Greetings from the School of Renewable Natural Resources! Surprising to me, I have already completed my fifth year as director of the school and continue to be impressed by our faculty and students.

Our fall undergraduate enrollment has risen to 280 students, and student quality continues to improve as our program grows. A high percentage of Renewable Natural Resources students are placed in natural resource-related jobs or in graduate schools within months of graduation. Our graduate students show similar improvements in academic quality. Students who graduate with degrees from the school typically find the skills and knowledge they’ve gained effectively translate into satisfying careers. We continually update our curricula to ensure our students will excel well into the 21st century. Our faculty members continue to work with students to combine traditional technical knowledge with enhanced writing and speaking skills, GIS and data analysis expertise and critical thinking capabilities.

Our faculty members remain exceedingly productive in their research, teaching and extension efforts. They also are exceptionally active in their professional service. Extramural funding currently is approaching $5 million per year, and the number of refereed and popularized publications continues to grow. For example, just over the past few months, Dr. Niels de Hoop has been elected vice president of the Forest Products Society, Dr. Rich Vlosky is serving as program chair for the annual meeting of the Forest Products Society, Dr. Leroy Shilling was named F-W-F Alumnus of the Year, Dr. Michael Kaller was awarded the Gamma Sigma Delta Teaching Certificate of Merit, and Dr. Kaller and Dr. Chris Green were elected to key leadership positions in the Louisiana Chapter of the American Fisheries Society. All Renewable Natural Resources faculty members actively publish, submit numerous grant proposals and serve on editorial boards and as contributing editors for a diverse number of professional and popular journals. Many more achievements are noted throughout this issue. We continue to be committed to all aspects of academic excellence, and we believe this is evident in both our productivity and quality of undergraduate and graduate programs.

We are all proud of our long and diverse academic history and the part each of you has played in the School of Renewable Natural Resource’s continued success. We appreciate those of you who contribute financially to our program, just as we also appreciate those who promote our programs throughout the nation. Please send me a note or email sharing where you are and what you are doing. I hope to see or hear from each of you soon!

D. Allen Rutherford
Director and Professor
227 RNR Building
Louisiana State University
Baton Rouge, LA 70803
225-578-4187
drutherford@agcenter.lsu.edu

www.lsuagcenter.com
or
www.rnr.lsu.edu
Research Notes

Bachman’s Sparrow Genetic Variation Being Studied

One of the most beautiful songs in longleaf pine forest is sung by the subtly plumaged (some would say drab) Bachman’s sparrow.

This small bird, a species of concern throughout its range, forages and breeds in the relatively open understory of longleaf pine forests. Because of the close association between Bachman’s sparrow and its longleaf pine habitat, it is no surprise that the bird’s population decline closely parallels the reduction in longleaf pine prairies, which have been lost or fragmented both by anthropogenic and natural causes. Fragmented habitat (patches of suitable habitat separated by altered habitat of little value to the birds) can reduce bird dispersal among habitat patches, and this reduction in movement and gene flow can lower genetic diversity and increase inbreeding, processes that can reduce survivorship and reproductive success and can affect a species’ ability to adapt to environmental change.

Master’s degree student Blain Cerame is studying Bachman’s sparrow under the supervision of Dr. Sabrina Taylor to understand the effects of fragmentation on genetic variation. Now in her second year, Cerame has captured close to 110 birds in Louisiana and has received about 100 additional samples from Florida and North Carolina. The Louisiana samples come from several sites ranging in size and degree of isolation from other habitat patches, with fragmentation mostly due to logging and fire suppression.

By studying genetic variation in these fragments, Cerame will be able to estimate whether these local populations have become genetically different and whether they have experienced losses of genetic diversity or increased levels of inbreeding. If this has occurred, it may be necessary to translocate birds among sites to increase gene flow and preserve the potential of these unique birds to adapt to environmental changes in the coming decades.

In addition to studying habitat fragmentation, Cerame also will assess the effects of the Mississippi River on Bachman’s sparrow population structure. Differences in the morphology of birds collected east and west of the Mississippi River indicate the river and its associated bottomland hardwood forests may be acting as a natural dispersal barrier for Bachman’s sparrow. By sampling birds from both sides of the river, Cerame’s genetic analyses will be able to clarify whether currently recognized subspecies actually are genetically different and should be protected accordingly.

Interestingly, preliminary results show little differentiation, loss of genetic diversity or inbreeding has occurred in Bachman’s sparrows, even from very small and isolated fragments. This is good news for the sparrow, since it means individuals probably have excellent dispersal capability and may not need help from managers to move among forest fragments. As Cerame continues her genetic analyses to include more data, her conclusions will become clearer. Watch for the final results!
Forest Landowners May Find Opportunities in Bioenergy Sector

Growing energy demands could be partially met by biobased products such as wood pellets, ethanol, biodiesel or biogas. These biobased products may provide farmers and forest landowners with considerable opportunities to tap into new markets should they choose to provide postharvest forest residues, dedicated purpose-grown trees and small diameter thinnings to energy production facilities.

According to the LSU AgCenter, Louisiana is typical of southern states with nonindustrial private forest landowners accounting for about 62 percent ownership of the 13.8 million acres of forestland. Louisiana is rich in renewable natural resources readily available for bioenergy production from the forestry industry. AgCenter researcher Dr. Niels de Hoop estimates that approximately 4,289 million kwh (5.43 gigajoules) of energy can potentially be produced from woody biomass residue in the state.

Dr. Richard Vlosky is leading a team of researchers and extension specialists from the LSU AgCenter, LSU A&M campus and Mississippi State University conducting research on potential biobased energy and/or fuel business opportunities for forest landowners in Louisiana. The purpose of this research was to survey small and medium forest landowners in the U.S. Gulf South, using Louisiana as a pilot state, to identify current and potential business activities and identify willingness to participate in biobased business activities.

(Small forest landowners are those having between 10 and 139 acres, and medium producers are those with 140-999 acres.) The study encompassed a five parish region in southwest Louisiana, which has considerable forest resources but low intensity forest use.

The specific research objectives were:

- To develop a baseline understanding of the role current forest products play in the supply chains from producers to consumers within the region.
- For existing producers, to identify prerequisites and willingness to shift existing production to potentially higher value biobased alternatives.
- For landowners with fallow land or nonproductive land, to discern the willingness to plant biobased forest species dedicated to producing biobased products.

Slightly more than 63 percent of study respondents had either a somewhat or extremely positive attitude of using biomass for bioenergy (n=915). Also, 82 percent of respondents agreed residual wood waste from forest harvesting activities should be used for bioenergy production (n=900). Almost 50 percent of the respondents would supply wood biomass to biorefineries capable of producing energy for local (n=899) needs.

Despite the perceived affinity for using wood residues for biobased products, however, only 43 percent of respondents agreed a bioenergy market will be competitive compared to conventional energy markets. In addition, regarding environmental concerns, 40 percent of respondents agreed harvesting biomass negatively affects wildlife habitat (n=912), but 40 percent disagreed that harvesting negatively affects air, water and soil quality (n=909).

Looking at market and policy issues, approximately 60 percent of the respondents either somewhat or strongly agreed that government subsidies should be provided to landowners, biomass harvesters and companies that use biomass intended for energy production (n=904). Around 41 percent of respondents either somewhat or strongly agreed that government subsidies should be provided to companies for selling biomass (n=901), while almost 45 percent agreed that incentive programs should be provided to supplement costs of establishing biomass tree species (n=901). More than 62 percent of respondents either somewhat or strongly agreed that grants should be awarded for research and development capable of advancing biomass production technologies (n=905).

