has shown that the long-living trees — American Chestnuts had a lifespan of 350 years — are an incredible source of carbon sequestration.

Should Merkle succeed in restoring the chestnut, there are other questions that would have to be answered, including concerns over introducing a genetically engineered tree to public areas where wildlife and people could consume those transgenic nuts. Multiple federal agencies would be involved before that happened, he says. But he’s realistic about the difficulties in curing the blight. “The fungus is always evolving,” he says.

Merkle and Andrade's (opposite page, bottom) chestnut work begins in their Warnell lab, but they are cautiously optimistic about overcoming a disease that spread 200 miles every decade (graphic, this page).
Doug Peterson has spent his entire career trying to understand the biology of wild sturgeon. The fascinating creatures have long been threatened by the construction of dams that block migrations and environmental degradation, but those problems are being exacerbated by rampant overfishing. “These ancient animals were swimming the seas when the dinosaurs were roaming the Earth, and even today, they remain largely unchanged,” Peterson says. “In just a flicker of geological time, we’ve nearly exterminated them.”

Peterson’s research, however, suggests that there’s no reason why the sturgeon can’t be saved: He’s found a new, cost-effective and environmentally sustainable method for farming sturgeon that will produce one of the world’s most prized delicacies while protecting wild sturgeon populations. His research, conducted at UGA’s 65-acre Cohutta Fisheries Center, could dramatically reduce the caviar industry’s reliance on wild sturgeon while creating a lucrative agricultural commodity that benefits Georgia farmers and supports UGA research. “Historically, farmed caviar has comprised two percent of the world’s market while 98 percent has come from wild sturgeon,” Peterson said. “We’re trying to flip the market so that in 10 years it will be 98 percent farmed and two percent wild. That’ll be good for wild sturgeon populations and for farmers.”

The caviar is already on sale – and takes a dig at one of UGA’s rivals, the Florida Gators. Inland Seafood of Atlanta is selling the caviar in containers bearing the UGA Athletics Association logo. All proceeds will support sturgeon conservation and aquaculture research at UGA. “This really is a win-win for consumers and for wild sturgeon populations,” said Bill Demmond, chief operating officer at Inland Seafood and a 1973 UGA graduate. “Not only is this an excellent-tasting product, but it’s also sustainably raised on a farm.”

Reviews of the UGA Siberian Sturgeon Caviar have thus far been favorable, with some touting it as a great tailgate treat. Although domestic white sturgeon have been successfully farmed in Northern California for decades, previous efforts by others to farm Russian species in North America have been stifled by high start-up costs and the tendency of farmed caviar to have a muddy or “off” taste. So how did Peterson do it? He created a new method of raising Siberian sturgeon that combines readily available aquaculture technology with a highly efficient filtration system and fresh spring water from the mountains of Northwest.
Georgia. The result is environmentally sustainable caviar whose taste rivals that of wild-caught.

Peterson’s filtration system recaptures and recirculates approximately 90 percent of the water that the sturgeon live in during their seven-year growth phase. To simulate the portion of the sturgeon’s life in which it stops feeding and swims upstream to spawn, the fish are moved into a separate tank supplied with a gentle flow of cold, fresh spring water. Peterson said this “conditioning time” in the pristine spring water eliminates any off tastes and allows the eggs to mature slowly until they’re at their peak of flavor. The highly-controlled environment, he adds, also means that farmed caviar can be of better quality than wild-caught. He expects to produce about 50 kilograms of caviar — with a retail value of around $120,000 — this year, but should double that next year. His long-term goal? To lay the foundation for a viable Siberian sturgeon farming industry in North America. He’s currently experimenting with various tank configurations and sturgeon feeds to bring costs down even further, and is also screening potential investors who are interested in commercializing the venture.

“One of the most important things we can do to help bring sturgeon back from the brink is to change the foundation of the caviar industry so that it relies on high-quality, sustainably farmed fish,” Peterson says. “The UGA caviar project has shown that we can save the sturgeon while spurring new economic opportunities in Georgia’s agricultural economy.”

UGA Premium Siberian Sturgeon Caviar is processed and packaged at the Food Sciences Lab in the UGA College of Agricultural and Environmental Sciences.
Research News

Costa Rica & Warnell: Una relación mutua

It didn’t take long for Jay Shelton to see what the problem was. The Costa Rican farmers had been stocking their ponds with tilapia and trout. But the fish kept dying, and they needed technical assistance to help them understand why. Being there was the key to finding the answer, Shelton says. The Warnell fisheries biologist explained that water temperature was the problem — trout require cool water and tilapia warm. Had Shelton and Warnell Public Service Associate Kris Irwin not visited, the local farmers may never have realized they were making such a simple yet devastating mistake. Helping Costa Ricans understand aquaculture systems is just one of the reasons Irwin, Shelton and UGA Costa Rica Director Quint Newcomer spent a week in the small Central American country. “These rural farmers are learning aquaculture by trial and error; however, they receive very little technical support from Costa Rica’s Agriculture Ministry,” Newcomer said. “That’s where the expertise of the Warnell School faculty come in, fulfilling a central part of the UGA mission to provide public service and outreach to our community.”

Irwin, Shelton and Newcomer received a $6,000 grant from UGA’s Office of International Public Service and Outreach to make the trip and allow them to investigate aquaculture systems in Costa Rica, provide on-site technical advice to improve existing aquaculture systems and create a service-learning guide for UGA Costa Rica.

