

InsideESF

Fall 2010

The Magazine of the SUNY College of Environmental Science and Forestry



Links to a Greener Future

Golf courses are reducing their impact on the environment and ESF is helping. See page 10.

Moving On

The bronze sculpture of a young Abraham Lincoln on horseback that has graced the ESF campus for more than 30 years has been moved to a prominent location outside Bray Hall. The statue was sculpted by Anna Hyatt Huntington (1876–1973), who depicted Lincoln as a young lawyer riding the circuit. He is engrossed in a book while his horse nibbles some grass.

The statue is not Huntington's only link to ESF. She and her husband, Archer Huntington, donated about 15,000 acres in the Adirondacks for use by ESF in the 1930s. That land is now the Adirondack Ecological Center. Their house, Huntington Lodge (a William West Durant camp), was recently restored to its original Great Camp look.

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ESF's Maria B. Hosmer-Briggs takes a look at the possibilities held by the College's field station in Costa Rica.



ESF doctoral student Rick Bates puts wood in the gasifier he built in the back of his pickup truck. Bates, who studies with Dr. Klaus Doelle in the Department of Paper and Bioprocess Engineering, is demonstrating the sustainability of wood for powering engines. Bates said the research could lead to the use of biomass fuels in farm vehicles or electric generators for cash-strapped communities or developing countries.

For more about Bates' work, go to www.esf.edu/insideesf/bates.

InsideESF

SUNY College of Environmental Science and Forestry

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P i led Paper



Cornerstone unveiled as Centennial Hall rises

ESF unveiled a commemorative cornerstone for its new student residence hall and formally named the building Centennial Hall in honor of the College's upcoming 100th anniversary.

Construction of the residence hall, scheduled to open in August 2011, marks a turning point in ESF's history: It is the first residence hall specifically for ESF students, who have, to this point, had access to on-campus housing only at neighboring Syracuse University.

"We are thrilled to be able to offer this new opportunity to our students," said ESF President Cornelius B. Murphy, Jr. "For our incoming students, Centennial Hall will ease their transition to college life. For all our students Centennial Hall will provide an enriched living experience and help them get more out of their ESF education. It also provides much-needed space as we continue to grow and expand our academic programs."

Construction of Centennial Hall, overseen by national student housing developer Allen & O'Hara and local contractor Hueber Breuer, began in May along Oakland Street, just west of the main ESF campus. The \$31.4 million building is being constructed by the ESF College Foundation, Inc.

"The ESF College Foundation has been working for seven years to develop this facility for ESF students. We are extremely excited to see this dream become a reality," said ESF College Foundation Executive Director Brenda Greenfield. The work is funded by financing provided through the Onondaga Civic Development Corp. and TD Bank.

The 452-bed facility designed by WTW Architects of Pittsburgh and HKK Architects of Syracuse will house 280 freshmen and 172 upperclassmen. Centennial Hall is being constructed from 184 modular units that are scheduled for delivery at the site through the fall.

Eugene Law ERE '12, president of the Undergraduate Student Association, helped unveil the cornerstone as a crowd of students, faculty and staff members joined representatives of business and government partners for the ceremony. The crowd gathered under a tent at the construction site as the cornerstone was unveiled during a steady rain that caused Murphy to joke that his written notes were pulping as he spoke.

For more about Centennial Hall and a link to the webcam, go to www.esf.edu/welcome/campus/centennial.htm2.



ESF President Cornelius B. Murphy, Jr., right, joins a group of dignitaries as the ceremonial shovels toss the first soil to make way for the ESF Gateway Building. The building will use an array of renewable energy technologies to showcase the College's commitment to sustainability.

Ground broken for ESF Gateway Building

ESF broke ground this summer for construction of the ESF Gateway Building, a \$28.3 million project that will showcase the College's commitment to sustainability through a sophisticated array of renewable energy technologies.

Designed to meet the highest platinum Leadership in Energy and Environmental Design standards set by the U.S. Green Building Council, the building will produce energy for itself and several other buildings on the campus. At the same time, it will become a focal point for campus life with space for student gatherings, exhibitions and conferences; a snack bar; and a fitness center.

"The Gateway Building's design and construction sets a new standard for LEED buildings, producing more renewable energy than it consumes," said ESF President Cornelius B. Murphy, Jr. "The building has a state-of-the-art bioclimatic shell while using solar, biodiesel and biomass resources to provide most of its energy requirements.

"This is a gateway. That's what the building will be for us: a gateway for the research that we do, a gateway for our students, a gateway for our outreach to the community," Murphy said. "It will generate more renewable energy than it consumes. That's extraordinary."

Murphy said the building will help secure Central New York's spot among the world's top "cleantech" centers that combine economic development with innovative technology and creative management.

Construction of the building was undertaken with support from N.Y. Sen. John DeFrancisco, who provided approximately \$6.3 million in critical funds for the project.

"It is exciting to have a cutting-edge green facility like the Gateway Building in our community. The energy-saving building design will be good for the environment and help to transform ESF and set it apart from other campuses," DeFrancisco said.

The building will contain facilities that have never before been offered on the campus, including a conference and event center, a larger College Bookstore, and an exhibition gallery displaying the College's Roosevelt Wild Life Collection and other exhibits.

Energy-saving technologies will include a sustainable green roof made from plantings native to Central New York (for a story on the green roof, see Page 14), with a walk-out observation deck and roof-mounted photovoltaic and solar thermal systems.

A major feature of the building is its combined heat and power (CHP) system designed to produce steam heat and electric power for the building and four additional academic buildings, meeting up to 65 percent of ESF's campus heating needs and 20 percent of its electrical needs. It will use a wood pellet-fueled boiler connected to a steam turbine to produce heat and electricity during the coldest months of the year. This thermal-rich biomass system will be coupled with a second CHP system using three micro turbines fueled with natural gas and biodiesel to produce additional heat and electricity year-round.

For more about the ESF Gateway Building, go to www.esf.edu/insideesf/gateway.

ESF takes ownership of Adirondack visitor center

When state budget cuts threatened the future of the Visitor Interpretive Center in Newcomb, ESF and the Adirondack Park Agency (APA) saw an opportunity for a new partnership.

Effective Jan. 1, the College will begin managing programming at the facility, which is located on the Huntington Wildlife Forest property in Newcomb, also home to the Adirondack Ecological Center.

"The agency is pleased that the great legacy of environmental programs performed so effectively by our dedicated Newcomb VIC staff will continue under the leadership of SUNY-ESF," said APA Chairman Curtis F. Stiles. "We commend SUNY-ESF for coming forward in these difficult financial times and providing this opportunity to continue educating people on the importance of conservation and preservation."

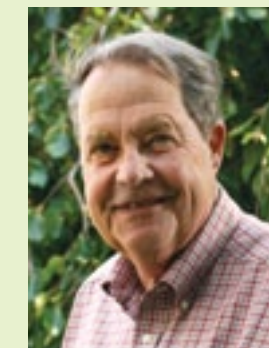
ESF President Cornelius B. Murphy, Jr., said the agreement supports the work of the AEC.

"This new initiative extends the mission of the AEC, with additional educational resources for both students and visitors so they can learn about the wonders of ecology in the Adirondacks," Murphy said.

Paul Hai, a program coordinator at the AEC, said the College will build on the APA's legacy with programs that meld natural history with informational and recreational programs. He said the center's location and facilities, including a classroom and 3.6 miles of trails, allows for a seamless integration with the AEC's Huntington Wildlife Forest.

"We're really excited about the kinds of new and expanded programs we can offer at the interpretive center," Hai said.

Dr. Allen named interim director of AEC



Dr. Douglas C. Allen

Dr. Douglas C. Allen has been appointed part-time interim director of ESF's Adirondack Ecological Center (AEC) in Newcomb, N.Y.

Allen, Distinguished Service Professor Emeritus in ESF's Department of Environmental and Forest Biology, began as interim director in July. Allen replaces Dr. William Porter, who had served as director since 1981.