These results suggest forest landowners are willing to participate in the production of biobased products but are concerned that loss of wildlife habitat may be a problem. In ongoing and future research, we will identify specific opportunities for biobased business development, look at construction of business models and focus on the ramifications of biobased industry on rural development.

For additional information, contact Dr. Richard P. Vlosky, Ph.D., FIWSci., Director and Crosby Land and Resources Endowed Professor in Forest Sector Business Development, Louisiana Forest Products Development Center.
Research Notes

Timber Inventory of Lee Forest Conducted

A stand-by-stand inventory recently was completed for the School of Renewable Natural Resources’ Lee Memorial Forest located in the middle of Washington Parish.

The recent completion of the inventory complements the work done several years ago by the previous forest supervisor, Frank Ulteschi, to locate the management unit boundaries, road system and various physiographic features on GIS layers to initiate a comprehensive system for planning and recording management activities on the forest. The detailed inventory sampled species, diameter, height, live-crown ratio and injury for each management unit on the forest. When combined with location of each stand, the spatial effect of management activities on the future mosaic of the forest can be defined and evaluated in relation to secondary effects such as variation in horizontal structure and distribution of various forest habitats within the forest.

The computer program that we will be using to forecast growth was written by the U.S. Department of Agriculture Forest Service and is called the Forest Vegetation Simulator. This growth and yield model is an individual-tree model, which requires a list of representative trees to grow. It was created with data from the Forest Inventory and Analysis program, which is an ongoing inventory program of forest types across the United States conducted by the Forest Service. The inclusiveness of the Forest Inventory and Analysis program allows the growth and yield system to project both pine and the wide variety of hardwood species found in the forest.

Paper Recognized as One of Top 50 Most Cited Articles

A paper coauthored by Chengjun Zhou, Dr. Qinglin Wu, Yijing Yue and Quangguo Zhang recently was recognized in the “Top 50 Most Cited Articles,” as published in the Journal of Colloid and Interface Science (Impact Factor=3.06).

The paper, “Application of Rod-shaped Cellulose Nanocrystals in Polyacrylamide Hydrogels” (Journal of Colloid and Interface Science. 353:116-123), deals with manufacturing rod-shaped cellulose nanocrystals and using then to reinforce polyacrylamide hydrogels.

Why is this important? Because hydrogels are used in a variety of fields including agriculture, drilling, waste treatment and tissue engineering where they are used as a scaffold to host living cells for growing new tissues. Hydrogels normally are very brittle, however, and this trait has limited their use.

In this work, rod-shaped cellulose nanocrystals were investigated as a potential solution to the brittleness problem. Were they a success? Yes! They acted as a reinforcing agent and improved the properties of hydrogels – a result that will expand the usefulness and development of this widely used material.
A Fish Out of Water?

The Gulf killifish (a.k.a. cocahoe minnow) is a common baitfish species of the Gulf Coast that may naturally become stranded during tidal cycles. Gulf killifish are unique because they lay their eggs on marsh grasses where those eggs then incubate in air during low tides. This breeding strategy may strand adults during the spawning period, causing metabolites to accumulate in the body. For the Gulf killifish to survive, it must respire while managing the accumulation of toxic metabolites that it usually removes through the gills when it is in the water.

Dr. Christopher Green and undergraduate researcher Paige O’Malley undertook a study to better understand the effects of stranding on survival, respiration and the accumulation of metabolites in this small estuarine fish.

During the study, Gulf killifish were artificially stranded by wrapping them in moist cheesecloth and placing them inside plastic containers at a controlled temperature. Surviving fish were sampled for blood plasma after stranding periods of 0, 3, 6, 9 and 15 hours. Plasma samples were used in assays to determine urea, ammonia and lactic acid concentrations. Urea and ammonia are nitrogenous waste products that build up in plasma as a result of protein use. Lactic acid is produced as a result of anaerobic (lacking in oxygen) conditions. In humans, lactic acid builds up during situations such as strenuous exercise and can result in cramping. All of these metabolites normally can be processed by the gills of the fish, but if not, they may prove fatal when high concentrations build up in the blood.

In Gulf killifish, there was no significant change in lactate, urea and ammonia following stranding time, which highlights the remarkable ability of these fish to withstand extended periods of stranding (Figure 1). In many other species, stranding proves lethal relatively quickly, possibly due to critical increases in lactate, urea and ammonia because fish cannot release waste normally through the gills. The absence of a significant increase in plasma concentrations of ammonia and urea may indicate that these metabolites are processed in alternative ways during stranding by Gulf killifish.

In addition to these tests, respirometry was used to measure standard metabolic rate in fish during an aquatic recovery period immediately following stranding. Respirometry data showed a significant decrease in respiration over time, which indicated the fish undergo a metabolic change dependent upon stranding. It is possible that a buildup of mucus on the gills prevents them from drying out, and this would be reflected in the recovery because it may take time to remove the mucus and begin respiring normally. It also is possible that this mucus could act as an additional sink for potentially toxic metabolites. This data also may indicate a change in heart rate known as bradycardia that would slow down respiration and the buildup of metabolites. To determine the true cause of these results, gill tissues were preserved for future quantitative PCR, an analysis that can reveal the expression genes that control the degradation of metabolites in gills.

It is clear that Gulf killifish possess the rare ability to survive periods of stranding. Local fishermen have been known to transport the cocahoe minnow in nothing more than a damp burlap sack, and we are now one step closer to understanding how this is made possible.
The largest annual count of wildlife in the world is the spring count of breeding ducks. This year was the 58th standardized count covering millions of acres, and the results were nothing short of amazing, with a new record high of nearly 49 million breeding ducks counted.

The response from plenty of ardent duck hunters was fast and simple – “We don’t believe it.” Hunters experiencing lousy seasons the past few years couldn’t believe the numbers. They gauge populations by what they see in the decoys, and they haven’t seen lots of ducks in recent years. These guys also have heard wildlifers complaining for decades about wetland drainage and intensified farming in the prairie breeding areas and deterioration of wintering sites, staggering losses of marshland in coastal Louisiana, massive conversions of the Mississippi alluvial hardwood forests into fields of soybeans and similar wetland conversions in California and other key wintering sites.

The obvious question is “How the heck can duck numbers be at all-time highs in 2012?”

I’d suggest that a series of unusual events have come together to make outstanding conditions.

In simple terms, we produced a pile of ducks in 2011, and in the spring of 2012 they showed up to be counted. Breeding habitat in the summer of 2011 was outstanding. This ranking is from a duck perspective; thousands of prairie farmers and homeowners that were flooded in 2011 would not share this duck-centric view of the incredible amount of water on the prairies last spring.

