There is an increasing amount of activity on UK campus surrounding environmental science and sustainability, and the NRES program has the distinction of being the oldest and most established undergraduate educational component of that activity. The NRES program (formerly the NRCM program) stays current by continuous innovation made possible by the flexible structure of the curriculum. The NRES Steering Committee faculty, who oversee and nurture the program, frequently discuss future directions for broadening and improving the program and listen carefully to ideas from current students and alumni. We are also excited by the ways our program is reaching out across campus. As noted in this newsletter, two of our faculty members are Co-Directors of Greenhouse, a Living Learning Community for first-year students that opened this fall and focuses on sustainability and the environment (http://greenhouse.as.uky.edu/). The NRES program also spearheaded a K-Week event to highlight all of the environmentally-related academic programs in the College of Agriculture, Food and Environment. We’re excited about all the new opportunities opening up for our students as we continue to build on our 21-year history of bringing the study of natural resources and environmental science to engaged students at UK.

If you have news you would like to see included in the newsletter, or other comments or information, please email me at marthur@uky.edu. We aim to keep you informed of our activities and engaged in our students’ successes.

Dr. Mary Arthur
History Behind the CAFE Name Change

By: Jad Husayni

The UK College of Agriculture changed its name to the UK College of Agriculture, Food, and Environment (CAFE) on July 1, 2013 to better communicate the diversity of the College’s degrees and programs. The name change came nearly a decade after the College of Human Environmental Sciences merged with the College of Agriculture and more accurately describes all of the academic and extracurricular activities within the College, which are associated with farms, forests, food, families, and communities. Scott Smith, Dean of the College at the time, offered his insight by explaining, “While we continue our fundamental ties to production agriculture, we have expanded to include all the pervasive and essential enterprises based on renewable natural resources… We are now better aligned with the wider and more diverse interests of those we serve, including a new and rapidly growing population of undergraduate students. And across Kentucky, many now see agriculture to include not only farming, but also agribusinesses, and the full reach of food systems from local to global.” The name change was first approved by the College’s faculty and staff along with the UK Faculty Senate, and then became official after being accepted by the UK Board of Trustees.

For more information about the environmentally-related degree programs offered in the College of Agriculture, Food, and Environment, visit: [http://www.ca.uky.edu/](http://www.ca.uky.edu/)

CAFE Participates in K-Week

By: Dr. Mary Arthur and Jad Husayni

NRES Academic Coordinator Geri Philpott hatched a brilliant plan to highlight the environmental undergraduate programs in the College of Agriculture, Food and Environment during K-Week. Collaborating with other academic coordinators and faculty from Biosystems and Agricultural Engineering, Entomology, Forestry, Landscape Architecture, NRES, Plant and Soil Science, and Sustainable Agriculture, the event was billed as Sustainable UK: Exploring Environmental Programs in the College of Agriculture, Food, and Environment. During the lunch hour on August 26th, these programs hosted local, sustainably-grown food including hamburgers from Marksbury Farm Market, brats from the UK Butcher Shop, buns from Bluegrass Baking Company, and a tomato and pepper pancetta salad and watermelon from UK Horticulture Research Farm. In addition to a great meal, there were also giveaways and most importantly, information about the academic programs that make up the ‘environment’ part of the College of Agriculture, Food and Environment. Two supplementary booths, Greenthumb and Water Week, were added to the mix to highlight a sustainability-related student organization and event on campus, respectively. Beautiful weather, fantastic food, and an assortment of informational booths made for an entertaining afternoon for the 170 students that turned out.

Photo credits: Stephen Patton
Deciding where to study abroad can be a daunting task for many students, but for NRES junior and Chellgren Fellow Lexi Neukirch no destination seemed more fitting for her academic and personal goals than the beautiful country of Iceland. With her focus areas in International and Renewable Energy Resource Economics (an independent Analytical Skills area), and Human Dimensions, and a minor in International Business, Iceland proved to be the perfect place for Lexi to study renewable energy while also discovering the cultural aspects of living in a sustainable community. Throughout her seven-week trip, Lexi traveled with a diverse group of American students, stayed in hostels, an eco-village, and even lived with a host family for two weeks in Isafjordur to fully immerse herself in the Icelandic culture. She also took a course in Renewable Energy, Technology, and Resource Economics at the University of the Westfjords to complement her NRES focus areas.