Allen, a professor of forest entomology, has been a faculty member at ESF since 1968. He is

called on frequently by state officials to advise on problems of insect pest outbreaks and other environmental and forestry issues. He has also reviewed forestry practices in Canada. His research has benefited the health and productivity of sugar maple stands throughout North America.

In addition to teaching, Allen has written numerous articles and other publications on insect biology, including two books, and has served on several government task forces or study committees, including the (New York) Governor's Task Force on the Forest Industry and the Northern Forest Lands Council. He was elected to the position of Fellow of the national Society of American Foresters (SAF) in 1990. In 1993, he was named Forester of the Year by the SAF.



ESF Receives \$1.47M Grant to Renovate Aquatic Research Labs

A team of aquatic scientists at ESF has been awarded a \$1.47 million grant by the National Science Foundation (NSF) to renovate aquatic laboratories to expand research into topics such as fish disease, invasive species and water quality.

"It provides a 21st century laboratory facility and a connection to the field," said Dr. Neil Ringler, ESF dean of research and principal investigator on the project.

The ESF team won the grant in a competitive bidding process. The funding will provide for renovation of more than 4,000 square feet of wet labs, so called because they are specially equipped for aquatic experiments, in Illick Hall, which was constructed in the late 1960s. Seven rooms on the second floor of Illick Hall and a wet lab at the Thousand Islands Biological Station will undergo extensive renovation.

The funding will also provide a digital infrastructure that will establish new connections between the main ESF campus in Syracuse and the biological station on Governor's Island in the St. Lawrence River. Ringler said the digital connection will allow researchers on the main campus to monitor conditions in the river, such as water velocity, the amount of dissolved oxygen and algal density, in real time, and to coordinate experiments in real time between scientists in Syracuse and at the river.

"There will be a unique connection between the river and the lab," he said.

He said the new labs will allow scientists to study invasive species such as the gobies recently found in Onondaga Lake, illnesses such as the viral hemorrhagic septicemia that has caused fish kills in the St. Lawrence River

in recent years and the algal blooms that occasionally close beaches in the state.

Dr. Kimberly Schulz, a biological limnologist who is a co-principal investigator and director of the College's developing Center for Integrated Research and Teaching, said the project underscores the importance of water resources to New York state.

"Aquatic resources provide tourism dollars, safe drinking water and healthy fish and wild-life populations," she said. "This NSF funding will allow ESF to expand beyond its traditional strengths in aquatic science to better address pressing environmental issues that require modern facilities, such as diseases of fish, invasive species, and aquatic toxins."

"This is the most significant programmatic renovation to Illick Hall since it was built, made possible because of Dr. Schulz's original vision for this facility years ago and our very productive faculty in aquatic and fisheries science," said Dr. Donald Leopold, chair of the Department of Environmental and Forest Biology, which will house the new facilities. "Additionally, it will bring some of the significant research programs at TIBS closer to our main campus."

The renovation work is expected to begin next summer.

The interdisciplinary team that applied for the grant includes both biologists and chemists.

"This is more than just fish. This was a real team effort," said Ringler, himself a fisheries biologist. "A group of biologists couldn't do this alone. We had help from the administration, the physical plant staff and our colleagues in other academic departments. That's part of the reason we were successful on this."

SRC Invests in ESF's Future

SRC Inc., a not-for-profit, research and development company based in North Syracuse, has expanded its partnership with ESF by establishing an endowed graduate student fellowship to support students and encourage innovation in science and technology.

SRC President and Chief Executive Officer Bob Roberts said the investment is "a unique opportunity to encourage students to pursue advanced education in science and technology in Central New York and to strengthen ESF's ability to act as a cornerstone of the growing green economy."

Bob DelZoppo, director of SRC's Advanced Technology Initiatives (ATI) Center, said the fellowship is an investment in the future of both ESF and SRC. "This fellowship will enable graduate students to work side by side with our ATI group," he said. "Together we can help develop and apply scientific innovations to address problems of

national significance and help grow new business opportunities right here in CNY."

SRC has a history of providing internship opportunities for ESF students; several graduates have gone on to work for SRC, which employs more than 1,100 people at 15 offices and numerous support locations across the United States. ESF alumnus Paul Tremont FNRM '78, who is the company's executive vice president of operations, said the support for ESF is part of the company's corporate responsibility to Central New York, serving as a way to reinvest in the community that the company is proud to call home.

"Our financial and corporate relationship with ESF is a key piece of the company's commitment to give back to the CNY community, to highlight the importance that advanced education plays in the local and national economy, and to inspire other companies to also partner with ESF to help build the future of green technology initiatives," he said.



At top, graduate student Elizabeth Hunter spent 10 weeks monitoring the behavior of tortoises in the Galapagos Islands. Above, a tortoise explores the beach.

Student spends the summer on the trail of tortoises

ESF graduate student Elizabeth Hunter spent 10 weeks in an isolated location in the Galapagos Islands this summer monitoring the behavior of 39 giant tortoises that were released into the wild in an effort to restore the island's damaged ecosystem.

Hunter, a master's student in conservation biology, and her three-person team depended on an array of high-tech instrumentation and some old-fashioned techniques, like sitting and watching, to determine what effect the tortoises have on Pinta Island.

"The first ones we took up there just started eating right away. It was cool to see that captive tortoises knew what they wanted," she said after she returned to the ESF campus in August. "And for the most part, they all seemed healthy when we left."

Hunter's major professor, Dr. James Gibbs, a conservation biologist, said the goal is for the tortoises to help restore the island's ecosystem.

"Tortoises are huge and heavy. They eat grass all day. When you have them in the ecosystem, they have a huge effect," Gibbs said. "It's kind of like white-tail deer in New York. If we lost white-tail deer in New York state, imagine how our forests would change."

The tortoises were released on Pinta Island in mid-May, marking the first time tortoises have inhabited the island since the removal of Lonesome George, the last known Pinta tortoise, in 1972. Researchers had hopes of finding a suitable mate for Lonesome George but have been unsuccessful. Giant tortoises on Pinta are thought to have numbered between 5,000 and 10,000 before pirates and whalers began removing them for food.

The animals Hunter was monitoring are the offspring of tortoises of unknown origin that have been held in captivity during the early years of the Galapagos National Park. They were sterilized by a team of veterinarians so they don't reproduce.

"We're using fancy GPS loggers that record their position every hour," Gibbs said. "Three of them are equipped to broadcast live to the internet through a satellite."

The other tortoises were outfitted with devices that record their movements; Hunter and her assistants had to go out and find those animals periodically and download the data. Hunter is still working on analyzing the data. "There are a lot of numbers to crunch," she said.

The members of the research team rose before dawn every day at their campsite near the beach and spent their days hiking around the island, locating tortoises and assessing the food supply.

"It was definitely the strangest social situation I've ever been in," said Hunter, referring to the isolation and forced togetherness for the four-member team. "But we all parted as friends so it worked out."

Working with Hunter, who earned her bachelor's degree from the University of Wisconsin-Madison in 2006, were three recent college graduates: Garrison Loope of Penn State; Ben Risk of Cornell University; and Ecuadorian native Francisco Laso of Columbia University.

Other partners in the project are veterinarians from the University of Georgia, Zoo Atlanta and the Houston Zoo; and the Galapagos Conservancy. Funding sources include the Galapagos National Park, Panaphil Foundation, Continental Airlines, the Houston Zoo and members of the Galapagos Conservancy.



Camera-carrying balloon flies high and far

A class of ESF engineering students last spring launched a weather balloon carrying cameras that snapped photos as it flew up to 100,000 feet above the earth and traveled some 150 miles as part of a project in remote sensing.

When the students recovered the package later that day near Poughkeepsie, their professor joked that their classmates back in Syracuse might have heard their shouts of joy.

"It took us about an hour to find it in dense vegetation, but when we did you could have probably heard us from Syracuse," said Dr. Giorgios Mountrakis, a faculty member in ESF's Department of Environmental Resources Engineering.

The cameras captured clear photos of the ESF campus and the Hudson River near Poughkeepsie, along with images from high above the earth that show the planet's curvature.

