Warnell School of Forest Resources

FORESTERS' LOG

On the Cover

UGA forest researchers are evaluating the value of paper mill wastes for use on crop and forest lands.

(See story on page 3)

Writer/Editor
Helen Fosgate

Alumni & Development
David S. Jones

Graphic Design
Lori Markiton

The Forester's Log is an Alumni Association Publication. It is published twice a year in July and January.

"New" gland shows deer communication is complex

By Helen Fosgate

Researchers at the University of Georgia have discovered a previously unknown gland in whitetail deer, the third such discovery here in 15 years, and the findings indicate deer communication may be far more complex than once believed.

The "new" gland -- found inside the penal sheath of whitetail deer -- led the researchers to investigate what, if any, chemical compounds each of the glands secrete and what messages they convey.

"With these discoveries, we now know of seven different glands or glandular areas on whitetail deer, but as we continue our research, we will likely discover even more," said Karl Miller, a wildlife researcher in UGA's Warnell School of Forest Resources.

The research, which was published in the May 1996 *Journal of Mammalogy*, is supported by grants from Wellington Outdoors, Madison, Georgia, Hunter's Specialities, Cedar Rapids, Iowa, and by McIntire-Stennis funds.

While reliable estimates of the U.S. deer population are hard to come by, scientists agree that deer numbers are on the rise. Once listed at only 1/2 million, most experts say today the number is probably closer to 15 million in the southeast alone. The number of deer-vehicle collisions and incidences of crop damage have risen sharply in the past two decades. Researchers here say a better understanding of deer physiology and behavior could lead to more practical, economic management strategies to curb the whitetail reproductive rate.

Researchers already knew about four glands or glandular areas, located on the inside and outsides of the rear legs, between the toes and in front of the eyes. And they know that deer have a keen sense of smell, which they use to survive. But just how much they rely on chemical markers to find food, locate predators, recognize other individuals in the herd and convey information about age, gender, dominance and reproductive status isn't readily understood.

"In many cases, the deer don't react to [chemical signals] at all," said Miller. "But that doesn't mean they don't learn something from them."

Miller said once the chemical compounds have been isolated and identified, it may be possible to reproduce them synthetically in the laboratory. This could have implications for controlling behavior where deer cause damage to high-value crops, nursery and landscape plants. The compounds could also be used by hunters to attract bucks or does of a specific age or condition during the hunting season.

"We're also looking at the microscopic structure of these glands to find out how they differ between the sexes, age classes and seasons of the year," said Miller.

Though it's too soon to know for sure, researchers believe these "new" glands may be at least partially responsible for giving bucks their characteristic rank odor during the mating season.

photo provided by Karl Miller

"New" glands, and the chemicals they secrete, are giving researchers clues to deer behavior.

The nasal gland, also discovered by UGA researchers in 1988, consist of two almond-shaped disks located inside the nostrils of deer. Researchers don't know yet whether this gland produces a chemical scent of its own or whether it simply lubricates the nasal passages.

The third gland, or glandular area, identified here in 1982, includes the forehead between the eyes and antlers. Because it includes large numbers of secretory glands and is more active during the mating season, this gland could be the source of the scent left when bucks rub their antlers on saplings and overhanging branches, researchers say. ▲

Recycling paper and pulp mill wastes

By Helen Fosgate

Pulp and paper mills in the Southeast generate about 3 ½ million tons of sludge and ash residues a year, enough to fill 50,000 train cars or more. Two-thirds of these wastes, which include cellulose fiber or sludge, lime mud, grit, wood ash and other woody materials, end up in landfills.

But University of Georgia research shows mill wastes are a valuable source of nutrients and organic matter that can improve the productivity of forest and crop lands. Now researchers are studying just how to make the best use of what's pilling up at mills across the South.

"The rising costs of landfilling -- and a growing recognition of the value of residues as soil amendments -- have many mills looking at alternatives," said Larry Morris, a forest soil scientist in the Warnell School of Forest Resources. The high cost of commercial fertilizer also has some farmers and non-industrial forest landowners interested in using mill wastes as ferilizer substitutes.

Morris, and colleagues in the UGA Department of Crop and Soil Science and others in Georgia Tech's Department of Environmental Engineering, began in 1994 to evaluate the potential of wastes from pulp and paper mills for re-use on agricultural and forest lands. With funding from the Georgia Consortium for Technological Competitiveness in Pulp and Paper and seven forest products companies, researchers collected and analyzed wastes from 11 participating mills.

The wastes fall into two categories. The inorganic portion, composed of wood ash, lime mud and other process residues, can substitute for lime and provide a source of phosphorous and micronutrients. The organic wastes, which include sludge, produced during the wastewater treatment, as well as other woody materials, contain enough nitrogen and phosphorous to substitute for commercial fertilizer. Morris said sludge is also a valuable soil amendment that can improve water-holding capacity and overall soil quality.

"Philosophically, reusing the wastes from mills makes perfect sense," said Morris. "The process of producing any food or fiber crop from the land takes nutrients from the soil. By returning these materials to the land, we are emulating the normal nutrient cycle."

Beyond that, Morris said it's important to understand the biological response of trees and crops to the wastes. Greenhouse studies using loblolly seedlings and alfalfa are helping the scientists decide which residues to use and how to calculate appropriate application rates.

Besides nutrients, mill residues also contain small amounts of metals, pesticides and organics. So far, lab analyses show metal concentrations like cadmium, lead and mercury, are low in mill residues and well below limits established by the Environmental Protection Agency for land application. But Morris is cautious about saying they are safe.

"There are still questions about

Story continued on page 6...

photo provided by Larry Morris

Research coordinator Joe Sanders and graduate student Catherine Merz inspect materials to be spread on land at a treatment site.

Fish consumption advisories complicated,

By Helen Fosgate

Is it safe to eat fish from U.S. rivers and lakes? In truth, it's difficult to know for sure. Health experts and scientists don't agree about the long-term health risks of eating contaminated fish or how best to alert anglers about the risks without causing undue alarm.

The use of two different systems now used to issue fish consumption advisories is so complicated and inconsistent from state to state as to be nearly useless, according to a University of Georgia scientist. He's recommending that states adopt a single set of guidelines that could assure anglers that they won't catch anything unwanted from their catch of the day.

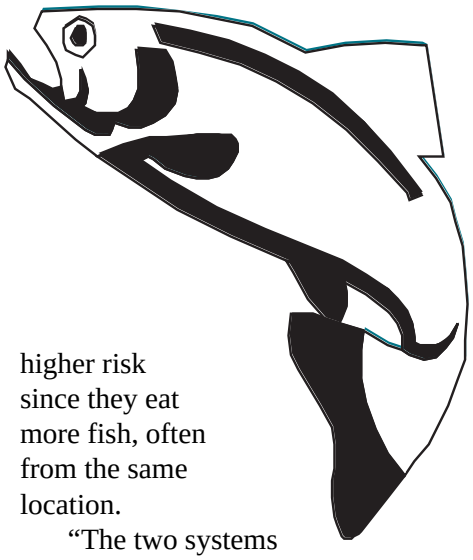
"The bad news is that we live in a world contaminated with chemical compounds," said Bob Reinert, an aquatic toxicologist in the Warnell School of Forest Resources. "The good news is that effective fish consumption guidelines can help people minimize their exposure."