Lexi spoke highly of her time living with her host family because she experienced first-hand how renewable energy resources influence the attitudes and lifestyle choices of those who implement them. For example, since Iceland has such vast geothermal and hydropower potential they have some of the cheapest energy prices in the world. However, as Lexi learned, such cheap prices can lead Icelandic families to be relatively lax about their energy consumption. For example, she found that her host family often left lights on, when her impulse was to turn them off.

The academic aspect of her trip was also enlightening. Over the course of the seven weeks she conducted an independent research project on the development of wind energy systems in isolated communities. Then, towards the end of her stay, she visited Iceland’s two working windmills and found that, “experiencing first hand the energy system I had been researching allowed me to fully connect with and understand the importance of my project and the material I had been learning during the entire trip.”

Such experiential learning further strengthened Lexi’s interest in community development with regard to renewable energy projects because the direct benefits of such efforts were apparent in all of the communities around her. In addition, living with a host family allowed her to better appreciate the human dimension of natural resource planning. Lexi’s experiences reassured her that a career in natural resource economics would be challenging, engaging, and rewarding, and made for a truly amazing summer abroad.
Summer Camp 2014
Experiential Learning in Robinson Forest

By: Jad Husayni

Composed of several quaint, picturesque cabins snuggled into the remote mountains of eastern Kentucky, Robinson Forest Research Station was one of two destinations for Summer Camp (NRE 320) offered to NRES students, the other being Costa Rica. For three weeks, sixteen students took to the woods and gained first-hand experience in an assortment of environmental fields, including wildlife conservation, aquatic ecology, mine reclamation, and stream restoration. In total, nine UK faculty and one EPA water quality expert introduced students to a different topic every day using engaging lectures and hands-on fieldwork.

Robinson Forest is 14,000+ acres of contiguous forest in a landscape surrounded by surface mining for coal. From catching snakes and salamanders to tracking elk using radio signals, there was never a dull moment in the seemingly endless supply of intact landscape. Just picture what every ecology textbook would describe as a mature forest ecosystem, and then imagine actually being there and taking in the sights, smells, and natural beauty that comes with such a large protected area. Finally, add in a group of easy-going but engaged students and professors and what you get is an unforgettable way to begin the summer.

In addition to the academics, there was plenty to do after the coursework was complete. The nearby elk viewing area and the fire tower that sits on a mountain near camp made for incredible sunsets and hiking destinations. One day was also designated for rappelling at the Red River Gorge, where students learned the importance of Leave No Trace camping and hiking techniques and ate at the locally famous Miguel’s Pizza. For the outdoor enthusiast, the area’s plethora of streams made for great fishing venues.

For three weeks it was one adventure after another with stories around a campfire. Robinson Forest created camaraderie among the students and faculty, taught the significance and application of the environmental sciences, and built a solid foundation for students moving forward in their academic and professional careers. To view the Robinson Forest Summer Camp in photographic detail, visit the NRES blog at:

http://kentuckynres.tumblr.com/

Larger photos: NRES students standing above a waterfall near camp (top) (Photo credit: James Stermer); cabins and fire pit in camp (middle); students making stream assessments with an EPA water-quality expert (bottom).

Smaller photos: Student holding an eastern box turtle (top left); Jeb Ayres standing above the cliff face while rappelling at the Red River Gorge (top right); Jad Husayni getting trampled by a red-spotted newt (bottom left); Erin Klamic collecting macro invertebrates to assess stream quality (bottom right). Photo credits: Jad Husayni
In the NRES program, summer camp is a requirement! And for the second year now, students got to choose between spending three weeks at Robinson Forest in eastern Kentucky or two weeks studying abroad in Costa Rica! In August, twelve NRES students chose the latter and joined NRES faculty Rob Paratley and Dr. Steven Price to explore ecology and natural resources in a cross-country exploration of Costa Rica.