The students launched the balloon from the ESF Quad on a sunny April morning. They immediately began

tracking its location electronically, and a group of nine, including Mountrakis, drove east in the hope of finding the extruded polystyrene foam box that contained the cameras and a GPS-equipped phone.

When the expanding helium caused the balloon to burst at an altitude of about 100,000 feet, the parachutes deployed and the phone kept sending a signal to the students, who followed the flight's progress on a computer screen.

After the project was completed, Mountrakis said he analyzed the students' improvement in lab work. Students who worked on the balloon project showed more improvement than students who did not participate, he said.

"It might be because of the confidence they developed," he said. "Or it might have to do with the communication skills they applied."

For more about the balloon launch, www.esf.edu/insideesf/balloon.



Dr. Robin Kimmerer, left, teaches a class outdoors.

SUNY chancellor honors Kimmerer

ESF's Dr. Robin Kimmerer was honored by SUNY Chancellor Nancy L. Zimpher for her extraordinary achievement as a teacher, scholar and mentor.

Kimmerer was appointed Distinguished Teaching Professor, a title that recognizes and honors mastery of teaching at the graduate, undergraduate or professional level. Candidates must have demonstrated consistently superior mastery of teaching; outstanding service to students and commitment to their ongoing intellectual growth, scholarship and professional growth; and adherence to rigorous academic standards and requirements.

Kimmerer has taught in ESF's Department of Environmental and Forest Biology since 1993. She received the John Burroughs Medal for her book, "Gathering Moss: A Natural and Cultural History of Mosses." She received the ESF Foundation Award for Exceptional Achievement in Teaching, which celebrates the accomplishments of ESF faculty and staff members who excel at the art of teaching. She has also received the Undergraduate Student Association's Distinguished Teaching Award twice and the Baobab Society's Faculty Member of the Year Award.

Kimmerer, who is part Potawatomi, is the director of the Center for Native Peoples and the Environment at ESF. The center focuses on developing connections between traditional ecological knowledge and western scientific approaches.

Thanks, ESF, for four years that went by way too quickly

By Julie Houde ES '10

Four years ago, when I was college shopping, my ideal environmental science school had to have lots of labs and infinite possibilities.

My college search began in my home state of Maryland, but I knew I wanted to go out of state to experience something different. I found a number of colleges in the Northeast with environmental programs, including ESF. My visit to ESF was a bit different because I asked to see the good stuff, which meant lab space; this set ESF apart from the other colleges I visited. Seeing science in action made me believe I could do anything I wanted in the four years I was going to commit to my college career. After having a one-on-one meeting with an admissions counselor and submitting an application, I arrived at ESF in the fall of 2006.

As a freshman, I chose to be part of the ESF Service Learning Community so I could participate in activities that I enjoy and make friends with similar interests. I was placed in Boland Hall 3 and 4; friendships I made there will always be with me. When the Syracuse University football team played its first game of the season, our floors broke out the orange and blue, just like the pumped-up SU freshman fans. On Halloween, ESF students helped each other make costumes, and when the winter holidays came around, students made each other treats and decorated the doors to their rooms. Final exams soon loomed over our heads, and we rallied one last time to form study groups and carry each other through the end-of-year challenges.

During that year, I also experienced my first Earth Week, which focuses the attention of every ESF student on our common mission: helping the environment. Annual events like the barbecue, ice cream social, lectures and fairs made me recognize the close-knit community to which ESF students belong.

Sophomore year, I moved off campus, declared my option of communication, culture and writing within the environmental studies department and started a part-time job at Carousel Center. I also took my first SU course, which was overwhelming in size but included small-group instruction that added diversity to the SU students' experience and my own because I was the only person in the class who was not an SU student.

Junior year was the hardest because I wanted to balance my fulltime course load, part-time job and involvement in several extracurricular activities. I became active in Green Campus Initiative, the Knothole student newspaper, Environmental Studies Student Organization and the Undergraduate Student Association. Some of my best experiences at ESF came from what I learned outside the classroom by being involved both on and off campus.

Another educational experience was traveling to Washington, D.C., for Powershift, where 12,000 young people gathered to be educated and advocate for climate change legislation. A few weeks later, I attended a conference for the State University of New York Student Association to learn how to become a better student leader.

Another Earth Week was upon the College, and I wanted to do something different to help mark the observance. My idea was to create a unique art installation of 350 pinwheels on the Quad to send several messages to the ESF community. The pinwheels



Julie Houde

advocated alternative energy; 350 is a significant number because scientists have declared that 350 parts per million of CO₂ in the atmosphere is the safe limit.

When summer hit, I was ready for a new adventure and became a naturalist at Deep Creek Lake State Park in Maryland. The work was new to me; but I spent the summer challenging myself by reading about trees, flowers, fish, birds, mammals, snakes, butterflies and more to do the best possible park presentations. The knowledge I had of environmental communications made me an asset to the park because my contributions to marketing materials and advertisements helped bring in record numbers of visitors to park events.

My last year at ESF had arrived quicker than I ever expected. When I came in as a freshman I was counting down the years left in my education, but suddenly I was headed toward graduation and I didn't know where those years had gone. My senior year started with student government commitments and involvement with morning munches, TGs (get-togethers that celebrate "thank goodness it's Friday") and various committees. During my final semester at ESF, I tested the waters of the working world with an internship in the ESF Office of Communications, which proved I had chosen a major and a school that was right for me.

Leaving ESF means I'm going to miss all the fun on campus and I'll no longer be able to watch all the changes that happen within students during their undergraduate years. I'm excited about the changes that are happening on campus and the ways the College is transforming as its centennial approaches. I am especially proud to have graduated from ESF this year because I became an alumna as the centennial celebration is about to get under way. The students might be gone from campus, but the alumni carry their experiences from ESF into the future. I can't wait to be part of the future of ESF.

Julie Houde ES '10 graduated from ESF in May. Her final semester included an internship with the ESF Office of Communications.



Cranberry Lake Fellowships Provide 'Significant' Support

By Claire B. Dunn



THEY TAKE IT OUTSIDE

With the forest as their classroom, CLBS students dig into research

By Claire B. Dunn

A pink kiddie pool and some gracefully wriggling garter snakes provided a group of ESF students this summer with the means to conduct their first hands-on, student-run research project at the College's Cranberry Lake Biological Station.

All around the 1,000-acre biological station, the snake studiers were paralleled by groups of their peers, all delving into research projects as they earned three credits in a class called Ecological Monitoring and Biodiversity Assessment.

"It's really a flagship class for our program. I don't know of others like it, where as freshmen they are doing their own research project," said Dr. Alex Weir, the station director.

"They get into the natural history of the area and the technique for sampling different groups of plants, animals and fungi," Weir said. "They do science rather than listening to us talk about it."

Weir ran through the steps: developing a hypothesis, devising a method to test it, testing it, analyzing the results, interpreting them and presenting their findings to a group of their peers. "Which is exactly what, as scientists, we all do," he said.

For the students researching the cover preferences of garter snakes, that meant capturing their subjects and keeping them temporarily confined in aquariums in a lab building. The students filled the pool with soil and plants, then set a snake down in the middle and recorded its movements for the next several minutes.

Kyla Brick, a sophomore wildlife sciences major, said they were comparing habitat preferences between larger and smaller snakes.

"We think the smaller ones prefer tall grass and ferns," Brick said. "The larger ones seem to go for more open areas, like rocks and leaf litter."

Her teammate, junior wildlife science major Liz Bush, said they could not find any evidence that studies had been done on the habitat preference of garter snakes.

"You get people who are like, 'It's a snake! It's going to bite me!' We hope to be able to provide some information to the general public," Bush said.

"They're cool little guys," Brick said, setting a female garter snake gently back in a covered aquarium where it spent a couple days. "A lot of what they teach us here at Cranberry Lake is stuff you can't learn in a classroom. Our classroom is the forest."

Weir and Dr. Kimberly Schulz, who helped teach the class this summer, said the students learn lessons they don't always expect.

Schulz said many students who have just finished their freshman year at ESF find the course difficult when they discover fieldwork is not as orderly as it seems in a textbook. They have to deal with personality clashes, equipment failures and weather challenges. But garnering field experience early in their education makes it easier to obtain an internship or a job later on.