The amazing prairie conditions during 2011 and prior years can be broken down into four fortuitous events. Nest success is outrageous. Nest success is the key driver of duck production. We are in a period of high nest success. One of my students, Matt Pieron, and I just published a study based on more than 8,000 nests where we found an unimaginable 43 percent success in the grasslands of eastern North Dakota. That is the highest nest success in any large scale study (without predator reduction) since before the spring surveys were initiated in 1955. There are several reasons to believe that the high nest success is a phenomenon occurring in much of the U.S. prairie pothole regions and spreading into Canada as well. Red foxes are virtually absent and have been for more than a decade in much of the prairies. Sarcoptic mange decimated fox numbers, and the disease is still present in much of the drift prairie. Furthermore, coyotes have increased dramatically, and they are probably keeping foxes out of areas where they might have recovered from mange. I suspect coyotes also are doing a fair amount of damage to other predators – coons and skunks. Foxes are the most serious predator of nesting ducks. They catch and kill hens on the nest, and they compulsively cache eggs, so they can really adversely affect nesting ducks.

I’m guessing that in the past two years we also had high nest success in the Canadian prairies because of unseeded cropland. The epic water of 2011 meant that 15 million acres of Canadian prairie farmland did not get seeded in 2011 along with 10 million acres in southern Saskatchewan. Great water

Estimates of ducks are made each year by flying huge areas in the northern U.S. and Canada. In 2012, we reached a new high in total duck numbers.
Master’s degree student and Gilbert Fellow Sarah Hamilton, along with Dr. Sammy King, are working with the U.S. Fish and Wildlife Service at Bosque del Apache National Wildlife Refuge to evaluate relationships among songbird communities, surface and subsurface hydrology, geomorphology and vegetation communities.

The study is part of a much larger effort to develop a decision support tool to evaluate the effects of water use decisions along the Rio Grande River in New Mexico on riverine fish communities and riparian wildlife. The Rio Grande in New Mexico, like many western rivers, runs dry at certain times of the year due to water withdrawals for irrigation. Long-term alterations to the flooding pattern in this system have led to widespread vegetation changes that affect the distribution of many western nesting bird species.

This study will provide details about the relationships among hydrogeomorphology, vegetation and breeding songbirds to facilitate wise use of water resources in the region. Hamilton recently completed her first field season and will begin her second and final season in May 2013.

The Rio Grande River in New Mexico is subject to intensive water withdrawals for agricultural irrigation and, to a lesser extent, drinking water. These withdrawals have resulted in much lower flows than what historically occurred, even drying the river during the summer, and have led to concern for numerous fish and wildlife species.
Safety Paramount in Logging

In logging, safety training goes hand in hand with efficiency. But everything a logger does is dangerous, so that is why Dr. Niels de Hoop of the School of Renewable Natural Resources has been a featured speaker and trainer in the logging safety courses sponsored by the Louisiana Logging Council.

The Louisiana Logging Council conducts training for the Master Logger program, under the auspices of the Sustainable Forestry Initiative’s Implementation Committee, which is primarily sponsored by the forest products industry. A Master Logger must take 30 classroom hours of training, including safety, OSHA regulations, best management practices and business management, plus continuing education credit. Most mills will only receive logs from loggers who have current Master Logger certification.

Dr. de Hoop has been closely involved in the development of the logging safety workshops since their inception in 1993, before the Louisiana Logging Council even existed.

The basic safety course is titled “Timber Harvesting and Transportation Safety.” Topics include personal protective equipment and analysis of logging accidents reported to the Louisiana Office of Workers Compensation, railroad crossing safety and elements taken from videos produced by the Forest Resources Association.

The OSHA regulations for loggers course is taught primarily by de Hoop and representatives from the U.S. Occupational Safety and Health Administration and the Louisiana Department of Labor’s Workplace Safety division.

For continuing education credit, de Hoop and the agencies teach a six-hour advanced safety course. Additional safety topics are presented, including the results of de Hoop’s logger hearing research and analyses of the Louisiana Logging Council’s logging accident database, which is a result of a formal strategic partnership between OSHA and the Louisiana Logging Council.

The rates of logging accidents and fatalities have declined dramatically during the two decades de Hoop has been directly involved in logging accident research and teaching. While de Hoop would like to take all the credit, he says it actually has been a community effort that includes academia, loggers, the Louisiana Logging Council, timber companies, federal government, state government, insurance companies, Louisiana State Police and others. This effort was heralded 10 years ago in the form of an award from OSHA, the Assistant Secretary’s Team Impact Award.

Project Learning Tree Promotes ‘No Child Left Inside’

Ricky Kilpatrick, Area Forestry Agent, Bossier Parish

In the day where smartphones and iPads are not far from our side at any given moment, spending time with a tree may not be too enticing, but Project Learning Tree is a globally acclaimed environmental education program that strives to reduce this “nature deficit disorder.”

Through Project Learning Tree workshops, preK-12th grade teachers and other educators receive training and model hands-on activities to use with their students. The activity guide, along with additional resources participants receive, are great tools that allow teachers to confidently teach about our environment.

A fifth grader, who becomes a part of a “tree factory,” makes noise and motion based on the various tasks of each of the factory sections. That student will have a better understanding of plant xylem, phloem and cambium than a student who simply reads about plant parts and looks at an illustration.

Many of us learned about the water cycle by looking at a picture of a water cycle complete with clouds, rain, running water from a stream to the ocean, followed by evaporation back to the clouds. In addition to that, however, what if a student became a water molecule, starting in the ocean, and traveled to various stations such as a cloud, animal, plant, groundwater, stream, etc. as directed by rolling dice with various outcomes? When the student arrives at the next water molecule destination, he or she rolls the dice again for the next outcome.

The student makes a water molecule journey of about 10 iterations, keeping a journey log along the way. By becoming a part of the (continued on page 10)
cycle, this student will have a better understanding the water cycle.

These are just two examples from the Project Learning Tree PreK-8 Activity Guide, which has 96 activities. In addition, Project Learning Tree has several high school modules and an Early Childhood Education Guide.

The national sponsor for Project Learning Tree is the American Forest Foundation, and in Louisiana, it is co-sponsored by the LSU AgCenter, Louisiana Department of Agriculture and Forestry and the Louisiana Forestry Association. A silent auction during the Forestry Association’s annual meeting is the annual fundraiser for the project.

A network of volunteer facilitators conduct 20-30 workshops each year, training 500-700 educators. Education majors are trained in their methods courses at many of our universities, including LSU, LSU-Shreveport, ULL, NSU, SLU and Holy Cross College. Teacher in-service workshops also are offered for school faculties or at the parishwide level. In conjunction with Project Learning Tree, the annual forestry teachers tour is conducted each June to give interested educators a more in-depth look at forestry in Louisiana.

The Louisiana Project Learning Tree steering committee meets about three or four times a year to address program needs and plan accordingly. If you are interested in serving on this committee, becoming a facilitator at workshops or attending an educator workshop, please contact Ricky or Cindy Kilpatrick at rkilpatrick@agcenter.lsu.edu or cindykil4@gmail.com or 318-965-2326.

Education majors at Northwestern State University in Natchitoches participate in hands-on instruction at a recent workshop. They are analyzing their worm hunt, which is part of the birds and worms activity, one of the 96 activities found in the Project Learning Tree Activity Guide.

Derelict Crab Trap Rodeos Round Up Lost and Abandoned Fishing Gear

Julie Anderson, Assistant Professor

Derelict traps are those that have been discarded, lost or abandoned in the environment.

Traps can be accidentally lost if they become separated from their buoys by storms or passing boats. Many continue to fish, ensnaring blue crabs and other important aquatic species in a process called ghost fishing. In addition, these wire mesh enclosures pose a potential navigation hazard to boats and can become entangled in other fishing gear like shrimp trawl nets.