Lakes and rivers are "sinks" for chemical compounds of all kinds. Fish filter and concentrate contaminants in their tissues. Most are stored in fat tissue and can be trimmed away before cooking. Grilling or broiling on a rack allows as much as 50 percent of the fats to drip away. But heavy metals like mercury and cadmium are stored in the muscle and can't be removed. That's why pollution -- and easy-to-follow guidelines about how to limit exposure -- is so important to anglers.

Reinert presented findings of a study, "A Review of the Basic Principles and Assumptions Used to Issue Fish Consumption Advisories," at the American Fisheries Society Symposium last year. He and coauthors at Cornell University, Michigan State University and the Environmental Protection Agency concluded that the scientific standards used to formulate advisories are different, and only a few states have so far adopted comprehensive guidelines to help the public understand and minimize the risks.

Until the late 1980s, most states used fish consumption advisories written years ago by the U.S. Food and Drug Administration -- guidelines designed to warn consumers about contaminated fish shipped across state lines and sold primarily through grocery stores. The newer "risk assessment" system recommended by the EPA targets sport and subsistence anglers who eat fish from local waters and who, Reinert said, may be at higher risk since they eat more fish, often from the same location.

"The guidelines remind people that water quality is an important concern that affects us all"



"The two systems are based on a completely different set of critieria and provide contrasting estimates of what's safe to eat," said Reinert. "The FDA advisories balance economic impacts [of losses to the fishing industry] with public health risks, while the EPA advisories are based on health risks alone. To add to the confusion, some states use combinations or variations of the two systems."

The number of fish consumption advisories issued by states increased dramatically in recent years, mostly due to improved analytical techniques that can detect trace amounts of contaminants in the water. Some 48 states issued advisories of some kind in the past two years after sampling showed evidence of PCBs, chlordane, mercury, dioxins or other toxicants. Reinert said the ability of researchers to detect these substances has increased a millionfold in the past decade.

The new EPA system isn't without detractors. Some in industry complain that the new advisories are

inconsistent

bad for business. Particularly controversial among scientists are EPA's cancer risk assessments, which are based on a 70-year lifetime consumption of fish.

"This issue illustrates the immense complexity of coordinating programs as controversial as health advisories across state lines and agency boundaries," said Reinert.

Georgia in 1995 became the first southeastern state to adopt a version of the new EPA guidelines after Randy Manning of the state's Environmental Protection Division formed a committee to review the situation. The members developed the current system which calls for regular sampling and scanning for 45 chemicals. Only four -- PCBs, mercury, DDT and chlordane-- are found in fish in Georgia at levels that restrict consumption.

The committee drew up a simplified set of guidelines based on EPA's recommendations. These are printed in a small book called Guidelines for Eating Fish from Georgia Waters. It is available at bait shops, marinas, state wildlife offices and where fishing licenses are sold. The book explains health risks, gives tips about how to trim and cook fish to reduce contaminants and lists consumption guidelines for fish from 26 lakes and 31 rivers in Georgia.

"The guidelines remind people that water quality is an important concern that affects us all," said Reinert. "We hope the information will channel peoples' concerns into actions that result in stricter water quality regulations." ▲

New funding will provide resources for critical research

BY DEAN ARNETT C. MACE, JR.

photo by Chuck Moore

Georgia's forest industry is in the midst of exciting and challenging times. Never before has the mandate for forest resources research been greater.

Research is the vital link in our mission in the Warnell School of Forest Resources and the backbone of our programs in teaching and service. Our goal is to pioneer exciting breakthroughs that will move Georgia's forest industry to the forefront and into a more competitive position in fast-changing world markets.

The Georgia General Assembly made a commitment to that goal this session when they funded five new research positions. This funding provided critical resources needed to expand research programs in the areas of fiber supply assessment, forest productivity, molecular genetics, harvest scheduling and soil-site productivity. We commend the members of the legislature and thank them for investing in Georgia's future through forest resources research.

To keep you better informed about our progress, we've expanded coverage of research as well as other programs and activities in the School beginning with this issue of *The Forester's Log*. This publication by no means tells our complete story. But it does offer insight into the diversity of people and the scope of programs underway in the School.

Telling the story of our work is important. Some people think of scientists as intelligent people who find it difficult to discuss their work with the lay public. This is hardly true of the researchers in the Warnell School of Forest Resources, as you'll read in these pages.

Our scientists are involved with the real problems of forest landowners, natural resource and wildlife professionals, and the forest industry across the Southeast. We aren't reluctant to talk about our ideas, our successes -- or our setbacks. Without the rich tradition of dicussion and exchange, our work can't move forward.

Read this issue and let us know what you think. ▲

FACULTY NEWS

• **Bruce M. Beck**, professor of forest resources, was invited to the Isaac Newton Institute for Mathematical Sciences, University of Cambridge, England as a Visiting Research Fellow. He will participate in a program about behavior change in aquatic ecosystems, such as those of the Chattahoochee and Coweeta watersheds, and on signal processing problems associated with the School's new Environmental Process Control Laboratory.

• **Julian Beckwith**, associate professor of forest resources, received an award of excellence from the Southern Extension Forest Resources Specialists for a program, "CRP in Georgia," and for the publication "Forest Resource One-liners with Georgia Highlights."

• **Bruce Bongarten**, associate dean and professor of forest biology, was named Professor of the Year by both Xi Sigma Pi, an academic student forestry organization, and by the Forestry Club at the School's 66th Annual Spring Awards Banquet in May.

• **Walter Jarck** has joined the Warnell School of Forest Resources as a part-time lecturer. Jarck, who retired last year as Corporate Director of Forest Resources at Georgia Pacific Corp., is teaching and co-teaching courses in industrial forestry, wood procurement and forest business.

• **Larry Marchinton**, who recently retired as professor of wildlife management, was honored by the Southeast Deer Study Group for outstanding contributions to deer management research over his 30-year career at UGA.

• **Scott Merkle**, associate professor of forest resources, was recognized at University Honors Day for outstanding teaching.

• **Glenn O. Ware**, professor of forest resources, received the Warnell School of Forest Resources Alumni Faculty Award for Outstanding Teaching at the School's 66th Annual Spring Awards Banquet in May. Ware was also recognized at University Honors Day for outstanding teaching.

• **Bob Warren**, professor of wildlife ecology, received the National Park Service Award for outstanding research in southeastern parks at the School's 66th Annual Spring Awards Banquet in May. Warren was named to the 1997 editoral panel of the Wildlife Society Bulletin. He will be profiled in a special fall issue of UGA's *Georgia Magazine* about outstanding teachers at UGA.

...mill wastes (continued from page 3)

how these residues, especially organics that are of regulatory concern, move and break down in the environment," he said. "We have to understand this before we know how much can be applied to specific sites."

While scientists are optimistic about the potential of recycled mill residues, there are several practical obstacles to their routine use. Field research trials have highlighted the problems of transporting and spreading the materials. Mill wastes are heavy and expensive to transport, making them economical only for those whose land is fairly close to the mills. Another problem is that available spreaders aren't readily adapted to narrow tree rows or rugged forest conditions. And then there are regulatory guidelines for applying biosolids to land, which vary widely from state to state.

"There is always public concern when waste materials are moved and spread in the environment," said Morris. "We're trying to address those concerns by characterizing potential hazards. We need to know, 'Do these compounds move? Do they leach? Are they absorbed by plants and trees?'"