Costa Rica is making great strides to become one of the most environmentally-friendly places on Earth. One of the most fragile ecosystems in the world, Costa Rica is home to an estimated five percent of Earth’s biodiversity, and a quarter of its total landmass is considered a protected national park or other protected area. Visitors to Costa Rica can see a diversity of wildlife, including spider monkeys, white-throated capuchins and three-toed sloths. It’s home to the Monteverde Cloud Forest Reserve, a major draw for “ecotourists,” and was ranked by Forbes Traveler as one of the “world’s 10 most amazing rainforests.” It’s also home to the UGA Costa Rica campus, located in the upper San Luis Valley in the Monteverde region. A fully-functional campus, UGA Costa Rica offers classes and cultural immersion with 17 annual study abroad programs, operates a working sustainable farm and manages a 93-acre private forest reserve.

Warnell is no stranger to UGA Costa Rica. In fact, all aspects of UGA’s mission — teaching, service and research -- are represented by Warnell faculty activities at our sister campus in Costa Rica. Warnell professors Bob Cooper and Sonia Hernandez teach field courses in Costa Rica — Cooper a study abroad course in field ornithology to introduce students to the identification, taxonomy, ecology, behavior and conservation of Costa Rican birds and insects and the ecosystems that sustain them. Hernandez teaches a conservation medicine and biology course designed for veterinary, wildlife, biology and ecology students. It offers hands-on, field-based instruction and includes measuring ecosystem health, wildlife diseases and conservation challenges that are threatening biodiversity. Both study abroad courses incorporate service-learning activities.
Both he and Irwin consider the 10-day trip a success. What they accomplished, he said, was to “actually mean it and demonstrate it.” Sustainability, Shelton says, is often misused and misunderstood. What they hoped to see was the Monarch butterfly population in Costa Rica incorporate community service and service-learning activities. Newcomer recognizes the need to formalize service opportunities and integrate service-learning into more programs. However, to be successful, faculty members need tools and training to guide their efforts. That’s where Irwin and Shelton come in. As part of the grant, the three have devised a “service-learning guide” designed to help faculty build courses and activities around diverse learning opportunities afforded by the UGA Costa Rica campus and the relationship with surrounding communities. Their guide was pilot tested this past summer by three faculty members on different study abroad programs and will be updated and distributed this spring, along with an initial training workshop for faculty. “The service-learning guide will be the first of its kind for any UGA study abroad program, and will serve as a model for others interested in formally organizing and implementing service-learning as part of their course curriculum,” said Irwin.

“Our goal in offering study abroad programs is to provide deeply rewarding experiences for both students and faculty,” said Newcomer. “The service-learning guide will be a valuable tool that helps us further integrate students and faculty into the local community and broaden their learning experience far beyond what a traditional classroom lecture can provide. I think this also makes the study abroad experience much more interesting for the faculty in our programs.”

Irwin and Shelton’s project promises short-term and long-term impacts for UGA Costa Rica. Efforts include the evaluation of existing aquaculture practices so they can then help Costa Rica develop sustainable aquaculture production systems. The community workshop where Shelton explained to farmers why their fish were dying was part of their efforts. Sustainability, Shelton says, is often misused and misunderstood. What they hoped to accomplish, he said, was to “actually mean it and demonstrate it.” Both he and Irwin consider the 10-day trip a success.

Assistant Professor Robert Bringolf is investigating how the Altamaha spinymussel reproduces to help stave off the animal’s extinction. Mussels must attach themselves to the gills or fins of a fish to reproduce, but researchers don’t know which specific fish the spinymussel needs. Bringolf has money from the Georgia Department of Natural Resources to find that host fish. He’s also looking into how other endangered Altamaha mussels reproduce during the two-year project, including the Altamaha arcnussel.

Warnell’s Plantation Management Research Cooperative has expanded the scope of its activities to meet the needs of pine plantation growers in the South. The PMRC is taking on new projects: Expanding its field trial program to Mississippi, Arkansas, Louisiana and east Texas; conducting research on plantation management regimes targeting products ranging from biomass and sawtimber; and increasing membership. Director Michael Kane says the PMRC’s research on the impacts of silvicultural practices and genetics on southern pine plantations, and growth and yield models describing these impacts will give growers more tools to manage pine plantations.

Increases in low-density residential development in the U.S. is posing a threat to the nation’s public lands, affecting not only national parks and forest, but also areas that compose the National Wilderness Preservation System, according to a Warnell study. A team made up of Drs. Ken Cordell, Gary Green and Nate Nibbelink, and graduate student Allison Ginn collected data describing land use changes on the boundaries of wilderness to come to their conclusions. They used Census data, spatial patterns of development and GIS data as part of their research.

Using the 30-year-old Horseshoe Bend Agroecosystem Experiment, Associate Professor Daniel Markewitz and graduate student Scott Devine investigated soil carbon accumulation under conventional agriculture, no-till agriculture and adjacent bottomland hardwood forests. The found that no-till agriculture and forest stored additional six to eight metric tones of carbon per hectare in the soil. Horseshoe Bend, located along the banks of the Oconee River, is the site of the UGA dairy used through the 1960s. Over the last 40 years, much of the area has been reclaimed as forest, but also areas that compose the National Wilderness Preservation System, according to a Warnell study. A team made up of Drs. Ken Cordell, Gary Green and Nate Nibbelink, and graduate student Allison Ginn collected data describing land use changes on the boundaries of wilderness to come to their conclusions. They used Census data, spatial patterns of development and GIS data as part of their research.