Weir said the research projects are "the first real science they do."

"I'd rather they came here and did this work before they go on an international field trip," Weir said. "It's a wilderness that's remote but not as remote as the Amazon."

"Or the field station in Costa Rica," Schulz said. (See Page 18 for a look at ESF's field station in Costa Rica.)

The class this summer comprised 73 undergraduates who were involved in 19 research projects. The projects included studying land-use and water-quality issues around Cranberry Lake; dissecting fish in search of parasites to make comparisons between the number of parasites in remote lakes that offer limited access and Cranberry Lake, which has a lot of boat traffic and hosts a state campground on its shore; watching ants on the grassy quad, recording the time it took for ant colonies to recover from having their mounds disturbed; and capturing toads at night and setting them down in different settings to see if they prefer camouflage or cover.



The Cranberry Lake Biological Station serves as a base of operations each summer for a select group of undergraduates who are awarded ESF's prestigious Cranberry Lake Fellowships.

Recipients are provided with room and board and a \$2,000 stipend. They work in the Grober Lab, which was renovated with the help of a gift from the late Sam Grober '38, who helped construct the dining hall at the biological station in the 1930s.

"It's a pretty significant award," said Dr. Alex Weir, the station director.

This past summer, David Andrews, a junior aquatic and fisheries science major, studied the effects of liming on trout ponds in the Five Ponds Wilderness Area of the Forest Preserve. Lime is used to counteract the effects of acidic deposition on lakes and Andrews wants to know if it is affecting fish populations.

It's a topic close to home for the junior aquatic and fisheries science major, who grew up on a Boy Scout camp seven miles from the biological station.

"I'm an avid fisherman and I really enjoy trout fishing," Andrews said. "We used to be able to catch some fish in these ponds, then they were limed and we couldn't catch anything."

"I'm not opposed to liming. I just want to know if there's a better way to do it," he said.

His research required him to hike six miles, round trip, each day to Darning Needle Pond, where he constructed enclosures with chicken wire and plastic trash bags. He added lime in varying concentrations then recorded factors such as the pH, salinity and conductivity, and noted the mortality rate of organisms that included northern red-belly dace, dragonfly nymphs and freshwater shrimp.

The trek back and forth from the bio station to the pond, Andrews said, gave him an opportunity to plan his lab experiments ahead of time.

"I love being in the woods and I love hiking. The only problem with this is it's the same six miles every day. I've gotten so used to it, I just think about my project and school. That's when I've come up with a lot of my lab experiments, really, walking on the trail."

Andrews' roommate for the summer was Nick Griffin EFB '12, an aquatic and fisheries science major who studied the drift patterns of aquatic invertebrates in Chair Rock Creek and Chair Rock Flow in the nearby Five Ponds Wilderness. His goal was to learn more about predator-prey interactions and determine how much the physical characteristics of a watershed affect the array of species found in the streams.

Griffin hiked a couple miles back and forth to his study sites each day, through often deserted wilderness.

"I saw two people on the trails all summer," he said. "It was really remote."

Another Cranberry Lake Fellowship went to Andy Cortese, a senior majoring in forest health, who researched mycorrhizal fungi associated with red spruce.

Cortese examined the differences in the types of fungus that establish colonies near red spruce in areas where there is less nitrogen in the soil and areas where the nitrogen level is higher.

"It's the whole cycle of the forest, just seeing what's out there," he said.

"I'm hiking all over and I have a lot of lab work, too. I love it. The microscope work gets a little daunting, though."

The summer marked Cortese's third trip to the bio station. He first went there as a high school student enrolled in a Board of Cooperative Educational Services (BOCES) program. "That's what caused me to fall in love with this school, just this place," he said. "It's great up here. I can't think of any other places like this."

Griffin's assessment was similar. "It's unique to ESF," he said. "There are not many schools where you get to do this kind of research as an undergraduate."

For more about the Cranberry Lake Biological Station, go to www.esf.edu/clbs/.

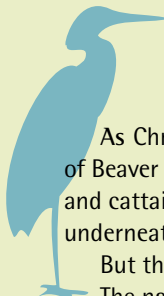


At top, left, Dr. Alex Weir and Dr. Kimberly Schulz meet with students in the bio station dining hall; Andy Cortese works his research project; students use canoes to explore local islands. Below, Kyla Brick handles a garter snake. At left, students study ants on the quad.

A Different Approach to the GREEN

Drive for sustainability becoming par for the course

By Karen B. Moore



As Chris Cartini maneuvers his golf cart through the fairways of Beaver Meadows Golf Club, he drives past high grasses, wildflowers and cattails; alongside a pond that is home to a blue heron; and underneath trees that are alive with the sound of birdsong.

But this simple beauty is deceptive.

The natural-looking scene, full of elements that add to golf's aesthetic appeal, does more than attract golfers looking for a pretty place to play. Each plant and water element on the 6,800-yard course that Cartini oversees also serves a purpose as part of the ecosystem and helps illustrate a growing effort by scientists and golfers to increase the environmental sensitivity of a sport that has been around perhaps since the 12th century.

"As with most golfers, I enjoy the sport and competition," said Cartini RS '94, FNRM '96, superintendent of the golf course in Phoenix, N.Y. "But more than anything, I enjoy being outdoors in a peaceful setting; it's therapeutic. As a golf course superintendent, I enjoy the art and science of the job. It's challenging, yet very rewarding. I am a steward to the golf course and to the environment."

Cartini is one of an array of ESF alumni who, in addition to some current students and faculty members, do work that touches on the movement to make golf a more environmentally friendly game. They include graduates of the landscape architecture, forestry, and environmental and forest biology departments; their professional responsibilities include design, resource management, soil management and habitat preservation. The common thread that connects their work is making the game enjoyed by millions worldwide more sustainable.

"Up until the 1970s people thought they could do anything with a bigger bulldozer or more chemicals, but we realized we can't control nature and began to look for better ways to do things," said Dr. Joel Howard, ESF professor emeritus Ranger School '66, FNRM '73, who also has served as natural resources manager on courses in the southeastern United States, including Augusta National Golf Club, home to the Masters tournament.



"A lot of golf courses have always moved in a 'green' direction," said James E. Skorulski, EFB '84, senior agronomist for the United States Golf Association (USGA). "(Golf course) superintendents are environmentalists. They do what they can to have the smallest impact. That means using the least toxic pesticides, the least amount of fertilizer."

Golf course architect Stephen Kay LA '73, principal of Stephen Kay-Doug Smith Golf Course Design LLC, agreed. "Golf has always been fairly green, but it's gotten better and a lot greener."

"All the chemicals put down (on golf courses) today are EPA (U.S. Environmental Protection Agency) permitted and approved," Kay said. "A lot of chemicals that we're not allowed to use on a golf course, homeowners can use."

Overcoming the public perception that golf must be played on lush greens and trimmed Augusta-like fairways while lessening the game's environmental impact presents a challenge.

"Unfortunately, on this side of the Atlantic, I don't think they (golfers) are very tolerant at all (of less manicured courses) because we still keep seeing the ideal on TV," said S. Scott Shannon, a golfer and former faculty member in the ESF Department of Landscape Architecture who is now ESF's dean of instruction and graduate

studies. "But if you go to England, they don't irrigate anything there. Golf courses there in the summer — if they get a dry summer — it just browns out and no one bats an eye. And if you go to St. Andrews, the home of golf in Scotland, it's a pretty ratty-looking golf course except when they're getting ready for a tournament."

"We're trying to communicate to golfers that it doesn't have to be green to play well," Skorulski said, citing this year's U.S. Open tournament at the famously scenic Pebble Beach. The USGA touted the course as a sustainable-use facility using low inputs of water, fertilizer and pesticides. Cartini said the Pebble Beach course did not look as lush as people are accustomed to seeing it; it was less groomed and the grass was browner. However, Cartini noted that champion Graeme McDowell said the course played beautifully. Said Cartini, "So the USGA is leading the charge in sustainable use."