Students began their study of Costa Rica's life zones at Poás Volcano National Park, an active volcanic crater amid a montane elfin forest at 2800 meters elevation. From there, the NRES team descended to sea level on the Caribbean coast to visit the Pacuare sea turtle research and rescue site run by WIDECAST—an international conservation consortium working with endangered species. Four species of sea turtles nest on the Central American Caribbean shore. Students assisted with hatchery work and night beach patrols to monitor nesting mothers and rescue their eggs before poachers can take them. From the coast the course headed inland to explore La Selva Biological Station, a 1500-hectare research facility. La Selva, run by the Organization for Tropical Studies, protects one of the few remaining remnants of primary Caribbean lowland rain forest, one of the most biodiverse ecosystems in the world. While there, NRES students participated in guided nature and night hikes to learn more about tropical flora and fauna. The group also explored a nearby pineapple plantation, learning about large-scale export commodity agriculture and witnessing first hand one of the pressures to convert rain forest to alternate land uses.

The group then travelled further west to the world-renowned Monteverde Cloud Forest Biological Reserve, where they learned about threats to this high elevation ecosystem, including the rapid spread of a fungal disease decimating amphibian populations. Efforts to preserve cloud forest habitat and to create a corridor for wildlife movement connecting uplands to lowlands were discussed, as well as the influence and importance of ecotourism to the sustainability and protection of the Monteverde cloud forest ecosystem. Down the mountain about 1,000 meters below the cloud forest is the Costa Rica coffee belt, where a cooperative is dedicated to sustainable coffee production and the students toured Life Monteverde farm. The three-hour visit included topics in sustainable coffee production, fair trade, and ecosystem services of forest remnants. Toward the end of the course, the students quite literally came down from the clouds of Monteverde to complete their cross-country travels in the Guanacaste Province on the Pacific Coast, the driest region in Costa Rica. They explored yet another example of ecotourism by staying at the Buena Vista Lodge. A tour of the facility demonstrated their efforts to employ more sustainable practices. While in Guanacaste, the group took a boat tour of the lower reaches of the Tempisque River to view wildlife and learn about the endangered tropical dry forest that occupies the area.

After an action-packed two weeks, the weary but satisfied student travelers packed up and headed back to the States with a greater appreciation for the biodiversity and intricacy of tropical ecosystems, as well as for the threats to these systems and the research and practices employed to understand and preserve them.
The UK-Lexington Fayette County Arboretum, State Botanical Garden of Kentucky, which occupies 100 acres on the south side of campus, has grown up in wonderful ways over the first 23 years of its inception. While the wooded area on the westernmost extent of the Arboretum serves as an anchor for the rest of the Arboretum, the Walk Across Kentucky, wherein each of the physiographic regions of Kentucky is represented by trees, shrubs, and other perennials native to that region, has grown up dramatically. In addition to serving its three primary functions of education, conservation, and research, the Arboretum also provides a significant proportion of the tree cover on campus. Indeed, the Arboretum accounts for 25% of the tree cover for all of UK campus, despite occupying only 12% of the land. In fact, while all of UK campus has tree cover of approximately 16.7% (compared to canopy cover of 25.6% for Lexington), canopy cover at the Arboretum is about 33%, which highlights the value of this wooded area on our campus.

The Arboretum provides a significant opportunity to use the campus itself as a classroom. Students in the NRES program have had ample opportunity this year to connect their academic pursuits to the Arboretum. Every NRES student visits the Arboretum Woods for at least one field trip during Forest Ecology. Just 15 acres in size, the Arboretum Woods represents one of the best examples of a Bluegrass Woodland still remaining. Despite ongoing struggles to manage an onslaught of non-native invasive plants that encroach on the woodland from the surrounding suburban landscape, it remains a precious wooded resource in the heart of Lexington.