The Louisiana Department of Wildlife and Fisheries has been running a derelict crap trap collection program since 2004, but unfortunately volunteer effort has declined in recent years.

As a result, Dr. Julie Anderson, a state-wide fisheries specialist and assistant professor, with the School of Renewable Natural Resources and Louisiana Sea Grant, sought funding from the National Fish and Wildlife Foundation for the Louisiana Derelict Crab Trap Removal and Prevention Project. It includes a match from the Louisiana Department of Wildlife and Fisheries to continue that department’s effort. This expansion focused on creating a new festive atmosphere for the volunteer collection days.

Special volunteer “rodeos” took place in February and March, with two in St. Bernard and Plaquemines parishes and one in Terrebonne Parish. During the first rodeo day, the 20,000th trap was collected from Louisiana waters since the state Department of Wildlife and Fisheries began collecting derelict gear in 2004.

Because crab fishery is legally considered open year-round, the process of the cleanup began with approval from the Louisiana Wildlife and Fisheries Commission in September 2011 to close designated waters to crab fishing for 10 days. Officials scheduled the closures for the winter when crabs typically are smaller and less available as a way to reduce the effects on crab fishermen. The Louisiana Department of Wildlife and Fisheries mailed notices to licensed trap holders, and any traps found within the specified waters during each closure were considered derelict and subject to removal. Anyone could participate, but traps had to be dropped off at designated disposal sites, where they were crushed and, for the first time this year, the metal recycled.

Volunteer efforts were concentrated on Saturdays, and organizers worked to create a festive atmosphere with food, prizes and hidden golden crabs, as workers
In addition to removal, the project includes an educational element designed to reduce the number of traps lost annually and to reduce the effects of traps in the environment. Undergraduates from across campus have volunteered their time at events like Ocean Commotion and Baton Rouge Earth Day to educate the community about marine debris and preventing gear loss.

Dates and locations for the 2013 rodeos will be set later this year. For more information, visit: www.laseagrant.org/crabtraps

International Crossings

Todd Shupe Presents Findings in China and Portugal

Dr. Todd Shupe presented a paper and presided as president over the business meeting at the 55th International Convention of the Society of Wood Science and Technology.

Dr. Shupe also will remain on the board of directors of the organization for one more year as immediate past president. This year’s convention was held in Beijing, China, Aug. 27-31. The society is an international professional organization for wood science and technology.

Drs. Todd Shupe and Rich Vlosky also presented papers at the IUFRO All Division 5 meeting in Lisbon, Portugal, July 8-13. IUFRO contains nine divisions that each focus on a different area of forestry. Division 5 includes research on the various factors affecting the way forest plants grow and produce woody biomass and other products and the various ways the materials are used by industries and communities. Shupe presented a paper on recycling chemicals from out-of-service utility poles, while Vlosky delivered a keynote presentation on how the forest products sector can compete in a global recession.

RNR Student Travels to Singapore

Yu-hsin Hsueh traveled to Singapore to present her dissertation research at the joint assembly of the Asia Ocean Geosciences Society and the American Geophysical Union.
International Crossings

Liu Presents Research in Germany

Dr. Zhijun Liu, professor of medicinal plant research, was invited to speak at the Improving Solubility conference in Munich, Germany, June 26-28.

He gave a 40-minutes keynote presentation to an audience of pharmaceutical formulation experts and drug product developers, as well as agrochemical (e.g., fungicides) researchers. Dr. Liu has expanded his research on medicinal plants and natural products to ways of improving solubility of poorly soluble natural or synthetic compounds for a wide field of uses including nutraceuticals, food and beverages products, pharmaceuticals and agrochemicals.

Teaching Wetland Hydrology in Vietnam

In July 2012, Dr. Richard Keim traveled to the Mekong Delta in Vietnam to teach hydrology as part of an international wetlands course for young researchers and professionals in southeast Asia.

The course was the 10th Regional Training Course on Wetland Ecology and Management in the Lower Mekong Basin, which is the most recent in a series of courses that rotates annually among universities in the region of the Mekong River. Students attended from Vietnam, Thailand, Cambodia, Laos, China and Malaysia, as well as one M.S. student this year from LSU Renewable Natural Resources, Karen Doerr.

The course, hosted by An Giang University, was a three-week program that included classroom instruction, field instruction, hands-on field experience, data analysis and synthesis of the ecological, physical and sociological dimensions of several wetlands in the Mekong Delta. This interdisciplinary approach challenges students to expand beyond their areas of expertise to grapple with the complex problems facing wetland management. The wetlands of the Mekong region are particularly important ecologically and sociologically.

The course examined several different kinds of wetlands: an oxbow lake that was once a channel of the Mekong River, two floodplain Melaleuca forests, coastal mangroves, a coastal marsh and freshwater marshes in the Plain of Reeds. The Mekong and Mississippi rivers are similar sizes and in many ways their deltas are comparable. Unlike the Mississippi River Delta, human infrastructure in the Mekong Delta is mainly adapted to coexist with annual flooding instead of it being excluded by levees, so the natural connection between the river and its floodplain is mostly intact. But wetlands in the Mekong Delta face more pressure from dense population, intensive agriculture and rapidly expanding aquaculture than do those of the Mississippi River.

Continued cooperation between the United States and Southeast Asia can help develop solutions to management problems in both regions.

Chang Teaches Advanced Forest Economics in Russia

In July, Dr. Sun Joseph Chang traveled as a Fulbright specialist to St. Petersburg, Russia to teach a two-week long graduate-level forest management/economics class, “Economic Efficiency in Forestry: Faustmann-thinking From Basic Concepts to Advanced Applications,” to a group of doctoral-degree students from both Russia and Germany.

This is the second time Chang was invited by a foreign university to teach such a course to a group of doctoral students. This year the course was hosted by St. Petersburg State Forest Technical University, one of the most prestigious forestry universities in Russia. The university is organized in six faculties, consisting of forestry, forest economics and management, wood processing, chemical technology, forest engineering and forest machineries, and has a total enrollment of about 12,000 students.

The purpose of the course was to present modern forest economics to Ph.D. students and young faculty members in forest economics and management in formerly communist eastern European countries and Russia.
Dr. Sammy King Assists in Watershed Restoration Plan in Eastern Russia

In June, Dr. Sammy King traveled to eastern Russia to assist the International Crane Foundation in the development of a watershed restoration plan for the Gilchin River.

The Gilchin is a relatively small river that runs through Muraviovka Park for Sustainable Land Use near Blagoveshchensk, Russia, and empties into the Amur River. The wetlands of the park support breeding cranes, including the endangered red-crowned crane, and also is an important stopover area for a wide variety of Asian waterbirds.

King was joined by Dr. Durelle “Scotty” Scott, a water quality specialist from Virginia Tech University, as well as three leaders from the International Crane Foundation. The team of scientists met with numerous Russian faculty members, private citizens and governmental leaders to get a better understanding of the challenges facing the watershed and to identify potential solutions.

Contaminated aquifers, raw sewage releases into the river, nutrient inputs from unrestricted cattle grazing and activity in and along the river, poverty, tight governmental regulation on data sharing and government corruption are major challenges limiting implementation of watershed conservation measures. Although there are immense challenges, the team left hopeful since there are many competent and motivated citizens and scientists who are making progress. A watershed restoration plan was drafted and presented to fellow scientists and citizens. The locals are hopeful that this plan can be used as a guide for restoration of hundreds of other rivers throughout the region.