"Firm and fast is the new goal for golf courses," Cartini said. "From a playability standpoint some golfers — lower handicap, better players — would prefer the firm and fast conditions. You get more roll from the ball. The greens become more difficult, more challenging when they're firmer."

Above, Beaver Meadows Golf Course in Phoenix, N.Y. incorporates elements such as high grasses, ponds, and native non-invasive plantings that improve the course's ecosystem while providing an aesthetically pleasing and athletically challenging course for golfers. Left, Chris Cartini, Beaver Meadows Golf Club superintendent talks about the golf course.





But in addition to being more challenging, these conditions are easier on the environment: They are achieved by using less fertilizer, pesticides and water. This results in firmer underlying soil and leaner, less plush turf.

"Golf course patrons tend to get caught up in what they see on TV and think everything needs to be green to be acceptable. In Scotland they figured out a long time ago you don't need green grass to play golf," Howard said. "The courses there are built to fit the land."



At top, artificial wetland systems, such as this wetland created by Barry Jordan at Tater Hill Golf Club in Vermont, mimic natural wetlands. They remove pollutants through settling and vegetative uptake and can also reduce storm water flows while providing wildlife habitat. Barry Jordan is above.

Taller grass, lower costs

Certain areas on a golf course lend themselves to naturalization, said golf architect Barry Jordan LA '89. "Places where you want more safety are good for naturalization. You can put natural areas in because it's an area you don't want people to hit."

The Beaver Meadows course features holes that Jordan renovated. He reduced the number of high-maintenance areas, eliminating high-intensity mowing operations. Now the grass gets taller, which supports habitat preservation and reduces labor and fuel costs and equipment maintenance.

The use of native non-invasive plants is taking root — literally — on golf courses. Traditional courses with their more garden like designs and manicured areas are giving way to naturalization, featuring plant species that are native to the area and help combat the imported species that might look impressive but can create havoc with an ecosystem if they get out of control.

"People for years made it a point to bring in exotic species for looks," Howard said. "Then the plants get away into the ecosystem."

Kay, influenced in part by his education, has long focused on the use of native species in his golf course designs. "I've always considered native species and habitat preservation, having gone to ESF," he said. "I work to preserve the native areas." These areas, he noted, then attract birds and other wildlife to the area.

Managing wildlife

"Native vegetation is intimately related to native wildlife conservation," Howard said.

The USGA supports a conservation program called Wildlife Links, which looks at the impact of golf courses on the environment,

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— Dr. Joel Howard

Skorulski said. Wildlife Links, in turn, supports two of ESF Professor James Gibbs' students: Kristin Winchell, a graduate student from Columbia University, and ESF graduate student Sam Quinn. Winchell and Quinn are working with Gibbs, a conservation biologist in the Department of Environmental and Forest Biology, to study turtle habitats. Focusing on a 20-mile radius from the city of Syracuse, their research looks at a variety of turtle habitats, how turtles use golf course habitats and what golf course managers can do to increase the sustainability of the habitats.

"The idea is to manage common species so you can promote the persistence of uncommon species," Winchell said. The project will result in a management guide for golf courses, be presented during a USGA webcast and be published in its Turf Grass magazine.

From landfill to links

In some cases, golf course planners are going beyond preserving the existing landscape and taking the proactive step of reclaiming land through brownfield and landfill remediation. Kay, for example, designed a par-71 course called McCullough's Emerald Golf Links on the site of a former landfill in Egg Harbor Township, N.J., outside Atlantic City.

"I think landfills are the perfect situation for golf," Kay said. Once a landfill is capped, all the water-monitoring equipment is in place, so any water used on the course doesn't go directly into the groundwater; rather, it is treated and filtered. The land used for McCullough's Scottish-style links was right in the middle of an urban area and "stuck out like a sore thumb," said Kay. Today that eyesore is an 18-hole championship golf course.

"Close to urban areas, land is expensive, and you need between 150 and 250 acres for a reasonably laid out 18-hole golf course, so brownfields are one of the least expensive land options," Shannon said.

Also, because environmental agencies limit the types of vegetation that can be grown on a landfill — no trees or woody materials because of concerns about roots penetrating the capping materials — golf courses provide a perfect solution as turf grass only needs about six inches of topsoil. "It makes what's underneath irrelevant," Shannon said.

"From the design perspective I really like the new courses that are incorporating environmentally sensitive features," said Shannon, a golfer for 40 years with a 10 handicap. "As long as the greens are well-maintained, I don't care if the fairways have a few dandelions. There it's not a big deal."

Then he added, "And if you're a good golfer, you ought to be able to play in just about anything."



Above, The ESF golf team took a second place finish at the Onondaga Community College 2010 Fall Invitational at Sunset Ridge Golf Course in Marcellus. Pictured, from left, are Collene Groneman, sophomore, chemistry; Stephen Johansson, freshman, FNRM; and Dominick Ferrante, freshman, LA.

Since 2007, Mighty Oaks have grown

The ESF golf team has come a long way since its first season in 2007, when mismatched golf shirts and golf bags inspired their coach to describe the duffers as "kind of like the Bad News Bears of golf."

The team has improved its look since those early days, dropping any resemblance to the ragtag Little League baseball team in the 1976 family film. The players now sport matching team shirts and Mighty Oaks golf bags. "I think from that point we've certainly grown and matured quite a bit," said Coach John Turbeville, who is ESF's career planning and development officer. "Now we look the part."

The golf team is part of the College's growing National Association of Intercollegiate Athletics-affiliated (NAIA) sports program. In addition to golf, ESF has teams in men's and women's soccer and cross-country running and a club team that competes in traditional timber sports.

"The golfers are excited for the chance to be part of a governing body," Turbeville said in reference to ESF's participation in the NAIA. "The establishment of athletics at ESF is taking on a bit more prestige, and they're excited to be part of something bigger and to be on the ground floor."

ESF's coed golf team has a roster of about 20 students. Because students' academic demands come first, the larger roster gives the team flexibility to find available golfers for weekday matches.

The team participates in eight to 10 invitational-style tournaments a year. The tournaments involve anywhere from three to 15 other teams. "The unique nature of this allows us to play against a lot of really great competition and see some schools that we wouldn't see otherwise," Turbeville said.

The team wrapped up the fall 2010 season on a high note when two members of the golf team were honored with national awards in the U.S. Collegiate Athletic Association Men's National Championship.

Senior Brendan Beeke received All-American honors after placing in the top six in the tournament's field of 88 golfers. Senior Chris Shrimpton was named to the Academic All-American team, which includes only golfers with a cumulative GPA of 3.5 or higher.

Jessica Lynn Siart ES '12 contributed to this story.

Up on the Roof

By Claire B. Dunn

ESF tests a variety of plants for the roof of the Gateway Building



Five floors above the ESF Quad, a collection of homemade wooden frames might hold the beginnings of one of New York's largest living collections of state-protected and rare plants: a variety of hearty species native to the Great Lakes region that are being tested for use on the College's planned Gateway Building.

"When it's done, the green roof is going to have one of the highest concentrations of state-protected plants in New York," said student James Johnson, who is beginning his master's studies. "So instead of going up to the Great Lakes and northwest of Watertown to look for them, people can just come to ESF."

Johnson is one of several students who worked with Dr. Donald Leopold, chair of the Department of Environmental and Forest Biology; Timothy Toland, assistant professor in the Department of Landscape Architecture; and greenhouse manager Terry Ettinger to nurture about 40 species of plants for possible use on the Gateway Building green roof.

The building, which will be constructed in what was the parking lot behind Moon Library, is planned as a LEED-certified platinum-plus facility that will use a high-tech combined-heat-and-power system to produce more energy than the building uses. One of the environmentally friendly features the building will include is a green roof that will help reduce the flow of stormwater and regulate the interior temperature.

Leopold said the Gateway Building roof will be unique not only for New York state, but for the region with its emphasis on creating natural communities that occupy marginal habitats.

"In Europe, there are great urban parks on green roofs, with a variety of trees, shrubs and herbaceous species," he said. "The U.S. green roof industry focuses on planting many non-native plants, especially species of sedums. It's not just aesthetics that are affected by this reduced diversity but the ecological function of the green roof."