Still, preliminary data has Morris excited about the future of recycled residues.

"Our field trials have shown that forests and crop lands are much more productive after application of mill wastes," he said.

Future research will look at mixing pulp mills with poultry manure. Early data show dramatic increases in productivity when primary sludge, which is least useful alone, is mixed with animal manure. Such mixing has the potential to turn even wastes of marginal benefit into valuable products. ▲

photo provided by Larry Morris

Technician Scott Boring measures pine seedling growth in greenhouse trials of paper mill residues.

photo by Chuck Moore

Research shows red-shouldered hawks, like those above, need bottomland hardwoods for nesting.

Giving hawks a chance

By Helen Fosgate

A new study by wildlife researchers here shows that thoughtful forest management practices can play a crucial role in protecting hawks and that hardwood bottomland is especially important nesting habitat.

Research at the 12,500 acre B.F. Grant Memorial Forest near Eatonton, Georgia, indicates that logging practices that remove the older, taller hardwoods, especially along creeks and rivers, help determine which species dwindle and which thrive.

"There has been very little research on hawks in the Southeast," said Brian Chapman, a wildlife reseacher in the Warnell School. "The dense cover of forests make them difficult to study."

Chapman and graduate students Chris Moorman and Doug Howell used recorded hawk calls to lure, then capture nesting hawks, which they fitted with radio collars in order to record their nesting habits and reproductive success rates. The study, which included 12 red-shouldered and 10 red-tailed nesting pairs, was published in the June 1996 issue of the *Wilson Bulletin*, the journal of the Wilson Ornithological Society.

The researchers found that both species are thriving at the site, a large tract of mixed hardwoods and pines that includes trees of different ages and an extensive hardwood bottomland corridor that runs along the area's three creeks. They also confirmed that red-tailed hawks have a requirement for open hunting fields and large, tall pines for nesting. Agriculture and forestry practices favor red-tailed hawks at the expense of the red-shouldered hawk, which requires bottomland hardwood forests for nesting and hunting and thrives only where hardwood corridors are left intact.

"When forests are cleared, red-tailed hawks often move in," said Chapman. "Red-tailed hawks are more aggressive and dominate in open country where they can hunt from high above. They tend to crowd out other hawk species. Red-shouldered hawks are apparently declining in the Southeast, so bottomland forests and streamside management zones are essential."

The study shows that red-tailed hawks build high, presumably so they have easy access to the nest from above. Red-shouldered hawks build lower in the canopy of tall hardwoods, where they have access from below. Researchers believe this may also help protect the nestlings from high-flying predators, hot sun and foul weather.

Eight of the 12 red-shouldered hawk nests fledged one or more young. Of the four unsuccessful nests, one was abandoned during incubation and another was damaged during a severe storm. Five of the 10 red-tailed hawk nests produced young, but researchers don't know why the other five were unsuccessful.

"This study shows the real value of hardwood bottomland habitat," said Chapman. "It also shows that when managed carefully, a woodland can support more than one hawk species." ▲

Pushing the limits of growth

By Helen Fosgate

While the world demand for paper and paper products is growing dramatically, the available acreage for production is declining. Some industry analysts believe that urban and suburban development -- as well as public pressures to preserve public lands for recreation, aesthetics and wildlife -- mean that much of the nation's future fiber supply will have to come from intensively managed plantations.

"Growing fiber this way is analogous to growing peanuts, corn or any other high-value field crop," said Barry Shiver, a University of Georgia forest researcher. "Environmentally, this approach is preferable to harvesting from extensively managed public or private woodlands and more economical than importing the huge volumes of wood needed for making pulp."

Shiver and his colleagues in the Plantation Management Research Cooperative, an effort that teams private industry with scientists in the Warnell School of Forest Resources, are looking at just how fast southern pines can grow, given optimal soil, water, fertilizer, site preparation and weed control. Their studies, some of which have been ongoing for nearly 20 years, show that it's possible to push loblolly and slash pines far beyond the average Georgia yields of 1 to 1 ½ cords per acre per year.

"We in the Southeast have a distorted view of what these pines can do," said Shiver. "The same trees in Brazil and South Africa yield 4 to 6 cords per acre per year under intensive management."

Grasses, weeds and hardwood seedlings all compete with the trees for moisture, nutrients and rooting volume. Shiver said woody vegetation should be eliminated during site preparation.

"This is also the time to carry out subsoiling or disking operations so that pine roots will have room to grow and spread," said Shiver. "Grasses are the worst problem in new plantings because of their massive root systems. After a couple of years, grasses are shaded out and hardwoods are more of a problem."

photo by Chuck Moore

Barry Shiver monitors the growth of fast-tracked loblolly pines in the study.

At several sites across the state where researchers applied fertilizers regularly and killed competing vegetation, the growth rate of pines is averaging between 3 and 4 cords per acre each year. At another site, trees are growing at a rate of 4.7 cords per year.

The vegetation control studies in particular, have shown dramatic results. In one study, "Loblolly Pines: Pushing the Limits of Growth," conducted by Bruce Borders and Bob Bailey, pines grew 51 percent faster in the first nine years where grasses and herbaceous weeds were controlled with banded chemical applications.

Pines in the study that received yearly fertilization and weed control grew at rates two to three times fasters than trees in standard loblolly plantations in the southeast. While Borders said it's difficult to predict the quality of wood from these fast-tracked trees, the methods can produce three or four times more fiber on the same base.

"It's not unreasonable to believe that current fiber rotation lengths can be reduced from 20 to 25 years to just 12 or 15 years while doubling or even tripling fiber production on a given acre of ground," said Borders.

"The real lesson is that it's possible to dramatically increase fiber yields on specific acreages," said Borders. "This approach could allow us to take other, more sensitive sites our of production." ▲

Studies reveal some trees "pine" for greenhouse gases

By Phil Williams

The steady warming of the Earth's atmosphere, along with increased concentrations of carbon dioxide, could one day bring cataclysmic changes to the planet, some scientists believe. They have suggested global warming could cause anything from the widespread elimination of species to the melting of polar ice caps.

But new studies in USDA's Southern Global Change Program indicate there is at least one hidden advantage to increased CO_2 concentrations: much better tree growth due to improved photosynthesis. Four separate groups of scientists in the South agree that managed timber stands will actually benefit from higher levels of CO_2 in the atmosphere.

"What we've found so far is that pine trees are better adapted to increases in CO_2 than most species, but others respond positively as well," said Bob Teskey, a professor in the University of Georgia's Warnell School of Forest Resources.

Teskey, along with colleagues in North Carolina, Alabama, Mississippi, and Oklahoma, studied the response of loblolly pines to increasing concentrations of CO_2 and provided detailed and extensive measurements of photosynthesis, respiration and growth under a variety of experimental conditions.

The research will be published this spring in the book The Sustainability and Productivity of Southern Forest Ecosystems in a Changing Environment. Co-authors of the chapter outlining the research are Phillip Dougherty of the Westvaco Timber Co. of Sumter, S.C., and Robert Mickler of the U.S. Forest Service.

Teskey and his colleagues wanted to know if the benefits from elevated CO_2 levels would last and if these beneficial effects might be modified by other stresses on the trees, such as increasing air temperatures. In both cases, the preliminary news is good. The researchers believe it will take hundreds of years for slowly increasing CO_2 levels to reach the maximum benefits for growing pine trees. And the benefits of increased CO_2 are apparently greater than harm caused by rising global temperatures.