Fog settles over an Amur River oxbow at Muraviovka Park, Russia. The wetlands at the park are important for many Asian waterbirds, including the endangered red-crowned crane.

The Gilchin River is a small tributary of the Amur that carries water into the wetlands of Muraviovka Park. Pollution of rivers in the region is a common problem and a concern for humans as well as fish and wildlife populations.
Graduate Students’ Highlights

Nikki Anderson, a master’s degree student of Dr. Julie Anderson, is working to develop better bait for the commercial blue crab industry.

Karl Mokross, a doctoral degree student of Dr. Phil Stouffer, studies movements, habitat associations and social organization of bird flocks in fragmented rainforests near Manaus, Brazil.

Marcus Rutherford, a master’s degree student of Dr. Jim Chambers, is studying effective ways to establish baldcypress in cypress-tupelo wetlands of south Louisiana.

Karen Doerr, a master’s degree student of Dr. Richard Keim, is studying the effects of water management and sedimentation on the tree encroachment into Catahoula Lake in central Louisiana.

Sarah Hamilton, a master’s degree student of Dr. Sammy King, is examining the relationships among hydrology, geomorphology, vegetation and avian communities along the Middle Rio Grande in New Mexico.

Jean Elbers, a doctoral degree student of Dr. Sabrina Taylor, is investigating genetic variation and disease resistance in gopher tortoises, a declining and important species of longleaf pine forests.

Aaron Honig, a master’s degree student with Drs. Megan La Peyre and John Supan, is examining ribbed mussel distribution and reproduction across Barataria Bay.

Jingquan Han, a doctoral degree student of Dr. Qinglin Wu, is working on nanocellulose material and nanocomposites.

Karen Doerr, a master’s degree student of Dr. Richard Keim, is studying the effects of water management and sedimentation on the tree encroachment into Catahoula Lake in central Louisiana.
Nick Smith, a master’s degree student of Dr. Alan Afton, is studying the migration and nesting of Louisiana Bald Eagles.

Jacob Romer, a master’s degree student of Dr. Todd Shupe, is examining the utilization of beetle-killed southern pine trees.

Calvin Fisher, a master’s degree student of Dr. Christopher Green, is investigating the effects of environmental ion concentrations on the physiology of larval Gulf killifish.

James Ialeggio, a master’s degree student of Dr. Andy Nyman, is studying effects of nutrients and flooding on marsh grasses, including how nutrient content of the grass affects feeding behavior of nutria.

Anand Mishra, a doctoral degree student of Dr. Rich Vlosky, is doing research on the biofuels/bioenergy sector in India.

April Bryant Mason, a doctoral degree student of Dr. Jun Xu, is examining nitrate and carbon dynamics in the Atchafalaya River.

Will Budnick, a master’s degree student of Dr. Mike Kaller, is investigating crawfish species composition and morphometry in Louisiana streams.

Jonathan West, a doctoral student with Dr. Kelso, is studying primary production and respiration in southeastern Louisiana streams as a basis for assessing stream function and health.

Luke Laborde, a doctoral degree student of Dr. Frank Rohwer, is looking at waterfowl hunter satisfaction and participation in the Mississippi Flyway.
Who's Who

Dr. de Hoop Elected Vice President of Forest Products Society

Dr. Cornelis “Niels” de Hoop was elected in May 2012 as vice president of the Forest Products Society, an international organization that focuses on research related to improving the use of timber and wood.

The Forest Products Society (www.forestprod.org) was established in 1947 to provide an informational network for all segments of the forest products industry, thereby improving the sustainability of forest resources and other cellulosic resources. As vice president, de Hoop will be responsible for the technical program of the upcoming International Convention, which will be held in Austin, Texas, in June 2013. Colleague Dr. Rich Vlosky will serve as convention chairman. Also, colleague Dr. Todd Shupe is president of sister organization Society of Wood Science and Technology, which often meets in conjunction with the Forest Products Society. The three will have an opportunity to work closely together, so we expect a fantastic meeting in Austin.

According to Forest Products Society bylaws, de Hoop will run unopposed next year for the office of president-elect. Thus, he has a commitment of four years of active leadership: vice president, president-elect, president and past president. Also, last year, the Forest Products Society honored de Hoop by awarding him with its most prestigious award – the Fred W. Gottschalk Memorial Award – for service to the organization. In addition, the Louisiana Society of American Foresters awarded him with the Sparkplug Award in January.

In the Classroom

Students Learn About Conservation Genetics

Many courses taught in the School of Renewable Natural Resources have been around for decades, providing important information to our students as they progress through their programs of study. In recent years, however, the role of genetics has become increasingly important to the management of a wide variety of living organisms.

Conservation genetics, taught by Dr. Sabrina Taylor, is designed to introduce students to genetic management techniques that can be used to assess breeding behavior, movement patterns, inbreeding, hybridization, population structure and whether a species has the potential to adapt to change and persist over time. The class focuses on the theoretical basis of factors affecting genetic variation in organisms but it also provides numerous examples of how and why genetic tools are used in resource conservation.

For example, the eradication of invasive rats from South Georgia Island near the Antarctic is being made possible because genetic analyses have demonstrated that ice cover prevents rats from dispersing among populations. This means managers can limit eradication efforts to coastal areas between glaciers and attack the problem area by area, an approach that saves considerable time and money with little risk of rats re-invading treated areas. This eradication effort is currently under way and will protect native species from population declines caused by rat depredation.

Genetic analyses rely on collection of a simple tissue sample from study organisms, which allows DNA to be examined at any number of genes. By using a variety of statistical approaches, a broad range of questions related to the conservation and management of forestry, wildlife and fisheries resources can be addressed. Given the applicability to numerous ecological questions, genetic analyses have become essential to modern natural resource managers and are some of the most effective, practical and trusted ways of managing and protecting living resources around the world. It is critical that students in the school understand the genetic aspects of modern renewable resource management, and conservation genetics does an excellent job of giving our students the background they will need in their professional careers.

Kaller Receives Teaching Award

Dr. Michael Kaller recently was awarded the Gamma Sigma Delta Teaching Certificate of Merit for his commitment to teaching. Kaller works with the Ag Residential College as well as teaching in Renewable Natural Resources, where he serves as our undergraduate coordinator. The Teaching Certificate of Merit was created to honor faculty who have made distinct contributions to agriculture through teaching.

Fisheries Faculty Elected to AFS Positions

Drs. Mike Kaller and Christopher Green were elected to officer positions with the Louisiana chapter of the American Fisheries Society. Kaller was selected as president-elect and will begin his presidency in 2014. Green was elected as treasurer.
Undergraduate Enrollment Continues To Climb

During 2011-12, undergraduate enrollment in the forestry and natural resource ecology and management curricula in the school was approximately 214 students. With new undergraduates this fall, our total undergraduate enrollment has increased to more than 280 students.

In the Classroom

New Area of Concentration Added

With increasing numbers of students finding careers in land management, landscape restoration and wetland conservation, the school recently updated its natural resource conservation area of concentration to increase student exposure to theories, skills and practices suitable to the management and conservation of terrestrial and semi-aquatic habitats.