A Warnell Ph.D. candidate made a startling discovery this year, finding that female Monarch butterflies in eastern North America have significantly declined over the past 30 years. Andy Davis analyzed published overwintering and migratory data for the insect from 1976 to the present, discovering that the female to male ratio for the butterflies east of the Rockies has gradually dropped from 53 percent of the migrating population in 1970 to 43 percent today. This paints a dire picture for population recruitment for the Monarch, which is a flagship species for conservation.

Assistant Professor Robert Bringolf is investigating how the Altamaha spinymussel reproduces to help stave off the animal’s extinction. Mussels must attach themselves to the gills or fins of a fish to reproduce, but researchers don’t know which specific fish the spinymussel needs. Bringolf has money from the Georgia Department of Natural Resources to find that host fish. He’s also looking into how other endangered Altamaha mussels reproduce during the two-year project, including the Altamaha arcnussel.
Kristen Cecala talks to animals. They don’t talk back, but that doesn’t stop the Warnell Ph.D. student. Neither does the teasing she takes from colleagues when she’s out in the field and spots a salamander with a “hey there, cutie!” It’s all a means to an end, she says. Cecala hopes to stop being a student in 2012 and start being the one leading the class. “I really want to teach,” the 23-year-old says. “I really like working with undergrads.”

The Wilmington, Del., native has always been an outdoorsy kind of girl, although she’s been known to change out of pink high heels into hiking boots and still won’t pick up big crayfish. She plays with the salamanders, but not the worms, she laughs. But she’s certainly not shying away from getting her hands dirty. Cecala, who skipped the Master’s track to head straight into a Ph.D. program at Warnell, spent her summer working on the Coweeta Long-Term Ecological Research project, helping researchers determine how land uses in the Appalachian are affecting life in the mountain streams. Cecala and other team members spent weeks catching samples of various creatures to help estimate aquatic animal populations – hitting 40 different sites, braving “No Trespassing” signs, meeting friendly residents and turning down beer invitations.

“This summer was a fun opportunity to interact with researchers from many different fields in a dynamic and beautiful setting,” she said. “We never knew who we were going to meet or what we were going to find, which kept things interesting.”
exciting. Despite all the long days, I feel honored to have been included in the larger Coweeta LTER project, and I know that I have learned a lot this summer, including everything from aspects of hydrology to how to get a stuck truck off a mountain.”

A biology major at Davidson College in Charlotte, N.C., Cecala’s interest turned to herpetology when her undergrad adviser hired her in his lab. She quickly became a student coordinator, and is now focusing her Ph.D. research on how animals move through a landscape. She’s especially interested in how they move through a stream environment and is focusing her dissertation on how behavior plays a role in why animals move to better understand how ex-urban development is affecting animal populations. She is currently supported by a National Science Foundation Graduate Research Fellowship. Her major professor is Dr. John Maerz.

Dr. Maerz is one of the reasons she chose Warnell over other schools, she said. “This was the best fit for me,” Cecala said. “I really liked John and his research focus. It appealed to me, and Athens wasn’t in the middle of corn fields, which I liked.” Maerz said he’s happy the “exceptional young woman” opted to attend Warnell for her Ph.D. program. Cecala already had significant research experience and had already published several papers as an undergraduate. She was such an exceptional student, he says, that her former adviser trusted her with his most important research projects. He noted that she won a one-year fellowship from UGA, received a prestigious NSF Doctoral Fellowship, and has led several projects in his own lab. She’s done incredible work on the Coweeta project, Maerz added, including organizing sampling 57 streams across the Little Tennessee River watershed, amazingly accomplished in a single summer.

“She has impressed not only the many UGA faculty involved in the project, but she impressed many well-respected faculty at other Universities,” Maerz said. “She has become a great mentor of undergraduates in research, and her personality makes her a wonderful person to have around the lab. She has it all. I am flattered that she chose my lab over many labs with very accomplished faculty, and I am grateful that I get to work with and mentor her.”

―"We never knew who we were going to meet or what we were going to find‖

Photo: courtesy of Kristen Cecala
Matt Streich: Fishing for Answers
By SANDI MARTIN

Matt Streich didn’t hit the beach this summer, but he still got up close and personal with some sharks. And he’s got the “shark burn” to prove it. While working for Warnell Associate Professor Doug Peterson this past summer, Streich took some time away from sturgeons to do some work with sharks for his senior thesis – and was quickly reminded that shark skin is like sandpaper. He proudly shows off the scar on his arm from handling a six-foot bull shark.

“I like sharks because they’re important in the ocean’s ecosystems,” Streich says. “People care about sharks because they can be dangerous.” But he says he’s also interested in studying the aquatic creatures because of the dangers facing them. “The oceans in general are not in good condition.”

The Lilburn, Ga., native hopes to graduate in Spring 2010, but his ultimate goal is to become a professor. Currently a fisheries and aquaculture major, Streich was led to that track by his love of fishing. His father, Jonathan, was once with the Nature Conservancy and is now a science teacher, he said, so a love of the outdoors was a big influence at home. Always an outdoorsy kid, he spent his youth camping and fishing. Even now at UGA, he laughs, “When I’m not in school, I go fishing. Or when I’m skipping class, I go fishing.”