Carbon dioxide is a natural part of the Earth's atmosphere, but it has been steadily increasing over the past 100 years, largely due to air pollution from burning fossil fuels. By measuring gases trapped in ice, researchers know that a century ago the air contained about 280 parts per million of CO_2. Now, that level is up, on average, to more than 350 ppm and is climbing by about 1.5 ppm a year.

photo by Helen Fosgate

Bob Teskey uses an infared gas analyzer to measure photosynthesis in a long leaf pine.

While 80 percent of the increase is due to the use of fossil fuels, tropical deforestation also adds to the problem. (Oddly enough, Teskey said, cement production is responsible for about 3 percent of the atmospheric CO_2 increase annually.)

Carbon dioxide is the engine that drives photosynthesis in plants, so in a sense the new findings are logical. But the researchers were surprised at the steady, increasing effect that more CO_2 had on loblolly pine trees.

"There are many things we don't know about global warming," said Teskey, "such as whether or not elevated temperatures may cause shifts in precipitation patterns; however, if these patterns are the same, there is no doubt in my mind that we will see increasing production in both managed and natural stands of trees."

Continued on page 14 ...

Convert low-grade stands to pine-hardwood forests

By Helen Fosgate

Farmers and private landowners who want to turn low-grade upland hardwood stands into mixed pine-hardwood forests may balk at bulldozers, herbicides and other expensive site preparation procedures. But these same landowners may be open to less intensive methods that would let them enjoy the many benefits of establishing a pine-hardwood forest.

Mixed forests are more pleasing for recreation, generally less susceptible to insect and disease damage, and they support a more diverse flora and fauna. A 10-year study by researchers at the University of Georgia's Warnell School of Forest Resources shows that expensive site preparation may not be necessary for those trying to convert degenerated hardwood stands to pine-hardwood mixtures.

While the scientists caution that the results may apply only to upland sites of average productivity, their data shows that pine-hardwood forests are more successful when hardwood stands are first clearcut and pine seedlings planted among the remaining hardwood stumps.

"The search for cheaper methods to re-establish pines has centered on intensive mechanical or chemical site preparation," said forest researcher, Klaus Steinbeck. "This study shows that isn't always necessary."

Steinbeck and Karen Kuers of the University of the South published the research in the fall 1996 issue of the *Southern Journal of Applied Forestry*.

"These pine-hardwood mixtures produce about half of the pine basal area of a pure pine plantation," said Steinbeck. "Mixed forests are increasingly managed for their intrinsic value, especially where economic return isn't the primary management objective."

The study, conducted on two five-acre upland sites in Georgia's Jackson County, began with a detailed pre-harvest inventory of trees. The tracts included small oaks, hickories, shortleaf pines and dogwoods, along with sweetgum, cherry and yellow poplar seedlings. Thousands of oak seedlings dominated the understory on both sites. Some loblolly pine seedlings grew on each site, but most were small and weak.

photo by Helen Fosgate

Klaus Steinbeck beside a 10-year old pine in a converted pine-hardwood tract in Jackson County.

Technicians used chainsaws to clearcut the hardwoods, then planted bare-rooted genetically improved loblolly seedlings at an eight-by ten-foot spacing. After three years, 70 percent of the pines survived. By the tenth year, 58 percent of the pines survived and generally were three to five feet above the hardwood canopy. Another 9 percent of the pines survived but are not expected to compete successfully with the surrounding hardwoods. Only a handful of the small loblolly pines present before clearcutting survived the harvesting operations.

Steinbeck said intense competition among trees began about the fourth year, when their crowns grew together, effectively closing off light to the smaller trees below. He also cautioned that planted pines cannot compete when overstory trees are left standing after harvest.

"Our experiment also included plots from which only the high-graded marketable trees were removed, and the interplanted pines did not fare well," he said. "Therefore, we believe it is necessary to clearcut completely prior to planting in order to establish successful mixed pine-hardwood forests." ▲

photo by Helen Fosgate

FACULTY PROFILE

David Newman

BY HELEN FOSGATE

David Newman was down on all fours in the mailroom floor, demonstrating the developing motor skills of eight month old daughter, Katie. "She doesn't just crawl," he said, throwing his arms up and forward, like a freestyle swimmer. "She really throws herself into it -- like this." He takes a turn around the mailroom table. A small crowd of faculty and staff who had gathered in the door smiled at the antics of this enthusiastic new father.

"Okay, okay, so I'm not very objective about her," Newman apologized, struggling to his feet, "but she's just unbelieveably cute right now."

Newman, a forest economist, wife, Barbara, and Katie, have just returned from Tasmania, where Newman spent winter quarter as a visiting scientist at the University of Tasmania, in Hobart. He worked at the Cooperative Research Center for Temperate Hardwood Forestry where he helped biologists and plant breeders there develop ways to assess the economic benefits of their work in Australia.

"Like all scientists, they've got to be able to show that their work is meaningful," said Newman. "As for my part, I really gained a lot of insights that will benefit my program here."

Newman's work in forest policy provides information about how best to manage forests, use land and set policy that's fair to both industry and to those who want to use forests for recreation and wildlife.

If that sounds mundane, you wouldn't know by talking with Newman. He's low-key but enthusiastic about his discipline and his own contributions to the field of resource economics.

"These issues are important because as Georgia grows, there will continue to be more conflicts over the use of our forests," he said.

Newman grew up on a sheep ranch in northern California, then went to the University of California at Berkeley where he majored in forestry. After college, he joined the Peace Corps, where he saw the devastating effects of deforestation in Colombia.

"I came to see that planting trees is a good option in developing countries," he said. "Deforestation has been a serious problem. Millions of acres have been denuded for cattle production."

His Peace Corps years gave Newman a lasting interest in international issues, especially those having to do with land use policies.

"The Peace Corps is kind of a non-career thing to do," he said. "It gave me a lot of 'down time' to read and study. I wanted to work internationally, so I decided I needed to go on to graduate school."

He enrolled at Duke University, where he earned his master's degree in forest economics and his doctoral degee in resource economics in 1986. Newman's interest in resource economics came about as a part of the natural process of observing and questioning the sometimes chaotic world around him.

"Economics gave me a way to look at the world from a way that I could understand and accept," he said.

If you think all economists are buttoned up conservatives, Newman's casual style will surprise you. He has consulted for the World Wildlife Fund, the World Bank and is an on-again off-again member of several conservation organizations. And yet, he's also an outspoken proponent of the forest industry and the benefits of forest research.

"Overall, forestry has had a tremendously positive impact," he said, "both on the environmental and the economic situation in the South."

In addition to his research, Newman also teaches several undergraduate courses, including forest resource economics and forest policy issues and directs several graduate students. He has maintained a long-time involvment in the conservation ecology and sustainable development degree program, which he helped to develop with colleagues in the Institute of Ecology.

He's excited about a conference being planned for later this year about risk management and uncertainty in the forest industry, which will be sponsored jointly by the Center for Forest Business and the U.S. Forest Service. ▲

Southeastern Wildlife Conclave

The University of Georgia dominated this year's Southeastern Wildlife Conclave, hosted by Virginia Polytechnic Institute. The team took five first places and two second places in the following events:

Bob Waddell's buck took first place in the drawing competition.