This past year, the NRES seniors had the opportunity to focus on the Arboretum for their Senior Capstone projects. Students grappled with topics ranging from quantifying the economic benefits of the Arboretum Woods to designing a permaculture ‘food forest’ for the grounds. Several key findings of the report, which can be accessed at (http://nres.ca.uky.edu/current-students/capstone), were that UK students’ average willingness-to-pay for the value of the Arboretum Woods was $46/semester, and that the Woods itself provides $35K in stormwater abatement annually through canopy interception and evapotranspiration. The Arboretum is an incredible campus resource!
Course Highlights

By: Jad Husayni

NRE 390: Environmental Communications

Environmental Communications (NRE 390) will be offered for the first time this spring to supplement the new focus area in Environmental Education. Taught by NRCM alumna Angela Poe, Environmental Communications will provide students with persuasive theories and strategies for mass and interpersonal communication applied to environmental concerns, similar to public service campaigns. As a simple example, students may learn to persuade the public through the use of social psychology theories not to litter, to turn off light switches when not in use, or to stay on the trail while hiking.

In addition to persuasive strategies, students learn to use social media and marketing campaigns to identify, understand, and communicate with target audiences to gain support, inspire action, and ultimately achieve their environmental goal. Throughout the semester, they will write a news article, develop a persuasive piece using one of the persuasive strategies discussed, conduct an audience assessment, and create a campaign advocating for environmental responsibility in everyday life. As a final project, students will implement and assess the effectiveness of their campaign strategy in attaining their goal.

This course is highly interactive, with the majority of the grade based on projects, discussions, and class participation. There are no exams! Guest speakers who work in the fields of advertising, marketing, journalism, and media will visit throughout the semester and provide students with first-hand knowledge about how to better communicate with their audience. As a NRCM graduate herself, Angela Poe understands the importance of this class because, “it offers students skills that nearly all of them will use at some point in their careers.” So what are you waiting for? Ask your advisor about Environmental Communications today!

PLS 396: Soil Judging

Soil Judging (PLS 396) is a course designed to provide students with experience in field evaluations of soil properties to determine soil potential for land use and management. The highlight of the course is the Southeastern Region Soil Judging Competition, which was held at Clemson University in South Carolina on October 5-9. The UK Soil Judging team is often times dominated by NRES students with a focus in Soil Science, and three NRES students proudly represented this year’s team. Frank McCoy, James Stermer, and Adam Creamer put their knowledge to the test against thirteen other schools from around the region in hopes of gaining a berth in the National Collegiate Soil Judging Contest to be held on March 21-26, 2015 at Texas Tech University. During the competition, soil pits were dug and each team was challenged to correctly describe various soil characteristics including texture, color, horizon designations and depths, redox features, landscape position, and infiltration rate. In addition, they must recommend land uses and restrictions for each type of soil encountered. Each team was then evaluated based on the accuracy of their assessment and the top five teams moved on to the national competition. Unfortunately, this year’s team did not qualify for the national competition, but NRES senior Frank McCoy placed first in the individual competition! This marks the first time a UK student has won the individual portion and gives the team much to build on for next year’s competition.