The plants being tested for the roof came from a variety of sources. Some were propagated in the ESF greenhouses. Others were purchased. Still others were harvested with permission from private property.

The species under consideration represent members of two plant communities found near Lake Ontario. Some, including sand cherry, beach grass and rare dune willow, grow on dunes along a 17-mile stretch of land bordering Lake Ontario, from Lakeview Marsh near Southwick Beach State Park north to Watertown. Other plants are members of alvar communities, found in the area between Watertown and Clayton, N.Y. Alvar plant communities develop on flat limestone or bedrock where the soil is shallow at best.

"Conceptually, they should do well on the roof because the growing conditions mimic their natural conditions," Toland said. "It's a dry environment with thin soil, and it's exposed to the elements."

The colors of fall in the plants growing on top of Illick Hall are reflected in the hillsides west of the ESF campus.

The plants were nurtured in the ESF greenhouses on the roof of Illick Hall, then moved outside in the spring. In June, Toland, Ettinger and the students transplanted them into five wooden frames lined with drainage mats donated by Carlisle Industries and filled with a growth medium containing minerals and biological material.

Toland said the project will determine what plants will work best on the Gateway Building and also serve as a demonstration project that could expand the varieties of plants used on green roofs.

The building will feature ESF's second green roof. One was installed several years ago on Walters Hall. The plants used on that roof are mostly succulents, Toland said, as opposed to the native species that will be used on the new roof.

"There will be a greater diversity and more state-protected plants and rare New York species than anywhere else at this scale," Leopold said. "It will give us some great educational and research opportunities."



From Camellias to Redwoods: the ESF Greenhouses

By Julie Houde ES '10

Space: 6,500 square feet. ■ Individual plants: 4,200. Species of plants: 1,100; ■ Families of plants: 100.

Welcome to ESF's seven rooftop greenhouses, atop Illick Hall, 64 feet above the main campus in Syracuse.

"The greenhouses were originally built for classroom instruction to teach students about traditional forest production practices," said Terry Ettinger, greenhouse manager.

Today, the diverse collection of plants allows students to learn about major terrestrial biomes and gives faculty members an opportunity to conduct a wide range of research activities.

Each greenhouse serves a multitude of purposes. Two hold no permanent collection, are used for research projects and are only open for classroom instruction. The other five contain an array of species:

■ Tall tropical plants, including a 20-foot-tall Norfolk Island pine; a fishtail palm; a floss silk tree; a white-flowered bird-of-paradise; several cocoa trees; large staghorn ferns; numerous anthuriums; a 10-foot-tall, pink- and white-flowered oleander; and a collection of zonal and scented pelargonium.

"When it's done, the green roof is going to have one of the highest concentrations of state-protected plants in New York."

— student James Johnson



At top, an architect's drawing depicts the green roof on the Gateway Building. Above, master's student Molly Farrell, left, works on a planting bed alongside undergraduate BettyJo Jivoff while Assistant Professor Timothy Toland hands a plant to greenhouse manager Terry Ettinger.

- Smaller tropical plants including dwarf bananas, begonias, Plumeria and tender perennial bedding plants.

- A dendrology house, containing temperate and maritime plant materials that can't survive rigorous Central New York winters: winter-blooming camellias, crêpe myrtle, both coastal and giant redwoods, and yesterday-today-and-tomorrow (*Brunfelsia*). The dendrology house is kept just above freezing during the winter because chilling (vernalization) is required to set flower and vegetative buds.

- Species of *Echinopsis*, *Euphorbia*, *Mammillaria*, *Agave*, *Aloe*, *Crassula* and *Sedum*; another room features a Valencia orange tree, a large *Epiphyllum* (commonly referred to as the night-blooming cereus) and a number of ginger lilies.

- Plants for sale to the campus community from propagation courses at the end of the semester. Sales help fund the supplies and soil required for courses and research.

The College serves as a rescue center with the Convention on International Trade in Endangered Species of Wild Fauna and Flora for plants that have been confiscated because of a lack of proper import documentation. Plants that come to ESF's greenhouses this way expand the College's collection and research efforts.

The greenhouses also play host to independent research students such as James Johnson, a senior environmental biology major, who was working last spring to establish protocols for the propagation of round leaf dogwood and prickly ash.

"I decided to work mostly on the round leaf dogwood because not many people have worked with the species before. I took hardwood cuttings because they have the most energy reserves stored up and then did hormone treatments using quick dip, talc, and gave the plants bottom heat to assist with callus growth," Johnson said.

He will measure the amount of successful callus growth on the cuttings in hopes the cuttings will root. Johnson took varying sizes of cuttings in thickness and in height, with initial results showing more success in the smaller, thinner stalks.

The College is planning a multimillion-dollar overhaul for the greenhouses, which includes a reconstructed roof and environmental controls for specific biomes. "When renovations are complete, the greenhouses will be more accommodating for instruction and tours," said Ettinger.

Ettinger's long-term goal after construction is to take the ESF greenhouses into the digital age so information on plants will be available through a database that can be reached online or by smartphone.

From top, greenhouse manager Terry Ettinger cares for an array of plants in the greenhouses atop Illick Hall; the collection includes a variety of cacti; an orange-flowered Chinese hibiscus blooms; a variegated croton sports flowers; and a lemon ripens on a tree.



When to visit

The public can visit the greenhouses 8 a.m. to 4 p.m. Monday through Friday. The greenhouses are closed weekends and on most state holidays. There are also occasions when the greenhouses will be closed during normal business hours. Please call 315-470-6772 in advance to confirm that the greenhouses will be open. Large groups should call in advance because parking areas and space in the greenhouses are limited. More information can be found at www.esf.edu/greenhouses.

You can make book on it: Library chief won't shush you

By Karen B. Moore



Steve Weiter, director of College libraries, has gone from working with legal eagles to working with people who study eagles. Before joining the ESF staff in 2009, Weiter was in charge of technical services at the largest legal library in the New York State Unified Court System, in Rochester.

How did you end up at ESF?

"It was a long, twisted road. For 12 years I worked in the New York state court system. My wife and I had known (former library director) Betsy Elkins for a long time, and when I saw her retirement announcement I thought this position would be a good opportunity to work locally and take on new challenges and work in an environment different from a legal library."

Why be a librarian?

"Back in 1991, I was working on my doctoral in international relations while an adjunct at Utica College. A temporary position opened in Quincy, Ill., and I applied. I learned there were 850 applicants and at that point decided I needed more marketable skills, so I got my master's in library science at SU. It turned out to be a really good choice. Like it is for a lot of people, librarianship was a second career."

What do you think of the librarian stereotype: ultra-conservative clothes, glasses and a lot of shushing?

"Do I look like I have sensible shoes on? Stereotypes are stereotypes, and I don't know anyone who fits it: the action figure with the shushing finger. We don't shush people. The reality is so different from the perception."

And what is the reality?

"The reality is we're all very different personalitywise and how we approach what goes on in the library, but the goal is the same — and it doesn't matter what library — to give the users the best information services we can provide and get them the information they need. But I don't think anyone's shushed anyone in 10 years or more."

At top, Steve Weiter, right, director of College libraries, assists Karen Mattes, an intern at Moon Library with a book search. Mattes is a second-year graduate student in library and information science at Syracuse University.

Your daughter Rachael is a sophomore at ESF. Which came first, her interest or your job?

"My daughter looked at ESF first. She's very interested in water quality issues. (In the summer of 2008) we did the college tour. During my interview one of the deans said, 'I remember your daughter.' I said, 'I hope I didn't reflect badly on her.' She's very excited to be here in spite of the fact that I'm the library director."

What three books would you take to a desert island?

"Do I want to take something I've never read but meant to read, or a favorite? (Pauses to think) 'The Stand' by Stephen King, 'The Complete Sherlock Holmes' by Sir Arthur Conan Doyle, and 'Hitchhiker's Guide to the Galaxy' by Douglas Adams because they're entertaining and books I've read repeatedly. And if I'm going to be stuck on a desert island I have to be able to read them over and over without it getting monotonous."

What do you have planned for Moon Library?