• **1st place**: Quiz Bowl -- an academic competition. *Team members: Alex Menzel, Joe Caudell, Dorothy Wolfe, Jay Welch* (UGA won the quiz bowl five of the last nine years).
• **1st place**: Telemetry -- a radio tracking competition. *Team members: Timothy Carter, Alex Menzel*
• **1st place**: Essay *Student: Gina DeMillo*
• **1st place:** Art (Drawing) *Student: Bob Waddell*
• **1st place:** Art (free form) *Student: Stepanie Graham*
• **2nd place**: Casting -- distance and accuracy of casting with *Student: Adam Barron*
• **2nd place**: Obstacle Course -- moving objects, communicating and identifying wildlife-related objects. *Team members: Lance Broeker, Lynnette Dendy, Jay Welch, Dan Streit*

Wildlife Conclave team: Adam A. Barron, Lanson R. Broeker, Timothy C. Carter, Steven B. Castleberry, Joe N. Caudell, Gina E. DeMillo, Lynette M. Dendy, Stephanie J. Graham, M. Alexander Menzel, Danile L. Streit, Robert B. Waddell, James R. Welch, Dorothy J. Wolf.

Facutly Advisors: Sara H. Schweitzer, Karl V. Miller and Brian R. Chapman

Outstanding graduate students

• ***Steven Castleberry***, a graduate student in wildlife management, received the Outstanding Student Paper Award at the Seventh Annual Colloquium on the Conservation of Mammals in the Southeastern U.S.

• ***Jonathan W. Gassett***, a post graduate student in wildlife biology, received the E. L. Cheatum Award.

• ***Rodney L. Robichaud***, a graduate student majoring in forest biology, was awarded the Archie E. Patterson Scholarship.

• ***Jennifer Schwartz***, a graduate student in wildlife management, received the Outstanding Graduate Student Presentation Award at the annual meeting of the Southeastern Section of the Wildlife Society. Schwartz also received the Stoddard-Burleigh-Sutton Award, a $1,000 academic scholarship, at the School's 66th Annual Awards Banquet in May.

• ***Karl Stromayer*** has been awarded a post-doctoral fellowship at the U.S. Department of State by the American Association for the Advancement of Science.

• ***Zixing Fang***, a PhD candidate in forest management, received the 1996-97 Clutter Fellowship.

Graduate Symposium Awards

Award recipients were selected from a field of 30 contributors, each of whom gave a 12 to 15 minute presentation about their research.

First place:

Anthony Overton -- fisheries and forest management
Timothy C. Carter -- wildlife management
Alison E. Schroeer -- forest biology, soils and hydrology

Second place:

Kurt J. Bogenrieder-- fisheries and forest management
Michael A. Menzel -- wildlife management
Glenn W. Gladders -- forest biology, soils and hydrology

Third place:

Andrew A. Thompson -- fisheries and forest management
Laura A. Frash and *Larkin A. Powell* -- wildlife management
Catherine S. Merz -- forest biology, soils and hydrology

photo by Chuck Moore

The UGA team placed 1st in pole felling and 6th overall.

Forestry Conclave at UGA

The University of Georgia hosted the 40th Annual Forestry Conclave on March 26-28 at Rock Eagle 4-H Center near Eatonton. Thirteen teams from across the South competed in 20 forestry-related events. The UGA team placed 6th overall and took first place in one event: pole felling, which was won by Jimmy Johnson.

Forestry Conclave team:
Phillip E. Allen, J. Derek Barnes, Adam A. Barron, J. Landus Bennett, Jonathan F. Braswell, Lanson R. Broeker, Alton Brown, Jr., Jenny Brown, D. Brent Bryant, Scott Donovan, Lynette M. Dendy, John D. Gassett, J. Wesley Godbee, Elizabeth Hickman, Jimmy T. Johnson, Jason G. Kimbell, Jason S. Oates, Levi W. Smith IV, Karl H. Steinbeck, Rodney L. Thomas, James E. Touchberry, R. Thomas Tye, Stacy P. Whitlow.
Faculty Advisors:
Klaus Steinbeck, Bob Bailey

... Greenhouse gases continued from page 9

Teskey's own research has examined the interaction between levels of CO_2 and increasing atmospheric temperatures.

While the studies focused on loblolly pines, a greenhouse experiment at the University of Georgia examined the sweetgum, and a Mississippi study measured responses in the flowering dogwood. For these species, the effect of elevated CO_2 concentrations on net photosynthesis was almost always positive, but the magnitude of the response was quite variable, depending on species and growth conditions.

Other effects in pine trees included large increases in branch length, dry stem weight, total plant biomass and root growth. Leaf area was also increased, but the growth of individual needles was the same.

One surprise in the studies was the discovery that the effects of elevated CO_2 on physiological processes primarily adds to, rather than interacts with, other processes.

"This is remarkable because it means tree growth in the field (on sites of high growth potential as well as sites of low growth potential) is likely to benefit from elevated CO_2 concentrations in the atmosphere," said Teskey.

While the studies point toward benefits for managed stands of loblolly pines, concerns remain for native forests. Indeed, global warming could play havoc with forest ecology, leading to the loss of biological diversity among plants and trees and among the animals that live on and around them. Another worry is the attendant increase in ozone during global warming, since ozone does decrease productivity, according to Teskey. Levels of ozone in the Earth's atmosphere are more than twice what they were a century ago.

Still, the beneficial effects of higher CO_2 on tree growth far outweigh the negative effects of increasing ozone, Teskey said. ▲

(Phil Williams, who was senior science writer in UGA's Public Information Office when he wrote this, is now communications coordinator for the Franklin College of Arts and Sciences.)

Center for Forest Business approved

A Center for Forest Business has been established at the University of Georgia's Warnell School of Forest Resources. The Center's mission is to provide national leadership in education, research and service to the forest industry and to private landowners.

"The forest products business has become complex, sophisticated and global," said Jim Fendig, vice-president of the woodlands division, Union Camp Corp. "I believe the new Center will produce leaders that have the education and background to excel in this challenging environment."

The Center will promote sound business principles and practices, sustainable production, and market-based solutions to forest resource issues and opportunities.

"The Center will speed the industry toward its goal of practicing sustainable forestry worldwide," said Forest Kellogg, president of North American Timberlands, Inc. "And it will continue the School's tradition of providing the latest information and training to forest resource managers."

Principal activities of the Center will include a graduate program that prepares future leaders for management positions in private industry and public institutions, research that will improve planning and financial analyses available to both industry and private landowners, and service programs that incorporate the financial, biological and social components of intensive forest production in Georgia.

"Forest education programs across the country focus primarily on biology, ecology and environmental issues," said Hank Haynes, president of Timberland Managers, a Georgia-based consulting and investment firm. "The Center for Forest Business will bring a business and finance component to forestry education. It will also help to identify the issues affecting forest-based business and help to develop strategies for dealing with them." ▲

Outstanding Undergraduates

AWARDS AND SCHOLARSHIPS PRESENTED AT THE SCHOOL'S 66TH ANNUAL SPRING AWARDS BANQUET IN MAY

• ***R. Stanley Adams IV, Lanson R. Broeker, Thomas Alton Brooks, Thomas A. Brooks, Jr., Robin E. Dukes, Thomas M. Floyd, Jeffrey M. Lawrence, Kevin D. Peyton, Jeremy R. Shaw, Jeremy P. Stansell, R. Thomas Tye, Stacy P. Whitlow*** and ***Dorothy J. Wolf*** were recognized at UGA Honors Day for outstanding academic achievement.