The new Wildlife Habitat Conservation and Management Concentration will provide students with the background to pursue careers with consulting firms and many state and federal agencies, all of which have indicated that they seek students more broadly trained in habitat management. A growing number of bachelor’s degree students in natural resource ecology and management are becoming interested in forestry-related course content that is covered in the forestry degree program. This new concentration allows students with a diversity of interests to pursue a degree that includes a common set of wildlife management, forest biology and taxonomy courses. Students then have the option of specializing in wetland courses or forest and upland habitat courses, including forestry camp. Students in this concentration can earn a dual major in both natural resource ecology and management and forestry.

This concentration debuted in fall 2012 and looks very promising for future semesters.

Student News

Xi Sigma Pi Apple Pie Seminars

Xi Sigma Pi sponsored two “Apple Pie Seminars” this year.

Our fall speaker was Dr. Michael Osland, research ecologist from the U.S. Geological Survey’s National Wetlands Research Center in Lafayette, La. Dr. Osland recently joined the National Wetlands Research Center after serving as a postdoctoral ecologist with the U.S. Environmental Protection Agency in Gulf Breeze, Fla. His talk was “Ecosystem Development after Mangrove Forest Creation: Plant/Soil Change Across a 20-year Chronosequence.”

Our spring semester speaker was Dr. Julie Whitbeck, an ecologist at Jean Lafitte National Historic Park and Preserve, who gave a talk titled “Perspective Shift: Current Needs for Effective Science-Based Management of Coastal Wetland Landscapes in Southeastern Louisiana.” Dr. Whitbeck moved to the National Park Service after many years in as a faculty member at Tulane University and the University of New Orleans.

Aquaculture and Fisheries Club Promotes Student Development Through Service

Josh Patterson, AFC president

The Aquaculture and Fisheries Club (AFC) at LSU has been an active part of the School of Renewable Natural Resources since the late 1980s and the 2011-2012 school year was no exception.

In addition to our traditional fall pig roast and spring crawfish boil, club members, under the guidance of faculty advisors Drs. Chris Green and Julie Anderson, had opportunities to serve both the people and aquatic resources of Louisiana while proudly representing their club, school and university. As a club, we participated in the College of Agriculture Burger Bash to recruit future members. During Burger Bash, AFC’s de facto mascot – Tebow, the baby alligator – got a chance to rub elbows with erstwhile LSU Chancellor Mike Martin. During February and March, AFC members served St. Bernard, Plaquemines and Terrebonne parishes by helping with a derelict crab trap rodeo sponsored by Louisiana Sea Grant. In all, 2,137 abandoned crab traps were removed.

Networking at the annual Burger Bash event are AFC member Paige O’Malley, Tebow, the baby gator and former LSU Chancellor Mike Martin.

(continued on page 18)
were removed from public waters in those parishes! Finally, AFC members volunteered at LSU Sea Grant’s Ocean Commotion event and in the aquaculture section of the LSU AgCenter’s AgMagic. Both events allowed club members to have positive interactions with area elementary schoolchildren while introducing them to various aspects of fisheries and aquaculture, or simply keeping their tiny fingers out of the snapping turtle tank. It was an eventful year for the AFC at LSU and we are already planning for next year.

RNR Aquaculture and Fisheries Students Win Numerous Awards at Professional Meetings

Annual Meeting of the Louisiana Chapter of the American Fisheries Society

First place, abstract competition: Paige O’Malley, Charles A. Brown, Joshua Patterson and Dr. Chris Green. Physiological effects of terrestrial stranding on Gulf killifish (Fundulus grandis).

Second place, abstract competition: Calvin Fisher, Dr. Chris Green and Charlotte Bodinier. Effects of potassium ion concentration on growth, survival and ion regulation in Gulf killifish (Fundulus grandis).

Second place, poster competition: Josh Patterson and Dr. Chris Green. Effects of differential lipids levels in broodfish diets for Gulf killifish (Fundulus grandis) spawning in indoor recirculation systems.

Annual Convention of Aquaculture America 2012, Las Vegas

First place, Student Spotlight Award and also Abstract Competition: Josh Patterson, Taylor Allgood, Craig Gothreaux and Christopher Green. Intraspecific variation in reproductive potential with body size in female Gulf killifish (Fundulus grandis).

Forestry Conclave in Raleigh, N.C., a Success!

C.F. de Hoop, Adviser, RNR Forestry Club

In March, 10 students from the school left to compete in the 55th Annual Southern Forestry Conclave held at North Carolina State University in Raleigh, N.C. Competing for LSU were Dexter Courville, Jeffrey Sanders, Paige O’Malley, Nicole Krieg, Kasie Dugas, Logan Boudreaux, Jake Barron, Abbey Raaphorst, Cullen Foley and Taylor Simoneaux. Dr. de Hoop attended as faculty adviser. The funding for conclave came from Christmas tree sales, the School of Renewable Natural Resources, Baton Rouge Downtown Kiwanis, Slaughter Logging LLC, Joel Sanders Inc. and Timber Source Group LLC. Many thanks to all for allowing our students to accomplish their major objective – to get to know students from other schools and develop professional friendships.

The convoy for the long trip consisted of three vehicles with one truck carrying a box containing axes, saws, chain tapes, etc., as well as a crawfish boiler and four sacks of home-grown crawfish. The students were determined to bring some hospitality along and create lasting memories.
and pass a good time. As we were setting up our tents Thursday, we were introduced to some campus bureaucracy. Crawfish boilers were considered an open flame, and that was a deal killer. But after some phone calls and inviting the fire marshal to the boil, we were issued a permit. After a dinner of North Carolina barbeque, the propane was lit. Forestry students from all over the South came to the LSU camp to exchange tales.

The competition started Friday morning with the technical events – compass and pacing, DBH estimation, dendrology, photogrammetry, pole classification, timber estimation, wildlife identification and wood identification. Taylor Simoneaux and Abbey Raaphorst placed second in wildlife identification, and Nikki Krieg placed fourth in dendrology – a testament to the quality of teaching at LSU!

Friday afternoon and Saturday consisted of physical events – archery, axe throw, knife throw, log birling (in water), log rolling (on land), bow saw, crosscut saw, chain throw, pole climbing, pole felling and log chopping. The star of the physical events was Dexter Courville. Foregoing his practice runs, he waded into the extremely cold water, got on the log and out-birled every competitor to win first place. Dexter even made it look easy!

With the money made from selling Christmas trees back in December, the club purchased a crosscut saw from legendary sawmaker Jean Pierre Mercier of Québec, Canada. In fact, he made two saws for us – a competition saw and a practice saw. We had high hopes with the new saw, but our time for practice was limited, and the competition was stiff. Even with a time under 10 seconds, the men only placed ninth out of 14 schools, but the women managed to place fifth.

On Friday evening, Stihl chainsaw sponsored an iron man logger sports event in which one contestant from each school enters four events – one-man crosscut, stock chainsaw, log chop and standing log chop. This Stihl event was aired on ESPN-U. Jake Barron represented LSU in this grueling event and even had the lead until he broke his axe handle in the standing log chop.

Over the years, it has amazed me how LSU forestry alumni sometimes appear at conclave out of nowhere. This year, Joe DuBois (BSF ’73) attended along with his son. Joe is a district procurement forester for Domtar in Bennettsville, S.C.

The 2013 Southern Forestry Conclave will be hosted by Auburn University. Planning for next year, the students already are concentrating on upgrading the bow saw blade and recruiting more quality students. •

LSU forestry student Dexter Courville tumbles his opponent from the University of Georgia in the final heat of the log birling competition to win first place.