The 21-year-old spent his last two summers helping with Dr. Peterson’s sturgeon project on the Altamaha River near Darien, Ga. The researchers spent weeks netting sturgeons, tagging them, taking genetic clips and then releasing them for future population analyses. “I enjoyed researching sturgeons in the Altamaha because they are a very cool fish, and the Altamaha river swamp is a unique and wild place,” he says.

But it was his sharks interest that led him to the Altamaha estuary. He wanted to see if it was a good nursery for bull sharks as part of his senior thesis. During the drought in 2008, he said, the bull sharks used the estuary a lot. He counted around 30 per day. There weren’t nearly as many this year, he said. “I was curious as to why we would catch so many bull sharks my first summer working on the Altamaha,” he explains. “After seeing the first six-foot bull shark last summer, I was hooked. I had to go back and learn more. I have always liked sharks and decided to see if bull sharks used the estuary again this past summer.”

PHOTOS COURTESY OF MATT STREICH
Students kick summer into action

Warnell students win exciting internships during the summer that take them all over the world. These internships give them valuable experience that will help them land jobs after they graduate. Summer internship opportunities should be directed to Student and Career Services Coordinator Emily Saunders at esaunders@warnell.uga.edu.

Jeff Hendricks (front row, second from left) was part of a team that built structures in Eastern Brook Trout Streams to increase brook trout habitats.

Stephanie Kern worked for the Georgia Department of Natural Resources monitoring sea turtle nesting on Ossabaw Island, but she found time to explore the beaches off the coast of Savannah.

Heath Raybon, David Verdery and Brian Mixon assisted Dr. Dick Daniels with forestry research in Texas.

Above: Jennifer Willis spent her summer working for the UGA Marine Institute on Sapelo Island. Part of her internship included collecting seawater from a niskin to be filtered for viral bacterial production.

Right: Elizabeth Moser worked at Mote Marine Laboratory in Sarasota, Fla., helping with research on harmful algal blooms, and she found some fun creatures on the beach.
Spring Awards Banquet: Recognizing Excellence

The Warnell School held its annual Spring Awards Banquet on April 16, 2009, awarding more than $100,000 in scholarships to pre-professional, professional, graduate and Ph.D. students. School leaders also announced the winners of awards, which drew more than 230 people to the ceremony held at the Georgia Center. Awards and scholarships are sponsored by donors to the Warnell School.

Forestry Alumni Pre-Professional Scholarship
New: Shemena Shivers, M. Eliese Ronke, Noah Shealy

Forestry Alumni Scholarship
New: David Garrett & W. Amos Tuck
Continuing: Timothy Boatright, Allison Robillard, Andrew Hart, Tara Thomson, Emily Reed, Ann Marie Couch

William Tyler Ray Scholarship
New: Morgan Hickson, Sarah Mills, Joseph Styga, Laci Coleman, Sarah Arnold
Continuing: Jeffrey Hendricks, Elizabeth Moser, Wallace Woods

C.M. & Bernice C. Stripling Professional Scholarship
Matthew Stokes

William N. Thompson Scholarship
Denise Bailey

Elmo Hester Memorial Scholarship
Chassity Brady

Georgia Forestry Association/Georgia Forestry Foundation Fellowship
David Verdery

Judith Fitzgerald Brooks Memorial Scholarship
Michael Pigott

Arnett C. and Ruth Mace Memorial Fund
J. Claire Ike

Gordie J. Yancey Scholarship
Matt Streich

Soil Science Society of Georgia Scholarship
Christian Hoadley

Forest Landowner Foundation Scholarship
Joel Vinson, Jr.

Martha Love May Memorial Scholarship
Continuing: Tara Thomson
New: Emily Reed and Meg Williams

E.E. Provost Scholarship
Darren Garee

TROUT Unlimited Cold Water Fisheries Endowment Fund
Undergraduate: Jason Payne
Graduate: Josh Seehorn

Georgia Division, Society of American Foresters Scholarship
Marissa Perry

Superior Pine Products Scholarship
Jon Hart

B. & Charlotte Alexander Saunders Scholarship
Doug Aubrey and Jena Hickey

Charles A. & Rose Lane Leavel Scholarship
Christine Holtz

Frederick William Kinard, Jr. Scholarship
Meredith Moeggenberg

 Archie E. Patterson Scholarship
Megan Carter

Earl Jenkins/Gladys Beach Memorial Award
Allison Robillard

Lepardo-Williams Scholarship
Katie Moore, Laci Coleman, and Nicole Pinnell

N.E. Georgia Quail Unlimited Scholarship
Susan Ellis-Felege

E.L. Cheatum Award
James Martin

Stoddard-Burleigh-Sutton Award
Tom Morley: Scott Rush
Wildlife Conservation: Andy Davis

Robert W. & June C. Porterfield Memorial Scholarship Fund
Jason Whiting

Blue Key Honor Society
New Members: Jeffrey Hendricks, Lincoln Larson, Elizabeth Moser, and Kristen Cecala

Gamma Sigma Delta Outstanding Sophomore and Senior in Forest Resources
Sophomore: W. Amos Tuck
Senior: Ryan Reddish

Outstanding Senior in Wildlife
Tara Thomson

Outstanding Senior in Forestry
David Verdery

Rotaract Student Service Award
Elizabeth Moser

Who’s Who Among Students in American Universities & Colleges
Tara Thomson, Mallory Cronick, Andrew Taylor

Forestry Faculty Award
Mallory Cronick

UGA Outstanding Graduate Teaching Assistant Award
Mandi McElroy, Lincoln Larson, Jamie Sanderlin