• ***Phillip E. Allen***, a junior majoring in forest management, was awarded the Superior Pine Products Scholarship.

• ***Adam A. Barron***, a junior majoring in wildlife management, received the Gordie Yancey Scholarship.

• ***J. Derek Barnes***, a senior majoring in forest management, was awarded the Viron G. Spratlin Memorial Scholarship.

• ***M. Jeremy Coulter***, a junior majoring in forest management, was awarded the C.M. & Bernice Stripling Scholarship.

• ***Melinda K. Craven, Loren Jablonowski, Jason P. Love, Denise Maidens, Jeremy W. Nobles, John E. Peters, Keith A. Scott*** and ***Jeremy P. Stansell*** were awarded Forestry Alumni Scholarships.

• ***Robin E. Dukes***, a sophmore majoring in wildlife biology, was named Gamma Sigma Delta outstanding sophmore.

• ***Hugh D. Gibbs***, a freshman, was awarded the Forestry Alumni Freshman Scholarship.

• ***Joshua O. Harper***, a junior majoring in fisheries and aquaculture, was awarded the Ernest E. Provost Scholarship.

• ***Greshelda C. Hazelton***, a senior majoring in forest management, was awarded the Martha Love May Memorial Scholarship.

• ***Jimmy Johnson***, a senior majoring in forest management, received the Outstanding Forestry Senior Award.

• ***Jeffery M. Lawrence***, a senior majoring in forest management, received the Rayonier Incorporated Foundation Scholarship.

• ***Lauren A. Scheiwe***, a junior majoring in forest environmental resources, received the Georgia Forestry Association Scholarship.

• ***Jason T. Slater***, a junior majoring in wildlife management, was awarded the Charles A. Leavell Scholarship.

• ***Robert T. Tye***, a junior majoring in forestry and wildlife management, received the Ben Meadows Scholarship.

• ***Robert B. Waddell***, a senior majoring in wildlife management, received the Earl Jenkins/Gladys Beach Memorial Award.

• ***Keith M. Webster***, a freshman majoring in forest resources, was awarded the C.M. Stripling Scholarship.

• ***Stacy P. Whitlow***, a junior majoring in forest management, was awarded the Society of American Foresters Georgia Division Scholarship.

• ***Dorothy J. Wolf***, a senior majoring in wildlife biology, was named Gamma Sigma Delta Outstanding Senior, Ag Hill Council Outstanding Senior, WSFR Outstanding Senior in Wildlife and received the Forestry Faculty Award and the U.S. Forest Service Science Award.

• ***Walter V. Worsham, IV***, a freshman, was awarded the Forestry Alumni Preprofessional Scholarship.

Alumni Afterhours

Bringing the School to You

The events and programs of the Alumni Association have grown considerably in the last three years. Recognizing that not everyone can make the annual Homecoming trek to Athens, the School began a series of informal gatherings in 1995 at key locations across the state. Called Alumni Afterhours, these meetings attract as many as 50 participants at the six locations and take place in the spring.

Alumni Afterhours programs were held this year in Savannah, Columbus, Augusta, Valdosta, Rome, and Macon. The events include a social hour, dinner, and a short program from Dean Mace and guest faculty highlighting teaching, research, and other news from the School and University. The programs are made possible through the complete sponsorship of the hosting corporations: Canal Wood Corporation, Georgia Timberlands, Inc., Inland Paperboard & Packaging, The Langdale Company, Mead Coated Board and Union Camp Corporation. Dates for the 1998 Alumni Afterhours will be announced in the winter edition of *The Foresters' Log*.

Loblollypalooza 2

Bluegrass music, barbecue with all the necessary sides, a skeet shoot, and a 5K fun run/walk were enough to bring out more than 80 people on April 5th to Flinchum's Phoenix for Loblollypalooza 2, the annual spring on-campus event of the Alumni Association.

The event incorporates the Graduate Student Association's Treetrot (5K) through Whitehall Forest with an opportunity to bring alumni, students, faculty, and staff together. The informal program drew the attention of many alumni, who encourage more graduates and friends to participate next year.

Loblollypalooza 2 t-shirts are still available for $10. Call David Jones at 706/542-1011 for details.

Fewer Donors, Larger Gifts

by David S. Jones, Alumni & Development Director

How did we do?

Annual giving to the School of Forest Resources in fiscal year 1996 (FY 96) resulted in a 23 percent increase of total dollars raised from FY 95. Alumni and friends of the Warnell School contributed a total of $69, 018 last year--up from $56,016 in FY 95. This increase in giving is encouraging and necessary for the betterment of the School and its programs. Although the total amount raised was higher, the number of donors was actually slightly lower. Restricted gifts to the School declined from 339 in FY 95 to 267 in FY 96. In short, the gifts to the School increased in size, not number--a good "problem" to have.

How do we stack up?

The School's alumni participation in the annual fund is still one of the highest rates at the University of Georgia. Nineteen percent of our 3,123 living alumni made gifts in the Annual Fund. Only the College of Pharmacy and the School of Law, at 31 and 37 percent respectively, had higher participation.

How can we improve?

Our challenge as alumni, friends, employers, and beneficiaries of the School's programs lies in increasing the number of donors and the size of gifts. While the School is fortunate to have supportive alumni, we can encourage the nonparticipating 81 percent of our graduates to pledge their support in the next annual fund.

The other area for improvement is in designating gifts. Only 7 percent of our alumni participated in the Annual Fund through restricted gifts to the School. In writing your check, an accompanying gift letter, or even speaking to a student caller from the Annual Fund phone center, please specify that you wish to restrict your gift to the School, a particular scholarship or program, or any other area. Unrestricted gifts are used wherever the University has the greatest need and do not directly benefit the School.

How do we make gifts?

Your gifts support scholarships for outstanding students, funds for visiting scholars and speakers, recruitment and job placement programs, special seminars, instruction enhancement not possible with existing resources, alumni activities and events, and even this newsletter. All gifts to the School should be made payable to the UGA Foundation. Write your specific designation on the memo line of your check.

This month will conclude FY 97. As we begin a new fiscal year, we need your personal commitment to further the School and its programs. If you have any questions about making gifts, your giving history, or if you would like a list of funds and endowments within the School, please contact me.

CLASS NOTES

1930s

William R. Johnson (BSF 1938) ▶ 1131 Cedar Grove Rd., Greensboro, GA 30642 Retired since 1984. Enjoys gardening, traveling, and being "84 years young." Continues to encourage students in forestry, participates in Tree Farms and Local Timber Owners Association. His great nephew and niece graduated from the School of Forest Resources.

1940s

James Coad (BSF 1949) ▶ Beginning in June 1997, will serve as moderator of the Associate Reformed Presbyterian Denomination. "I attend a lot of meetings," he reports. The volunteer position is for a one-year term.

Rex S. Harper (BSF 1948, MSF 1949) ▶ Retired and still active as a consultant for the city watershed management, Cumberland, MD. Married to wife, Mary, for 58 years.