Photo credits: Frank McCoy
Internship Highlights

Natalie Redish

Before graduating in August, Natalie Redish spent her final summer in the NRES program working as an intern at Floracliff Nature Sanctuary (http://www.floracliff.org) in Lexington, KY. While Natalie performed a multitude of tasks at Floracliff, her most significant contribution was the development of a database to populate an app called iNaturalist. iNaturalist is an app that allows scientists, nature lovers, and everyone in between to record the location and occurrence of organisms. The information can then be used for education, conservation, recreation, and research purposes by anyone interested in the natural world. Natalie’s contribution was to provide photographs of the flora and fauna present at Floracliff and upload those photos to this app. Floracliff’s Preserve Manager, Beverly James, further explained, "iNaturalist provides an online tool for Floracliff to share the sanctuary's biodiversity beyond our guided hikes and workshops. Natalie developed five species guides and the 'Floracliff Biodiversity Project', which visitors can use to learn about the region's flora and fauna in a more interactive way and contribute their own observations. We see this as an ongoing project to record what is found at Floracliff every season for years to come and are excited to expand on what Natalie started." Natalie’s internship provided her with valuable field experience related to forest management and preservation and improved her plant and herpetofauna identification skills, both of which are closely related to her focus areas. She is currently performing an internship with the Natural Resources Conservation Service in Nashville, TN.

Becca Ruiz

NRES senior Becca Ruiz knew she wanted to work at Lucia’s World Friendly Boutique in Lexington after first stepping foot inside the store her freshman year. She was drawn to the store for two reasons. First, most of its clothing is made in Guatemala, a country she had traveled to many times and her father’s birthplace. Second, Lucia’s is a certified Fair Trade business, which means that the workers who created the goods are being paid a fair and living wage, something Becca hoped to learn more about through her focus area, and minor, in Anthropology.

Becca’s dream became a reality this past summer when she was hired as the Social Media and Outreach Intern for the boutique. In this role, Becca helped run the shop, attend and work outreach events in the local community, and write informational documents for the website. Becca’s writing emphasized cultural norms in Guatemala and Mexico and described how fair trade practices have a positive impact on such countries. In addition, she shared her ideas with the local community at outreach events, like the Lexington Peace Fair in May, where she recorded a video on fair trade. Becca enjoyed her internship so much that she has decided to pursue a career in sustainable business management in the fashion industry. As she explained, “I hope to work for fashion companies to create real sustainable and conscious sourcing practices and advise them on ways to lessen their impact on the environment, as well as promote fair labor wages and conditions.”

Check out Becca’s video on fair trade at: http://tinyurl.com/BeccaRuiz

Pictured above: Natalie gathering data for iNaturalist (bottom) (Photo credits: Natalie Redish); Becca posing with clothing from Lucia’s (top). Photo credit: Becca Ruiz
Research Highlights

Mariah Lewis

Mariah Lewis’ love for turtles began during the NRES Costa Rica summer camp in 2013. While there, the students learned about endangered sea turtles at the WIDECAST nesting and conservation site, located on the Gulf of Mexico in La Pacuare. Her experience was so transformative that she has decided to pursue a career in sea turtle conservation. To gain research experience, last fall she began working in Dr. Steven Price’s herpetology lab studying terrestrial eastern box turtles. Mariah’s research with Dr. Price led to a summer research fellowship, funded by a UK Undergraduate Research Creativity Fellowship, which allowed her to continue her research on eastern box turtles at Berea College forest, in eastern Kentucky. Her research explores variation in box turtle body temperatures during hibernation and how that influences survival. The fellowship also helped fund trips to several conferences where Mariah presented her findings, including the Turtle Survival Alliance held in August in Orlando, Florida. In addition to her research, Mariah is actively involved in sustainability programs at UK, serving as the Director for the Eco-Rep Program and as an undergraduate instructional assistant for the Greenhouse Living Learning Program. Mariah was awarded a College of Agriculture Most Outstanding Junior Award in Spring 2014.

Waydon Yates

Waydon Yates first became interested in research while taking Forest Entomology (FOR 402) with Dr. Lynne Rieske-Kinney. Waydon approached Dr. Rieske-Kinney about research opportunities, and was soon studying benthic invertebrates in hemlock-dominated riparian ecosystems throughout eastern Kentucky. He worked 5-10 hours per week identifying insects from leaf litter samples that were collected from streams. Once the insects were identified to the family level, graduate students conducting separate projects used the data in support of their research. Waydon said he is extremely happy that he got involved in research because he loves working around graduate students and learning more about entomology, his minor, in addition to his focus area in Wildlife Management. His experience with Dr. Rieske-Kinney opened doors for him to further pursue research: this past summer he conducted research on brown marmorated stink bugs in Dr. Ric Bessin’s lab in the Entomology Department.