Warnell School Outstanding Teaching Assistant Award
Ryan Sharp and Kirk Stodola

Warnell School Ambassador of the Year
Kendra Hufnife

Professors Presented at Honors Day
Bob TesKEY, Dale Greene and John Maier

Gamma Sigma Delta Junior Achievement in Research Award
Michael Vabsley

Gamma Sigma Delta Distinguished Research Achievement Award
Steven Castleberry

Xi Sigma Pi/Herrick Outstanding Professor in Forest Resources
Steven B. Castleberry

Herrick Award for Outstanding Teaching
Robert Warren

Alumni Association Faculty Award for Outstanding Teaching
Bruce Borders

Honorable Mention
Warnell Student Ambassadors
Randy Cass, Mallory Cronick, Miles Groover, Kendra Hufnife, Morgen Ingerman, Lincoln Larson, Garrett Mack, Jess McNell, Ryan Reddish, Emily Reed, Stephen Spurlock, Matt Stokes, Andrew Taylor, Tara Thomson, Tyler Wachtel, Meg Williams, Jennifer Willis

Students Presented at Honors Day
Elizabeth A. Moser, Shannon J. Hotch, Jeffrey L. Hendricks, Timothy W. Boatright, Mallory A. Cronick, David A. Verdery, Margaret Eliese Ronke, Emily F. Reed

Xi Sigma Pi Inductees
Jackson Audley, Michael Bednarski, Todd Bentley, Emily Blizzard, Ann Marie Couch, Vanessa Lane, Bin Mei, Will Ricks, Matthew Streich, Tara Thomson, Lindsey Tuominen, David Verdery, Tyler Wachtel, Joseph Webber

Southeastern Wildlife Conclave Participants
Andrew Brannon, Megan Carter, Marissa Cent, Mike Cherry, Laci Coleman, Mallory Cronick, Justin Davis, Micah Hollis, Robert Horan, Brianne Lapiere, Graham Marsh, Hayden Martin, Theron Menken, Meredith Moeggenberg, Katie Moore, Kathryn Perlman, Will Ricks, Drew Ruttinger, Jay Scott, Andrew Taylor, Tara Thomson, Meg Williams

Southeastern Forestry Conclave Participants
Miles Groover, Jonathan Lee, Jason McMullen, Brian Mixon, Katie Moore, Morgan Newman, Michael Pigott, Michael Ransom, Jacob White, Robert White, Meg Williams, David Verdery, Morgan Verdery, Dustin Evans
Plum Creek Delivers Birdies for Warnell

By SANDI MARTIN

Plum Creek hit a hole in one for the Warnell School in October, raising more than $40,000 in a charity golf tournament that benefits the school’s Young Alumni Endowment for Leadership Training. Plum Creek picked up the tab for hosting the golf tournament, held at The Georgia Club outside Athens on Oct. 2, turning over all the proceeds to Warnell. It’s an amazing gift, said Warnell Dean Mike Clutter. "We are honored to have Rick Holley, Dave Lamberr and Larry Nielson in town to help with this inaugural event. We had a beautiful day and lots of fun was had by all – even I had a couple of good shots. Thanks to Plum Creek, particularly Rick and his management team along with Tom Reed and Pete Madden here in Athens, for the fabulous support of our school.”

Rick Holley, Plum Creek’s president and CEO, said the company was thrilled by how much was raised for Warnell. “Plum Creek was honored to host the 2009 Warnell Benefit Golf Tournament,” he said. “Thanks to participants and the support of event sponsors, more than $40,000 was raised for the Warnell School. We think highly of their forestry program and have employed several UGA graduates.”

All the money will go towards the Young Alumni Committee’s new fundraising goal of $100,000. The group hopes to raise that much by their 10-year anniversary, which members will celebrate in 2015. The group also plans to begin awarding a new scholarship in 2010 that will benefit Warnell students who exhibit outstanding leadership skills and participation in professional events.

The golf tournament drew more than a dozen four-man teams, who competed for a variety of prizes offered by sponsors, although no one won the $25,000 jackpot for a Hole in One on the eighth hole, T

Tournament Sponsors:

- Jones Lang LaSalle
- Georgia Pacific
- B & S Air Inc.
- MWV Meadwestvaco
- The Timbermen Inc.
- G&C Fertilizer
- Interstate Resources
- Pine Timber Company
- Forest Investment Associates
- Gavilon
- Resource Management Service LLC
- Plains Logging Company Rayonier
- Timberland Investment Resources LLC
- Hancock Timber Resource Group

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- Timberland Investment Resources LLC
- Hancock Timber Resource Group

By SANDI MARTIN
Dallas Paul Grimes
Age: 23
Hometown: Harlem, Ga.
Education: BSFR in Wildlife, ’08
AS in forest resources from ABAC

This is a dream job. Without a doubt.

By SANDI MARTIN

Dallas Grimes was just a little third-grader when he made up his mind. He liked hunting. He liked being outdoors. So when he found out he could make a living working outside with the various creatures roaming around the woods, he was sold. “I made up my mind I wanted to be a wildlife biologist,” he said. “And I’ve never wavered.”

Indeed not. As far as Grimes is concerned, he’s hit the lottery. He’s one of just four guys working at Augusta’s Ft. Gordon, responsible for managing 45,000 acres used by hunters and another 4,400 of ponds, lakes and wetlands — 600 used by fishermen. He has a lot of freedom, a lot of work variety and a lot of fun. And he’s outside — a lot. “This,” Grimes says, while driving around a dirt road on the base one steamy August day, “is a dream job. Without a doubt.”