William J. (Bill) Prince (BSF 1940) ▶ P.O. Box 51, Tate, GA 40177 Retired in 1972 after 27 years as Forester and Chief Engineer for the Georgia Marble Company. Staying busy now in workshop, and garden, golfing, square dancing, and travelling with his wife, Lynda. He has four children and six grandchildren.

1950s

Gerald J. (Gerry) Allen (BSF 1956) ▶ 110 Cyprus Drive, Rincon, GA 31326 Working as Community Relations Manager for Union Camp Corporation in Savannah. Daughter is currently at UGA in pre-pharmacy.

James L. (Red) Castleman (BSF 1959) ▶ Retired from Georgia Forestry Commission in 1990. Currently working as a consultant for Castleman Consulting, Inc.

Roy S. Cole (BSF 1954) ▶ Retired in 1989 from USDA Animal & Plant Health Inspection Service. Living in Hiawassee, GA, and gardening and traveling with wife, Estelle.

Dan Crumpton (BSF 1957) ▶ Retired last year as President of Forest & Land Services, Inc. He remains the Chairman of the Board, and continues to manage his tree farms in semi-retirement. Honored as the Warren County Torchbearer for the 1996 Olympic Games.

Gene R. (Buzzie) Jones (BSF 1957) ▶ 222 Rodney Jones Drive, Jesup, GA 31545-6932 Retired after 35 years with ITT Rayonier, now a real estate appraiser with Suntrust Bank of SE Georgia. Chairman of Board with Altamaha Federal Credit Union. Enjoying fishing, hunting, and traveling.

W. Glenn Mabe (BSF 1952, MF 1956, Yale) ▶ 408 Meadow Lane, Franklin, VA 23851 Retired from Union Camp Corp. in 1990 after 38 years. Now president of Mabe Timberlands Realty, Inc.

Burton S. Middlebrooks (BSF 1952, MS 1973, Ohio State) ▶ 4540 Acreview Lane, Kettering, OH 45429-5214 Retired in Feb . 1996 as Chief Operating Officer of Shaw, Weiss, & DeNaples Consulting Engineers and Environmental Scientists. Spending more time at home on the NC Outer Banks, but "content to live here in Ohio." He calls this his second retirement, having retired from the Airforce in 1972, and says, "This time, it's for real."

Arthur N. Palmer (BSF 1957) ▶ Retired from 30 years in the US Army and six years on staff of a Baptist Church. Reports that he recently endured prostate cancer surgery. Enjoying substitute teaching in public school system, which he calls "the cutting edge of our society."

E. Jack Stephens (BSF 1955, MF 1956, Duke) ▶ P.O. Box 12447, Florence, SC 29504 President of Dixie Wood Products. Reports he is "unable to retire because of my sustained ability to lose money and my wife's energetic and creative ways of spending any money available."

1960s

Truitt M. Fore (BSF 1962) ▶ 8812 Leyton Dr., Knoxville, TN 37923 Retired from the Tennessee Valley Authority in 1993 after more than 30 years in TVA land management in seven states. Wife, Camilla, owns and operates a healthcare business in Knoxville. Two daughters live in Atlanta. Stays busy assisting with the family business and volunteering with Bicentennial Volunteers, Inc., an organization composed predominantly of TVA retirees.

George L. Perry (BSF 1961; MF 1962, Yale; MS 1968, Duke) ▶ River View Drive, River Bend Estates, Heathsville, VA 22473 Retired from US Forest Service in 1993 with his wife, Rita, and built

on the Great Wicomico, off the Chesapeake Bay. Enjoying fishing, power boating, and sailing in the Bay. Builds model boats for himself and museums, reads "all he wants," and enjoys the grandchildren.

Ronald D. Swann (BSF 1967) ▶ 126 Falcom Ridge Road, Clifton Forge, VA 24422 Forester with US Forest Service for 20 years. Currently in mountains of Virginia managing a large recreation complex and lake.

Jim Sweeney (BSF 1967; MS 1971; Ph.D. 1975, CO State) ▶ Completed Ph.D. at Colorado State in 1975, served seven years as a professor at University of Arkansas at Monticello, eight as Principle Wildlife Scientist with the US Forest Service, five as Director of Wildlife Ecology for the AFPA, and is now Manager of Wildlife Issues for Champion International Corp., Washington, DC.

John Sweeney (BSF 1967; MS 1971; Ph.D. 1975, CO State) ▶ Began career at Clemson University as an Assistant Professor of Wildlife. Now a full professor and Chair of the Dept. of Aquaculture, Fisheries, and Wildlife.

Ronald Charles Higginbotham (BSF 1964) ▶ Serving as a field missionary in Canada since 1970, he is employed with the North American Indian Ministry in "friendship evangelism, discipling, and church-planting among First Nations people." After graduation he worked with West Virginia Pulp and Paper and the USFS in Bitterroot National Forest in Stevensville, MT, before enrolling in Columbia Bible College. He has two adult married children who are also in direct ministry positions.

Harley Langdale, Jr. *(BSF 1937) ▶ As one of the School's first Distinguished Alumni, Harley Langdale is still among the most active. Continuing his leadership in the forest products industry, he recently presided over his company's groundbreaking ceremony for a medium grade fiber board plant in Willacoochee, GA.*

▶ 1970s ◀

William C. (Bill) Baisden (BSFR 1971) ▶ 200 Jensen Road, Prattville, AL 36067 UCCbill@aol.com Forest Utilization Manager with Union Camp Corp.

Spencer Brewer (BSFR 1978, MFR 1980) ▶ Production Manager in residential millwork manufacturing at Wheeler's of Rome, GA.

Bill Feisler (BSF 1970) ▶ 5806 Sagebrush Trail, Greensboro, NC 27409-2732 Director of Sales with Newman Machine Co., Greensboro, NC.

Sam Fish (BS78, MS Ag. Econ. 1981) ▶ Vice President and Gen. Manager of Timberland Silvicultural Services, Inc., Monticello, AR. Company specializes in intensive plot management. Married to Rosemary Stabler of Franklin, AL. They have three children and live in Demopolis, AL.

Ken Grahl (BSFR 1972, MS 1974) ▶ promoted in 1993 to Regional Supervisor Game Management with GA DNR, Fort Valley. Directs game management programs in 28 counties and 11 WMA's. He and his wife, Kathy, have three children.

Michael C. Hall (BSFR 1979) ▶ Asst. Chief, Endodontic Section, Dept. of General Dentistry with US Air Force, Lackland AFB, San Antonio, TX. Attended Medical College of Georgia 1980-84. Now a Lieutenant Colonel, completed specialty training (endodontics--root canal therapy) in 1996. Married to Lorrie, former UGA majorette. They have two children.

Jimmy Harris (BSF 1970) ▶ P.O. Box 8, Cornelia, GA 30531- able@stc.net President and Owner of American Bag & Linen Co., Cornelia, GA.

Sean Leary (BSFR 1977) ▶ P.O. Box 1054, Show Low, AZ 85901 Area Manager, Stone Container Corp., Snowflake, AZ. He and his wife, Julie, have three children.

Ronald L. McIntosh (BSFR 1974) ▶ Owner of McIntosh Investment Co., Savannah, GA. Serving as Potentate of Alee Shrine Temple 1997.

Kenneth B. Richards (BSFR 1970) ▶ 762 Owens Store Road, Canton, GA 30115 - k81146 @aol.com Trial Judge with the Magistrate Court of Cherokee County, GA, since July 1996. Currently serving third four-year term to expire in 2000.