Jeff Sanders climbs a 20-foot-tall pole for LSU in 12 seconds.

Jake Barron leads his heat for LSU in the iron man competition sponsored by Stihl chainsaws. It will be featured on ESPN-U.

Jake Barron (left) and Jeff Sanders practice before conclave with the new practice saw made by legendary saw maker J.P. Mercier. Looking on are (left to right) Cullen Foley, Abbey Raaphorst and Nicole Krieg.
RNR Student Awards

Jared Wolfe studies landscape demography and genetics of Amazonian birds in Brazil and coordinates a year-round bird monitoring project at Bluebonnet Swamp in Baton Rouge, La. He recently received the American Ornithologists 2012 Research Award for his work on Brazilian bird communities and also the Eastern Bird Banding Association’s 2012 Research Award for his Bluebonnet Swamp work. In addition, he received the 2012 Louisiana Environmental Education Commission Research Grant.

Som Bohora received the Gamma Sigma Delta Outstanding M.S. Student Award as well as the Outstanding Graduate Student Merit Honor Roll Award. Bohora’s M.S. thesis in forestry was “Spatial Variability in Response of Deltaic Baldcypress Forests to Hydrology and Climate.”

Denton Culpepper received a second-place in the Delta Research Foundation-sponsored “Bottomland Hardwood Forest Research Group” 2012 poster competition. His poster was titled “Minimizing Epicormic Branch Formation on Louisiana’s Leading Commercial Bottomland Red Oaks.”

Rachel Tessier, an honors undergraduate in NREM, received a summer grant from the Office of Strategic Initiatives Research Experience for Undergraduates, which is a NSF-funded program to allow undergraduates to obtain research experience in preparation for graduate school. Tessier will be working with Dr. Bill Kelso on water quality problems in the Atchafalaya Basin.

Noel Novelo recently received the Ben and Pauline Stanley Excellence Award in recognition of his superior academic performance as a Ph.D. student. At the Aquaculture America 2012 Meeting, Novelo won the Best Student Presentation Award, runner-up, for his oral presentation titled “Formulating an Ultrasound Imaging Classification System for the Channel Catfish Ovarian Cycle.”

Kristin Brzeski who won a grant-in-aid of research from the American Society of Mammalogists. Her proposal was ranked 5/74 and will allow her to examine DNA in 1,000-year-old canid bones from the Southeast as part of her Ph.D. work on red wolves.

Brad Pickens was selected as a recipient of one of the NASA-Michigan State University Professional Enhancement Awards, which are designed to assist outstanding students in attending the Annual Symposium of the U.S. Regional Association of the International Association for Landscape Ecology. Pickens received a $600 award to help defer travel expenses to the conference and was treated to an honorary dinner. He also successfully defended his dissertation this spring.

Graduate Wildlife Students Attend Annual Conference

Five RNR graduate wildlife students presented papers at the 18th Annual Conference of The Wildlife Society in Waikoloa, Hawaii, last November.

Luke Laborde presented a talk on typologies of Louisiana waterfowl hunters.

Levi Horrell reviewed the carrying capacity of Louisiana habitats for white-tailed deer.

Josh Grace discussed research on spacing of loblolly pines.

Bruce Davis presented his analysis of delayed fall migration of waterfowl.

Kristin Brzeski presented findings of her research on inbreeding of wild red wolves.
Adventurous Students

I find myself amazed each fall semester when I discover the unique summer experiences some of our outstanding RNR students have. Over the past few years, we have encouraged our students to gain practical experiences from natural resource-related jobs and internships. Below we have selected two RNR student summer experiences to highlight.

Hope you enjoy.
–Dr. Allen Rutherford

A Month in Africa

Kathrin McLean, RNR undergraduate

Last June I had the amazing opportunity to go to South Africa and volunteer with wildlife biologists on research, thanks to an organization called African Conservation Experience.

For the first two weeks I camped in the Limpopo region near the city of Alldays. I spent all of my time riding horses to search for baby roan antelope and two white rhinos that had recently been released in the area. Horses were used for these tasks because the animals were unafraid of the horses and the researchers could get closer to the wildlife. We were able to ride through the roan antelope herds without them running off and found nine babies. The horses were best to track the rhino because we were able to actually ride through the bush instead of being restricted to roads. I absolutely loved every minute, and the best way to see the bush is from the back of a horse!

The final two weeks I was there I helped on the Phinda Game Reserve. I saw a variety of wildlife on the reserve, even the “big five” (lions, elephants, leopards, buffalo and white and black rhino). One of the greatest moments for me was when I got to see a mother cheetah with her five cubs that we had been tracking for five days. The cubs were so playful and a joy to watch! I also got to see a white rhino ear notching, a buffalo transport and biodarting of two white rhinos and a cheetah. The main task I was responsible for was tracking elephants. I spent every day using radiotelemetry equipment to track. I am happy to say I became very good at it and was able to lead us to the herd every time I got a signal! I can honestly say I will never forget my first experience in Africa and most definitely plan on having many more!

Working in the Okefenokee

Katlin Lucas, RNR undergraduate

As a senior studying wildlife ecology in RNR, I was given the opportunity to become a STEP student (Student Temporary Employment Program) for the U.S. Fish and Wildlife Service.

I was stationed at Okefenokee National Wildlife Refuge (southern Georgia and northern Florida) and was able to spend the summer there. It was absolutely fantastic! I had some great experiences working with each of the different groups, although I spent most of my time working with the biological and forestry teams.

Learning from the wildlife biologists was very rewarding. We spent a lot of time working with the endangered red-cockaded woodpeckers, performing fledging checks, banding chicks, changing bands on adult birds and developing inserts for nest cavities. I was able to participate in some alligator relocating, and we also set bear-bait stations. It was really a plus to be able to work in a totally different ecosystem than what I am used to. The wildlife and forests there are very different from the bottomland hardwoods in Louisiana that I call home.

Working with the forestry team also was beneficial as well as fun. They are working on longleaf pine restoration, so we spent most of the days in the woods marking trees in preparation for a timber sale. Their goal is to remove most of the slash pine and start regeneration the longleaf.

This summer was truly great. I owe a special thanks to this department, my involvement in school clubs and the experience received as a STEP at the Central Louisiana Refuges that led me to this wonderful opportunity.
Dr. Charles Leroy Shilling, who was a fixture in the School of Renewable Natural Resources for many years and retired at the end of June 2011, was honored as the 2011 Alumnus of the Year at the school homecoming event last year.

Dr. Shilling began his college education at LSU, earning a B.S. in forestry in 1963 and a master’s degree in forestry in 1965. His job as research forester at the Southern Forest Experiment Station in New Orleans, La., from 1965 to 1969 was interrupted by his military service. He served in Vietnam from 1966 to 1969, being honored with two Bronze Stars and other medals.

After returning from military service, he obtained his Ph.D. in recreation and resources development from Texas A&M University in 1971 and then served on the faculty of the University of Kentucky from 1971 until he joined LSU’s faculty in 1977.

Working under five directors during his 34 years as a faculty member in the School of Forestry, Wildlife and Fisheries, now the School of Renewable Natural Resources, Shilling worked hard to improve the school. He was an excellent teacher and received numerous outstanding teaching awards. He taught many courses, including forest recreation, forest fire protection and use, forestry camp classes and natural resource policy. He also conducted frequent workshops, many of them on prescribed burning.