"What I have planned is mostly to keep doing the good work and providing the high quality of service that's already here. Betsy Elkins' legacy is that students and faculty needs in research are met, and we'll continue that standard of excellence. It may mean we do that in very different ways three, four, five years from now. It may mean nontraditional library practices — cooperative ventures to create institutional repositories for knowledge, historical archives and faculty research. It could include anything that's of value to the campus. We'll be working closely with other offices on campus. Librarianship and needs are changing, from the warehousing of books to study habits and ways the information is used. A lot is going on, and things may move in a different direction than in the past."

Tell us something surprising.

"Probably that I have a deep interest in historical literature and period pieces because it's not the typical recreational reading like sci-fi or Stephen King. Some of it's more esoteric."

Down on the Finca

Visiting ESF's Costa Rican site, adjunct instructor Maria B. Hosmer-Briggs finds abundance of research potential – and charm. She shares excerpts from her journal.



Journal: Dec. 2, 2009, Syracuse
Alex Weir's soft Irish accent gives his speech a slightly ironic highlight, making me wonder if he is pulling my leg, or warning me, or testing my mettle or simply narrating objectively the kick he gets from the world of creatures and experiences that are away from the quotidian norm of North American life. After he lists the creatures I'll be sharing ESF's Costa Rica field station with (tarantulas and howler monkeys in the yard, as well as the scorpions and the 5-foot-long snake he and his group have met inside the house),

his droll reassurance is, "No worries. Just be sure to check inside your shoes when you get up at night to go to the baathh-room."
It's hard to know whether his intent is to simply educate or rather to warn. Both, I expect.

Even in the midwinter dry season, Costa Rica seemed to me, coming from winter-bound Syracuse, to be as verdant and vibrantly tropical as the aptly named nearby town of Monteverde ("green mountain") suggests. This was my first visit to ESF's field station near Coyolito, Costa Rica, near the Gulf of Nicoya on the Pacific side of the country. The property was donated to the College by an ESF alumnus, the late Arthur Sundt '59, and his wife, Mary, who had used it as a respite from the winters in Alaska, where they lived for many years. They had dubbed the property the "Finca," which means "farm" but implies something close to "ranch" in American English. In many Spanish-speaking countries, "finca" means a property in the country, often suggesting a vacation home.

Journal: Jan. 2, 2010, Coyolito

Marcia Carranza of Fundacion Neotropica (FN) and I make good driving time to the Punta Morales turnoff and easily find Pica Pica, the popular local bar and restaurant used by Finca visitors as a landmark for the last turnoff toward the Finca. Marcia finds the turn-off toward Jarquin, and our tiny rental car successfully negotiates the web of tiny, rocky dirt roads in the vicinity of the Finca, roads that are not on any maps we could find. We pass the tiny "soda" (in Costa Rica, something like a micro-, mini-mart) and look for the Finca gate to the right a bit beyond.

I had begun planning this trip last fall, intending to stop at the Finca on my way to visit my sister in Panama. It began as a tour of curiosity but became a more formal mission of inspection as I realized I could help provide information for ESF colleagues who might want to use the field station in the future: I would explore the property; contribute to ESF's plans to improve the accommodations; create a handbook for groups planning fieldwork at the Finca; and investigate the research opportunities nearby.

Journal entry, Jan. 2, 2010, Coyolito

The house, painted a piercing Caribbean blue-green, is secured with ironwork gates and window barriers. In typical Costa Rican fashion, brightly painted tiles set in concrete form the kitchen sinks as well as the countertop and shelves.

The ironwork gate stays in place while the heavy wooden door, leading to the downstairs porch on the shaded east end, is opened to add to the breeze. I've seen these gates in India: They serve to keep out the larger mammals—monkeys, dogs, maybe coatimundis in Costa Rica—that might have a notion to join us inside. I guess they don't do much against snakes.



I accomplished several tasks on the trip that could help future researchers: I used a global positioning system unit to locate the fence line for the creation of a topographic map of the property; made video records of the buildings, including plumbing, electrical systems and repairs that need to be made; and recorded obvious structural problems in the house. I also recorded GPS coordinates and video of the trees in Dr. Allan Drew's "dendrology self-learning trail" to supplement his ongoing inventory of trees on the property. Finally, with help from caretaker Mona Velligas-Campos, Carranza and I did a driving exploration of the area to get a sense of some of the research possibilities.



Journal entry, Jan. 3, 2010, Coyolito

The countryside is rolling and is punctuated by the emblematic broad, round canopy of the guanacaste tree. There are a couple of teak plantations, but otherwise, heavy grazing and lumbering have left the forest cover sparse. We have fish to look forward to, so we stop at Pica Pica only for beer. We share the open-sided restaurant with several small dogs and a cow that had evidently gotten loose and has just been recaptured on the bridge. There is a popular swimming hole near Pica Pica, and at 7 p.m., the place is crowded with families swimming, wading and picnicking. The fish and wine we add to our beans and plantains for dinner make a fine close to the day.

Manzanillo, Costa Pajaros, Puntarenas, Coyolito, Guanacaste, Jarquin, Abangaritos, Golfo de Nicoya, Monteverde: The place names sounded exotic at first, but my visits gave them a practical reality. My later meeting with the FN staff confirmed that there are plenty of opportunities for research in many areas that would resonate with ESF's programs.

Research possibilities are abundant at the Finca, in the nearby north-central area of Costa Rica, and from the Gulf of Nicoya to the mountain cloud forest at Monteverde. FN would like to develop an area of Central Pacific Studies based at the field station. In addition to supporting formal academic research, FN offers environmental education with an emphasis on programs for middle school students. The Fundación would like to include the Finca in these programs and create study abroad opportunities for ESF students, using the Finca, FN's established field stations at Rincon on the Osa Peninsula and Atirro on the Caribbean coast, and in San José.

"We have to get more people to go there," said Drew, an ESF faculty colleague who teaches in the Department of Forest and Natural Resources Management. "The best way to do that is to emphasize the many potential research areas."

Journal entry, Jan. 4, 2010, Coyolito

After the inventory, Marcia and I head off for a farewell dinner at Pica Pica. On the way, we will finish the driving exploration, heading north this time, inland, and up as far as the "Chinese bridge" over Rio Tempesque at the head of the Gulf of Nicoya. We turn back via Coyolito and Jarquin to Pica Pica, but the restaurant is inexplicably closed! So we go home to finish the leftovers.



Finca is focus of dissertation

Ph.D. student Whitney Marshall is poised to become the first graduate student to use ESF's field station in Costa Rica as a focal point for her dissertation. Marshall is working with Dr. Valerie Luzadis on a project that will focus on creating a set of quantitative and qualitative data to provide a framework for future development of the Costa Rica National Parks system. Marshall and Luzadis were scheduled to travel to the "Finca," as the facility is known informally, this fall.

"The most exciting thing, in some ways, is that we will meet with the staff at Fundación Neotrópica on developing a management plan for the Finca between the Fundacion and ESF," Marshall said.

It will be Marshall's fourth trip to the area. In 2007, she was in Costa Rica as a master's student to help update the 1996 data published in Dr. Charles Hall's "Quantifying Sustainable Development: The Future of Tropical Economies." Marshall returned to Costa Rica in 2008 as a teaching assistant with Hall when he brought a class to the field station. She returned to the Finca in 2009, leading a group of five students in that course during spring break. Marshall earned her master's degree from ESF in conservation biology in 2008.

ESF Haikus:

Trees, bears, the Carrier Dome
bring back memories

Inspired by the success of writing instructor Janine DeBaise, whose haiku was illustrated as part of the Syracuse Poster Project, Inside ESF asked readers to write their own haiku about the College.

Larry Zuckerman M.S. '79
was a prolific contributor:

An Adirondack Life

Loons call on Wolf Lake
Mists rise, reveal the cabin
Who slept among larch?

**Remembering the
Roosevelt Wildlife Museum**

Whooping crane and egg
Encased for eternity
Hidden in shadows.

Illick 201: A View No More

The office view, gone!
Swallowed by the behemoth.
Day or night, sky white.