Grimes (BSFR ’08) began working for Versar, a company contracted by Ft. Gordon’s natural resources department to manage the thousands of acres of forestland and wildlife habitats, about a year ago after a stint in Florida working with Warnell graduate student James Martin on quail projects. Although he fell in love with the longleaf wire grass ecosystem while in Florida, he said, he couldn’t pass up a chance to move back closer to his hometown of Harlem — or such a rewarding opportunity. Grimes is part of a four-man team that makes up Ft. Gordon’s fish and wildlife management staff, which supports military efforts to maintain wildlife and wildlife habitats.

The support military leaders have given them, Grimes stressed, has been incredible, as they recognize the importance of keeping animal species unthreatened and non-endangered and helping those that already are, including the Red-Cockaded Woodpecker population recovery. The teams cut holes for the woodpeckers using chainsaws, and even clean out the flying squirrels that squat in them so the endangered birds will nest. “It’s amazing how big a part the military has played in wildlife conservation and ecosystem restoration,” Grimes says.

Grimes’ enthusiasm has not gone unnoticed. Steve Camp (BSFR ’84), the team’s lead biologist, says the fellow alum is “energetic and young and has fresh ideas. For some of us older ones, that’s a good thing.” By working at Ft. Gordon, Camp says, Grimes gets to do a lot of everything, omitting the danger that the young man will get too specialized in one wildlife field. Not only is Grimes helping the woodpeckers, but his job includes everything from fish and game management to longleaf/wiregrass ecosystem management. He even stocks the fishing ponds, works with bats and plants sunflowers to attract doves. Grimes, Camp said, doesn’t balk at making some innovative suggestions. “It’s a boost for us to have some new blood and fresh ideas,” Camp says.

Tracking Ft. Gordon’s game is one idea Grimes pushed. Hunters are allowed to hunt on Ft. Gordon, which not only helps the team’s game management efforts, but also brings in revenue to support their work. Grimes started an annual camera survey, where the team has equipped random thousand-acre grids with infrared cameras to estimate the deer population. With just three grids done, they’ve gotten an estimated average of 25 deer per square mile. Up next on Grimes’ wish list? Reaching out to the public. The team already teaches soldiers who may not be familiar with the types of animals they might encounter in the woods, but Grimes’ hope is that they’ll be able to do more outreach in the community and in schools. And all the while, just keep enjoying his “dream job.”
Giving inspires GIVING

Someone’s sitting in the shade today because someone planted a tree a long time ago. —Warren Buffett

By KIM HOLT

In many ways, this month begins the time of year when people really focus on giving back. We already have so many wonderful stories of giving at Warnell this year — stories of ordinary people who do extraordinary things. These people give because of a true conviction and inner belief that it is the right and effective thing to do.

Philanthropists are not born — they are made. Giving back is a learned practice, and it often starts at a very young age when we teach children the simple value of sharing. Bill Gates and Warren Buffet have each announced that what they want to pass along to their children will be not money, but values. Parents are teaching their children to value philanthropy and other personally enriching experiences above material goods. Philanthropy assumes different forms when the younger generations get involved. Youth infuses energy into giving, which might involve giving something other than money, such as giving of time and talents.

Today, total U.S. philanthropy is greater than the economy of Switzerland and greater than the combined annual revenues of the two largest companies in the U.S. If we want to maintain and advance opportunities in education and our society, philanthropy must remain strong. We truly value those of you who lead by example and give of both your time and resources to the Warnell School. I know that attitudes are caught — not taught — and I am hopeful that talking with others about how rewarding it is to be involved at Warnell will make your charitable examples contagious!

I feel so privileged to represent the students and faculty of our institution and to work with the donors and friends who make such a difference to Warnell. We strive to demonstrate accountability with the resources you provide us and to put those resources to good use. The reason I give to Warnell is to keep this great institution moving forward, and I am encouraged that so many other parents, alumni and friends make the same generous commitment. Thank You!

On a parting note, I would like to invite you to join alumni, friends and students in the Mary Kahrs Warnell Garden for our Tailgate for the UGA v. Kentucky game on November 21, 2009. Cost is $15 per person, but children under 6 are free. Tailgates begin three hours prior to kick-off. Also, stay tuned for announcements about Alumni Regional Events this spring.

For more information:
Kim Holt, Development Director
180 East Green Street, Athens, GA 30606
(706) 542-3098 • kholt@warnell.uga.edu
Class Notes

1970s

Vincent “Vince” Alan Taylor (BSFR ’77) retired last year as state park manager with 32 years with the Georgia Department of Natural Resources.

David Jennings (BSFR ’79) has been appointed to the Washington state Fish and Wildlife Commission. Jennings’ term will end on Dec. 31, 2014, but he will be part of a team that will establish policies and regulations to preserve and protect fish and wildlife and the natural habitat. He currently works at the Washington State Department of Health in the division of environmental health.

1980s

Herman “Todd” Holbrook (BSFR ’81) has been named deputy commissioner of the Georgia Department of Natural Resources under new Georgia DNR Commissioner Chris Clark. Holbrook, who served as assistant director of the Wildlife Resources Division for 4 1/2 years prior to this appointment — and before that chief of Game Management for eight years — will oversee operations for DNR’s six divisions: Wildlife Resources; Parks, Recreation and Historic Sites; Coastal Resources; the Environmental Protection Division; Historic Preservation; and Pollution Prevention Assistance.