From 1985 until he retired, Shilling has occupied the position of director of student services for the school and was in charge of the undergraduate program in addition to his teaching and extension duties. In that capacity, he helped students by advising them, mentoring them, listening to their problems (whether academic or personal) and working with their parents. Over the years, we have heard gratitude from countless numbers of students whose lives Shilling touched in such a positive way. Some parents mentioned that their son or daughter might not have ever completed school without his advice, and his devotion to the students probably is what left his most significant effects on the school.

Although the School of Renewable Natural Resources has been a large part of his life, Dr. Shilling does have various interests when he is home. Now, in his retirement, he is forever on the lookout for another old tractor to restore.
Supporting the School of Renewable Natural Resources

___ Yes, I want to support the School of Renewable Natural Resources. I would like my donation of $________
to be used for:

___ RNR Excellence Fund ___ Paul Y Burns Scholarship ___ Elvin Choong Lecture Series
___ FWF Alumni Scholarship ___ Norwin E. Linnartz Scholarship ___ Once in a Lifetime Gift
___ Thomas Hansbrough Scholarship

___ Please contact me to discuss giving options.

Make checks payable to LSU Foundation
and indicate the School of Renewable Natural Resources Excellence Campaign on the memo line.

For credit card contributions:

Type of credit card ___ Visa ___ MC ___ AmEx ___ Discover

Expiration Date ____________ Card# ____________

Mail to: A New Level of Excellence
School of Renewable Natural Resources
227 Renewable Natural Resources Building
Louisiana State University
Baton Rouge, LA 70803-6202

Contact Director Allen Rutherford
for more information concerning contributions to the School of Renewable Natural Resources at 225-578-4131 or
drutherford@agcenter.lsu.edu.

Student News

RNR Student Scholarships
College of Agriculture Scholarships

In September, students receiving scholarships from the LSU College of Agriculture attended the Honors Convocation at the Lod Cook Alumni Center. In recognition of these outstanding students, the parents also were invited to attend the reception.

Kasie Dugas - C.S. Churchill
Jamie Amato - E.M. Barham; Academic Scholars Resident Award
Michael Baker - Flagship Scholars Resident Award
Ryan Gary - Tiger Athletic
Tyler Loeb - Academic Scholars Nonresident Award
Christopher Hebert - C.S. Churchill
Robert Rogers - Tiger Excellence Nonresident Award
Keith Accardo Jr. - Academic Scholars Resident Award
Alexis Allen - Chancellor’s Alumni Resident Tuition

Turner DeBlieux - Academic Scholars Resident Award
Nena Eddy - Tiger Excellence Resident Award
Melissa Edgar - Academic Scholars Nonresident Award
Aaliyah Else - Academic Scholars Nonresident Award
Emily Gibson - Academic Scholars Nonresident Award
Andrea Howells - Academic Scholars Nonresident Award
Jasmine Lewis - Tiger Athletic
Kaitlyn Matherne - Tiger Excellence Resident Award
Alexandria Medine - Tiger Excellence Resident Award
Mikayla Mettler - Tiger Excellence Resident Award
Lillian Miller - Academic Scholars Nonresident Award
Kathryn Peytavin - Tiger Excellence Resident Award
Kayla Smith - Chancellor’s Golf
Peyton Aubin - Tiger Excellence Resident Award
Anna Claire Ferchaud - J.W. Melton
Sadie Leblanc - Tiger Excellence Resident Award
Laine Lyles - E.M. Barham; Tiger Excellence Resident Award
Dylan Philippe - Mac Kasaoka

Courtney Weiss - Tiger Athletic
Katie Evans - Mac Kasaoka
Margaret Whitsell - First South Farm Credit
Marshall David III - Tiger Excellence Resident Award

Louisiana Forestry Foundation Scholarships

The Louisiana Forestry Association awarded the 2012-2013 Louisiana Forestry Foundation Scholarships to seven RNR students. The students were invited to attend an annual Forestry Association luncheon Aug. 29, although Hurricane Isaac suggested they reschedule! Several of the students were able to attend the rescheduled luncheon held on Oct. 3, although not all were able to attend due to class scheduling conflicts.

Hayden Carter
Kasie Dugas
Christopher Hebert
Casey Juneau
Jeff Sanders
Stephen Upton
Margaret Whitsell

Student News

RNR Student Scholarships
College of Agriculture Scholarships

In September, students receiving scholarships from the LSU College of Agriculture attended the Honors Convocation at the Lod Cook Alumni Center. In recognition of these outstanding students, the parents also were invited to attend the reception.

Kasie Dugas - C.S. Churchill
Jamie Amato - E.M. Barham; Academic Scholars Resident Award
Michael Baker - Flagship Scholars Resident Award
Ryan Gary - Tiger Athletic
Tyler Loeb - Academic Scholars Nonresident Award
Christopher Hebert - C.S. Churchill
Robert Rogers - Tiger Excellence Nonresident Award
Keith Accardo Jr. - Academic Scholars Resident Award
Alexis Allen - Chancellor’s Alumni Resident Tuition

Turner DeBlieux - Academic Scholars Resident Award
Nena Eddy - Tiger Excellence Resident Award
Melissa Edgar - Academic Scholars Nonresident Award
Aaliyah Else - Academic Scholars Nonresident Award
Emily Gibson - Academic Scholars Nonresident Award
Andrea Howells - Academic Scholars Nonresident Award
Jasmine Lewis - Tiger Athletic
Kaitlyn Matherne - Tiger Excellence Resident Award
Alexandria Medine - Tiger Excellence Resident Award
Mikayla Mettler - Tiger Excellence Resident Award
Lillian Miller - Academic Scholars Nonresident Award
Kathryn Peytavin - Tiger Excellence Resident Award
Kayla Smith - Chancellor’s Golf
Peyton Aubin - Tiger Excellence Resident Award
Anna Claire Ferchaud - J.W. Melton
Sadie Leblanc - Tiger Excellence Resident Award
Laine Lyles - E.M. Barham; Tiger Excellence Resident Award
Dylan Philippe - Mac Kasaoka

Courtney Weiss - Tiger Athletic
Katie Evans - Mac Kasaoka
Margaret Whitsell - First South Farm Credit
Marshall David III - Tiger Excellence Resident Award

Louisiana Forestry Foundation Scholarships

The Louisiana Forestry Association awarded the 2012-2013 Louisiana Forestry Foundation Scholarships to seven RNR students. The students were invited to attend an annual Forestry Association luncheon Aug. 29, although Hurricane Isaac suggested they reschedule! Several of the students were able to attend the rescheduled luncheon held on Oct. 3, although not all were able to attend due to class scheduling conflicts.

Hayden Carter
Kasie Dugas
Christopher Hebert
Casey Juneau
Jeff Sanders
Stephen Upton
Margaret Whitsell

Contact Director Allen Rutherford
for more information concerning contributions to the School of Renewable Natural Resources at 225-578-4131 or
drutherford@agcenter.lsu.edu.
Blue-winged teal, which are early migrants that largely pass through Louisiana in September, are one of the species at all-time record high populations. Males and females look quite similar in early fall. (See article on page 7.)

The Louisiana State University School of Renewable Natural Resources offers exciting opportunities for students to pursue a wide range of career opportunities in the conservation, preservation and management of America's natural resources. We offer two undergraduate programs as well as master's and doctorate programs.


For more information, visit www.rnr.lsu.edu