Newcomb's Bears

Tales told by campfire
Circle about the dump's bears
Bears listen in woods.

Al Mollitor EFB '76, MS '80

I am ESF.
It's a part of who I am.
A stumpy at heart.

Chris Cox Dual '00

Honor Tradition;
Educate, Enhance, Manage,
Respect Life; Go Nuts!

R. Allen Falls FOR '69

See the giant oak.
Its mast is very healthy.
Raised by forest folk.

Bill Mullen RS '68

Hemlock, beech, board feet.
A city kid learns the woods
Oh what a living!

Jeffrey Glogiewicz MS '86

Misty nursery
Professor points to tree root
Keeps it down to earth

In Memoriam

Donald F. Behrend

Dr. Donald F. Behrend, former ESF vice president for academic affairs, died July 25 at his home in Skaneateles, N.Y. He was 78.

Dr. Behrend joined the ESF faculty in 1961. He served the College as a research associate and director at the Adirondack Ecological Center before moving to the main campus in Syracuse, where he served in a variety of administrative positions until 1985.

Dr. Behrend had most recently served as chancellor of the University of Alaska Anchorage.

Dr. Behrend earned his doctorate in forest zoology from ESF.

George F. Earle

Longtime ESF landscape architecture faculty member George F. Earle, 96, died July 10 at his home in LaFayette, N.Y.

Mr. Earle was instrumental in establishing the off-campus semester of study that has become a cornerstone of ESF's landscape architecture program. Mr. Earle taught classes in the philosophy and mechanics of design, pencil technique and watercolor and oil painting.

Mr. Earle retired from ESF in 1983 after serving more than 30 years as a faculty member. He continued to paint on a daily basis throughout his retirement.

Edwin Ketchledge

Dr. Edwin Ketchledge, 85, a botanist who had a long teaching career at ESF, died at his home in northern New York June 30.

Dr. Ketchledge was a SUNY Distinguished Teaching Professor who had served as the director of the Cranberry Lake Biological Station in the 1970s. He taught at ESF from 1955 to 1985.

He was widely known for his work on the ecology of mosses and the Adirondack alpine vegetation and he helped launch the Summit Steward program that protects rare alpine plants found on some Adirondack peaks.

Robert M. Sand

Robert M. Sand, 85, former president of the ESF Alumni Association, died Sept. 6.

Mr. Sand was a member of the ESF Class of 1950. He retired after a 40-year career with Cotton-Hanlon Inc. He was an active member of the New York Forest Owners Association.

Mr. Sand served as president of the Alumni Association for four years and was active in ESF alumni activities for nearly two decades.



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Judy Barton



David Kiemle

Two ESF employees receive SUNY awards

Two ESF employees were honored by Chancellor Nancy L. Zimpher for their service to the State University of New York.

Judy Barton, keyboard specialist 3 for the Department of Sustainable Construction Management and Engineering (SCME), received the SUNY Chancellor's Award for Excellence in Classified Service. The award is given to University Classified Service staff who have consistently demonstrated superlative performance within and beyond their position.

Barton has worked at ESF for more than 40 years. Barton's professionalism, good judgment and integrity have contributed significantly to the functioning of the department program and to the College. Her colleagues say she sets a wonderful example for all on how to respect the College and uphold its policies.

David Kiemle, instructional support specialist in Analytical and Technical Services, received the SUNY Chancellor's Award for Excellence

in Professional Service. The award recognizes consistently superior professional achievement within and beyond the position and those who serve as professional role models for a university system in the pursuit of excellence.

Kiemle has been with ESF since 1986 and supervises the technical operations of ESF's Nuclear Magnetic Resonance (NMR) and Mass Spectrometry (MS) facilities and equipment. He also teaches advanced chemistry laboratory classes and assists in the development and design of research experiments and data analysis using NMR and MS techniques.

Kiemle has a reputation for superior performance and outstanding capacity for keeping well ahead of the continually and rapidly changing area of chemical analysis and instrumentation. He co-wrote the textbook "Spectrometric Identification of Organic Compounds" and has been named co-author on a number of research papers.

Awards and Honors

Allen, Wayne, Ambassador Award from the Black River-St. Lawrence Resource Conservation and Development Area Council

Baldassarre, Guy, American Ornithologists' Union fellow, February 2010

Boyer, Gregory, Frank Shipley Collins Award from the Northeast Algal Society for meritorious service; E.T.S. Walton Visiting Professorship from the Science Foundation of Ireland

Dibble, Theodore S., editorial board member, International Journal of Chemical Kinetics, March 2010

Doble, Cheryl, ESF Public/Community Service Award, April 2010

Fernando, Danilo D., guest editor, Special Issue of the International Journal of Plant Development Biology devoted to plant development and evolution, 2010

Flynn, Leah A., ESF Quality of Worklife Award, April 2010

Kieber, David, guest editor, Special Issue of Advances in Meteorology devoted to marine aerosol-cloud-climate interactions, 2010

McNulty, Stacy, Spatial Ecology and Telemetry Working Group Certificate of Appreciation from The Wildlife Society, March 2010

Quackenbush, Lindi, 2010 ESF College Foundation Award for Exceptional Achievement in Teaching, May 2010

Smardon, Richard C., SUNY Faculty Senate Graduate and Research Committee appointment for 2010-2011; President's Leadership Award from the National Association of Environmental Professionals Education, Research and Science Working Group

Feinstone Award Celebrates Native Visions of a Sustainable Future

ESF celebrated Native visions for a sustainable future during its 2010 Feinstone Environmental Awards dinner.

The directors of the Allyn Family Foundation, Lew and Dawn Allyn of Skaneateles, received the Honorary Feinstone Award. The Allyns' fascination with the natural environment and enjoyment of the outdoors led them to an interest in Native American traditional ecological knowledge. That interest grew into support for the Center for Native Peoples and the Environment at ESF.

The Allyns are leading supporters of the center and have provided major support for community intern projects at both the Onondaga and Tuscarora nations.

Henry Lickers of the Mohawk Council of Akwesasne served as keynote speaker for the festivities. Lickers is a member of the Seneca Nation, Turtle Clan, and is the director of the Department of the Environment for the Mohawk Council of the Akwesasne. He has been instrumental in incorporating First Nation's people and knowledge into environmental planning and decision making. Radio personality Jim Reith of 570 WSYR, host of The Jim Reith Show, was master of ceremonies.

The Feinstone Awards program was established by Sol Feinstone, a widely known historian and author who was a graduate of ESF. His goal was to reward people and organizations that exemplified his belief that the best insurance for a free society lay in people's desire to do voluntarily the things that need to be done for the good of all.

The program recognizes leaders who care for the environment, encourage volunteerism and add to society's understanding of environmental issues and their solutions. The Feinstone program has made more than 100 awards, honoring people from across the United States.



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Were you on
campus when
these photos
were taken?



If you were, tell us about it. Please share these and other memories as we prepare for ESF's Centennial Celebration in 2011. Send memories of your friends, classes and teachers to InsideESF@esf.edu or mail them to Editor, Inside ESF, 122 Bray Hall, SUNY-ESF, Syracuse, N.Y. 13210.



SAVE THE DATES

December Convocation: The last graduating class of the College's first century will be honored 1 p.m. Saturday, Dec. 11, in Hendricks Chapel.

Centennial Convocation: Members of the ESF and Syracuse University community are invited to a convocation and presentation to kick off the Centennial Celebration Thursday, Jan. 20, in SU's Lyman Hall, where the first ESF classes were held in 1911.

ESF History Presentation: ESF students, faculty and staff will gather for a presentation about the College's history Friday, Jan. 21, in Marshall Auditorium.

ESF Birthday Celebration: The ESF community will wish our College a happy 100th birthday with a picnic Thursday, July 28, on the Quad.

Green Tie Dinner: Join us the evening of July 28 for a formal dinner in Moon Library. We invite you to wear ESF's signature color – **GREEN!** – as alumni, employees and friends of ESF gather to celebrate the College's rich past and exciting future.

Details about all these events will be posted on the ESF Centennial website as they become available. Please follow the plans at www.esf.edu/centennial.