Warren T. Sasser (BSFR 1970) ▶ Recently retired from the Jack Nicklaus Companies after 18 years. Now Principal of Golf Development Consultants, formed to work in US and Asia.

Lester Edward (Ed) Schuler (BSFR 1971) ▶ 6715 N. Biscayne Dr., North Port, FL 34286 - eschuler@gnn.com Executive VP and Chief Operating Officer of Community National Bank, Venice, FL. Visited Hungary and Slovakia in November as a representative of US investors in recently privitized saw mill and veneer operations there. Consulted with his "old professor," Julian Beckwith, prior to the trip.

Darlene Goodrum White (BSFR, wildlife 1979) ▶ 6643 Wall Street, Ravenna, OH 44266 Part-time rural mail carrier and homeschooling mother to three daughters. Married Travis White, National Park Ranger at Cuyahoga Valley National Rec. Area. Volunteers teaching nature classes.

Marsha Lee Wikle (BSFR 1978) ▶ Employed with the USDA Forest Service since 1980 and currently an Ecosystems Team Leader on the Athens District of the Wayne National Forest in southeastern Ohio. She manages vegetation, wildlife habitat improvement, and soil and water rehabilitation functions in the District. She reports that the Forest Service is involved in "true environmental restoration" there on the 110,000 acres they manage, as 60,000 acres are coal mine impacted.

▶ 1980s ◀

John Booth (BSFR 1983, MFR 1985) ▶ 3086 W. Deer Creek Dr., Highlands Ranch, CO 80126 - johnb@mapquest.com Project Manager with Mapquest Publishing Group, provides intelligent mapping on the internet (http://www.mapquest. com/). He and his wife, Chris, have one son and are expecting twins.

Donald Kym Partridge (BSF 1982) ▶ 1743 Quail Hollow Drive, Hamilton, GA 31811-9009 Senior Land Forester with Georgia Power Company in west central GA. Married in 1987 and has two children.

Sam Rigdon *(BSF 1959)* ▶ *Retired from Mead Coated Board Division, Buena Vista, GA, in April of this year. Sam has served as the principal contact for the Columbus Afterhours since the program began.*

Dan Roper (BSFR 1983) ▶ Attorney in general practice including forestry, Rome, GA. Reports that "I remember forestry school fondly...not law school, however." He is married with three children.

Mark Raines (BSFR 1983) ▶ 694 C Chappell Road, Waynesboro, GA 30830 Senior Forester with GA Forestry Commission, Waynesboro. Married to wife, Elva, for 13 years. They have a six-year old daughter, Ann-Marie. Their son, John, passed away in 1991.

Jack Scott (BSFR 1980) ▶ P.O. Box 633, Grayson, GA 30221-0633 - jss1@mindspring.com Private Environmental Consultant. Has been in environmental consulting and remediation since graduating.

J. Tim Smith (BSFR 1985) ▶ Senior Forester with Georgia Power, Eatonton, GA. Happily married for 10 years, he and his wife live on Lake Sinclair with their three sons.

W.A. (Drew) Tomlin (BSF 1985) ▶ 127 Ashford Trace Lane, Macon, GA 31210 Vice President, Corporate Lending, First Liberty Bank, Macon, GA. He and his wife, Lisa, have two sons and were expecting their third child in April.

Chuck Waters (BSFR 1989, MS 1992) ▶ 1911 Old Kelley Farm Road, Dawsonville, GA 30501 - gainesville_gm@mail.dnr.state.ga.us Wildlife Biologist with GA DNR. Married Jennifer Holbrook of Dahlonega on March 8, 1997.

Brian T. Wommack (BSFR 1986) ▶ 129 Pinehurst Ct. #3, Athens, GA 30606 Field Manager for Canal Wood Corp. of Augusta. Coordinates wood procurement operations for the north region. Serving a second term on the membership committee for GFA as an area supervisor.

▶ 1990s ◀

Steve W. Crawford Jr. (BSF 1995) ▶ recently promoted to Waynesboro as Assistant General Manager of Steve Crawford Forest Products, Inc.

Alumni Association Steering Committee 1997

President	Ed Hutcheson ('73)
President Elect	Billy Lancaster ('71)
Past President	Bill Miller, III ('71)
Ex-Officio	Hank Haynes ('48)
Secretary	David S. Jones

Committee Members:

through 1997	Jim Fortson ('57) Forest E. Kellogg ('62)
through 1998	Don Taylor ('63) Frank Estes ('58)
through 1999	Tom Norris ('71) David Mitchell ('65)
through 2000	Tom Ritch, III ('77) Joe Bennett, Jr. ('61)
through 2001	Bob Leynes ('69) David Waller ('71)

Steering Committee Elections 1998

The Steering Committee met on April 9, 1997, and named Tom Ritch president elect for the coming year. He is a 1977 graduate of the School and is employed by Inland, a Temple-Inland Company, Rome, GA. Following Homecoming, the new 1998 president, Billy Lancaster, will appoint an Association member to fill Ritch's unexpired term on the Committee.

The Steering Committee will meet again in August and name a nominating committee for the 1998 elections. The nominating committee will select three candidates for the two open Steering Committee positions vacated by members Fortson and Kellogg. The voting members of the Alumni Association will elect two of the three candidates by mail ballot. Voting members are those alumni who make annual contributions of $25 or more to any fund within the School of Forest Resources. All new offices and terms begin with the annual business meeting during Homecoming.

All alumni are welcome to nominate candidates for the Steering Committee. Please submit your nominations to 1997 President Ed Hutcheson, who will forward the information to the nominating committee:

Ed Hutcheson
Georgia Timberlands, Inc.
P.O. Drawer G
Macon, Georgia 31202

Scott Gilje (BSFR 1997) ▶ Biological Technician with US Fish and Wildlife Service, Savannah, GA. Currently working on a black-neck stilt contamination study at Savannah National Wildlife Refuge.

David B. Hammond (BSFR 1991) ▶ Field Manager and procurement forester wtih Canal Wood Corp., Winder, GA.

Darrell Odom (BSFR 1996) ▶ 567 Lee Road 222, Smiths, AL 26877 Forestry Technician with D.P.W., Natural Resources Management Branch, Fort Benning, GA. Assists in the management of timber on Fort Benning.

Christopher Tucker (MS, wildlife 1996) ▶ Biological Scientist in the Alligator Management Section, Florida Game and Fresh Water Fish Commission, Okeechobee, FL. He encourages all alumni of the School to "eat more 'gator tail."

Linda Vallance May (BSFR '94) ▶ 120 Cardinal Court, Covington, GA 30209 Married to husband, Chris, for two years. Works with the GA DNR Game Management Section in Social Circle, GA. Advises public on wildlife management, nuisance abatement, and hunting questions. Handles statewide Wildlife Management Area quota hunts and rehabilitates injured and orphaned wildlife.

In Memoriam

Stephen Halsey Conger, Sr. (BSF 1949) ▶ Passed away on February 25, 1997, in Augusta, GA. He was Vice Chairman of Coastal Lumber Company where he began work as a forester in 1949.

Giles Gregory Hall (BSF 1936) ▶ Passed away on November 11, 1995. Survivors include his wife Elizabeth, and son, G. Gregory Hall, Jr. (MA 1961, Ph.D. 1972)