Joseph “Joe” Dean Parsons (BSFR ’81) has relocated to Georgia and is the procurement manager for Graphics Packaging in Macon, Ga.

1990s

Jeanna Childers (BSFR ’90) recently moved to Texas to be the new state forester for the USDA-NRCS. She has previously worked for the U.S. Army Corps of Engineers, USFS Kern River Ranger District, the Florida Division of Forestry and Champion International. She will work out of the USDA-NRCS’ Temple, Texas, office.

2000s

Jamie R. Ulmer (BSFR ’00; MS ’08) has been elected to serve on the Warnell Young Alumni Committee.

Cody Hale (BSFR ’02), now a Ph.D. student at Oregon State, has won the Horton Research Grant from the American Geophysical Union for the “best Ph.D. proposal in hydrology.” Part of Hale’s prize is $10,000 for his proposal, “Beyond the Paired-Catchment Approach: Isotope tracing to illuminate stocks, flows, residence time and scaling.”

Amanda Carla Newman (BSFR 03; MS ’08) has accepted a permanent position within the Weyerhaeuser NC Timberlands as an entry-level forester professional development candidate. She is living in Washington, N.C.

Brooks C. Mendell (Ph.D ’04) and his wife Elizabeth announce the birth of their second daughter, Ellery Frances Mendell on July 9, 2009. He recently published Beaverball: A (Winning) Season with the MIT Baseball Team and held a book signing on July 28, 2009, at Borders Bookstore in Athens, Ga.

Tyler Clemens (BSFR ’05; MFR ’06) married Leslie Liles on April 25, 2009. They live in Fitzgerald, Ga.

Grant Harvey (BSFR ’05) married Rachel Louise McCarthy on May 2, 2009.

Max Crawford Lang (BSFR ’05; MS ’08) and Amanda Hamsley Lang (BSFR 05; MS ’08) wed on June 20, 2009, at St. Stephen’s Anglican Church in Athens. He is working for Groton Land Company. She continues to work with Forisk. They live near Estill, S.C.

Michael David Westbrook (BSFR ’05; MS ’08) and his wife announce the birth of their daughter, Sara Louise Westbrook, on April 27, 2009. He has been elected to serve on the Warnell Young Alumni Committee.

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We Want To Know What You’re Doing These Days!

Please send updated employment information, personal achievements, family changes and new addresses to:
Alumni Office • Warnell School of Forestry & Natural Resources • University of Georgia • Athens, Georgia 30602
Fax: (706) 542.8356 • e-mail: news@warnell.uga.edu
Andrew “Andy” Bentley Baxter (BSFR ’07) is living in Crandall, Ga., now, and works for the U.S. Forest Services’ Conasauga District in Chatsworth, Ga.

Bradford Huffman (BSFR ’07) recently married Whitney Bryant. He is attending the Medical College of Georgia School of Dentistry.

Amy M. Taylor (BSFR ’08) has been elected to serve on the Warnell Young Alumni Committee.

Carolyn Niles Belcher (Ph.D ’08) is living in White Oak, Ga., and is working as a biologist with the Georgia Department of Natural Resources in its Coastal Resources Division.

Andrew Michael McCarley (BSFR ’08) is working with the U.S. Forest Service as a silviculturalist trainee.

Lauren Elyse Wilson (BSFR ’08) is working with Reed Creek Wetland Park and Interpretive Center as assistant educational coordinator.

Darwin Shelton (BSFR ’08) is working with Foxwater Environmental in McDonough, Ga.

Ami Alese Flowers (BSFR ’08) is currently working as a seasonal resource management ranger at Cowpens National Battlefield in Gaffney, S.C., and Ninety Six National Historic Site in Ninety Six, S.C., as a biological science technician. She is working through the STEP program, taking research hours for the summer towards her graduate degree. She plans to return to Warnell in January 2010.

Brian Jamaal Gates (BSFR ’08) is a program specialist with Cooperative State Research, Education and Extension Service Natural Resources and Environment Unit with the U.S. Department of Agriculture.

Patrick (BSFR ’08) and Avery announce the birth of their daughter Reagan Annabelle Work, who was born Oct. 13 at 10:24 a.m. The youngest member of the Work family weighed in at 6 lbs, 12 oz. and was 20 inches long upon arrival.

#### Alums named national Tree Farmers of the Year

Georgia forest landowners – and UGA alumni – Earl and Wanda Barrs received the prestigious national 2009 “Tree Farmer of the Year” award in a ceremony in Washington, D.C., in October. The couple accepted the honor for sustainable forestry practices on “Gully Branch,” their 1,500-acre property near Cochran, Ga. The couple has previously been named the 2008 Georgia Tree Farmers of the Year and the 2009 Southern Regional Tree Farmers of the Year. The national award is handed out by the American Forest Foundation to recognize tree farmers who have exhibited exceptional forest management and extraordinary promotion of sustainable forestry.

The Barrs say they are honored to be recognized for their efforts. “While we never expected to receive such an esteemed honor when we set out on this journey, it is truly a blessing that the work of so many has resulted in our being named 2009 National Tree Farmers of the Year,” Earl Barrs said. Wanda added, “We will continue to make it our mission to promote and advocate for sustainable forestry practices today that will ensure the gifts of the forest tomorrow.”

Earl Barrs (BSFR ’74) and wife Wanda (BS ’74) were first certified as Georgia Tree Farm members in 1987, and the couple has been widely recognized for using their property to promote and advocate sustainable forestry principles and influence public policy, all while balancing wood production, environmental services of the land, and environmental education outreach. The Georgia Forestry Association and Georgia Forestry Association manage the Tree Farm program, which has nearly 2,000 members who receive guidance from professional foresters on sustainable management. GFA Executive Vice President Steve McWilliams praised the Barrs for their hard work and how they “exemplify the very finest in forest management and forestry education. Their passion for sharing the farm with others will result in a next generation that has an appreciation for one of our most valuable resources – our forests.”
Warnell lost one of the school’s strongest supporters recently. And the forest industry lost one of its most honored innovators. Edward Newsom Cooper (BSF ’34) died on Sept. 15, 2009, at the age of 96. A World War II veteran and proud owner of the largest rattlesnake rattle collection, Cooper died at the Langdale Hospice House following a short illness. Warnell Dean Mike Clutter said his passing is a great loss to forestry. “Martha and Ed Cooper have been longtime supporters of our programs here at Warnell,” he said. “Ed was one of the most talented forest managers I have ever had the opportunity to work with in the Georgia flatwoods. He trained several generations in flatwoods forest management. We will miss his contributions to our profession.”

Born on Aug. 27, 1913, in Athens, Ga., to the late Warner Rowe and Sarah Lou Newsom Cooper, Edward Cooper joined the U.S. Forest Service in Mississippi and North Carolina after graduating from Warnell. He joined the U.S. Army during World War II and was rewarded for his exemplary service in the Pacific with the Bronze Star. Cooper joined the St. Regis Paper Company in Fargo, Ga., in 1946 as a forester. He retired to Valdosta in 1978, but during his career, he pioneered the “tuft” method of pine seedling growth in the swamp wetlands of South Georgia and developed a novel mobile water tanker for combating forest fires. He showed off his rattlesnake rattle collection on the TV show “Call My Bluff” once, and he and his wife’s support of Warnell was rewarded when forestland outside Fargo was named the “Martha and Ed Cooper Forest” in honor of their donation.

Cooper is survived by his nephews, nieces, grand-nieces, grand-nephews, great-nieces, great-nephews. He was preceded in death by his wife Martha and his siblings.
**Roy Ames Grizzell Jr.** (BSF ’39), 91, died April, 11, 2009, at his home in Monticello, Ark. Born in Sweetwater, Tenn., Grizzell spent his youth active in the Boy Scouts, rising to the ranks of Eagle Scout. After graduating from Warnell, he attended the University of Michigan, where he earned his Master’s degree in forestry and a Ph.D. in wildlife management. Grizzell was a World War II veteran, serving as an Army Captain in North Africa and Italy. Later, he was head of security at Oak Ridge, Tenn., during the Manhattan Project, and even secretly carried components of the Atom Bomb across the country for testing. Grizzell later worked as wildlife manager at Kentucky Woodlands, going on to become state biologist in the Soil Conservation Service in Georgia. He later served as the state biologist for the SCS in Arkansas until retiring in 1978, although he remained active in the natural resources field. Very active in his community, Grizzell was honored with awards like the Distinguished International Lions Award of Everyday Heroes. He is survived by his wife Virginia Roe Grizzell, two daughters, two sisters, five grandchildren, two great-grandchildren, and several nieces and nephews.

**Davis Shannon Morgan** (BSF ’43, 87, of Hiawassee, Ga., died May 10, 2009. Morgan was a member of Sharp Memorial United Methodist Church in Young Harris, was a World War II Army-Air Force veteran and a Mason. He retired from the city of East Point as a civil engineer, but surveyed for several years after that he and his wife moved to Young Harris. He is survived by his wife Jane Ramsey Morgan, two sons, two daughters, one brother, six grandchildren, a great-granddaughter and five nieces and nephews.

**L.F. “Sam” Burke** (BSF ’50), 92, died April 17, 2009. A World War II Navy veteran, Burke attended UGA afterwards and earned his forestry degree. He was employed by Union Camp Corp. until he retired in 1984. He was a golden member of the Society of American Foresters, the Georgia Forestry Association and a member of the Jayhole Club. He also served on the Telfair County Hospital Board for a number of years.

**James Joshua Romeis** (Ph.D. ’08) died Aug. 23, 2009, while hiking in the Sierra Nevada mountains in California. He was a graduate of Saint Louis University High School, and he earned his bachelor’s degree from Kansas University. He worked in Washington, D.C., and Chicago, completing his Master’s degree in hydrology from the University of Nevada-Reno. Romeis had begun a post-doctoral fellowship in hydrology at the University of Arkansas. He is survived by his parents, Jim and Dana Romeis of St. Lou, his grandmother, cousins, uncle and aunt.

As news spread this past September that popular undergraduate forestry student **Taylor Gregg** had been involved in a fatal accident, his saddened friends flocked to his Facebook page, filling it with condolences to his family and memorials to the fun-loving man they knew. They still are. Gregg, 23, died Sept. 18, 2009, while mud bogging in Oglethorpe County. His friends called him an eternal optimist who loved the outdoors, UGA, his truck and his dog Oscar. Dozens of pictures are testaments to that. Gregg was on track to graduate from Warnell in 2010. He is survived by his parents, Robert and Cindy Gregg; brother Robert David Gregg; grandparents, aunts and uncles, and cousins.
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