Pictured above: Mariah posing with two eastern box turtles (top) (Photo credit: Mariah Lewis); Waydon spraying a fungus for brown marmorated stink bug cage trials (left); Waydon identifying insects in the laboratory (right). Photo credits: Waydon Yates
Alumni Highlight:
Kristi Miller

By: Jad Husayni

Ten years post-graduation, Kristi Miller (NRCM '04) has her hands full working as the Environmental Manager for Rollcast Energy in Charlotte, NC. Rollcast Energy is a company that develops power plants that run off of renewable fuel resources, such as waste wood from right-of-way clearings or leftover brush from logging practices. The waste wood that is used for fuel would otherwise be landfilled or possibly left on the ground. Her position requires her to oversee water, land, and air resources at all of the company’s power plants.

Kristi described her job as mainly focusing on air permitting, since woody biomass power plants have emissions that are regulated by state and federal agencies. However, she also oversees storm water permitting and management, wastewater, stream buffers, ecological resources, wetland permitting, and she even brokers deals to find end uses for the wood ash once it’s been combusted! Such a long list of responsibilities may sound daunting, but for her it is exactly why she loves the position. She even said, “What I love about this job is having my hands in many activities at once. I am managing all of the environmental resources on several different development projects and existing assets.”

Being passionate about her career has certainly paid off, quite literally. Kristi recently applied for a Woody Biomass Utilization Grant through the US Forest Service and won $250,000 for her company to go towards development of their newest power plant. The plant will use 500,000 tons per year of tree waste around the Atlanta, GA area to produce clean energy.

The application process for such a large grant required multiple written proposals, which is why Kristi could not stress enough how important it is for students to develop their writing skills. She highlighted, “Whether it be writing a technical report for a field study you performed, writing a grant application, writing a letter to a regulatory agency, or writing that killer cover letter that lands you the job you want, it is essential that you write it well.” In addition, she recommends students take business courses, consider a minor in business, or even get an MBA. To put it in perspective, she said, “Any place you go to work will be a business and if you want to climb your way to the top, you have to understand how that business works.” From her experience, Kristi feels it is much easier to get noticed by potential employers if you have a technical undergraduate degree coupled with an MBA, for which she does, but even without the degree just having some knowledge about it will surely help.

Kristi’s favorite thing about the NRCM program was that it had a great balance between classroom work and hands-on experience. After all, many jobs in the environmental field require both office time and fieldwork and the disciplines are very interconnected. That’s why students should take advantage of every opportunity that the NRES program has to offer!

To learn more about renewable energy resources, visit the company’s website at:
http://www.rollcastenergy.com/about/biomass/

Pictured above: An aerial photograph of the energy plant that uses 500,000 tons per year of wood waste from the Atlanta, GA area to produce 55 megawatts of power. (Photo credits: Kristi Miller)
Alumni Highlight:

Amy Bowe

By: Jad Husayni

In 2009, Amy Bowe graduated from the NRCM program expecting to pursue a profession in the field of ecosystem restoration and conservation. Instead, and much to her surprise, she is currently enjoying a career as a Right-of-Way Manager for the consulting group Environmental Consultants, Inc. (ECI). More specifically, Amy is contracted through the firm to work as an arborist for the Farmer’s Utility Electric Co-Op, a small utility company located in Glasgow, KY. Her main responsibility is to manage vegetation under the utility company’s power lines located throughout Hart, Barren, and Metcalfe Counties.

To illustrate, Amy starts a typical workday by obtaining a list of utility customers who request to have trees or underbrush evaluated beneath the power lines on their property. Once she gets to the site, Amy’s next task is to determine whether or not any of the vegetation needs trimming, a process she refers to as “running tickets.” Branches that interfere with power lines or create a safety hazard need to be removed, in which case Amy will bring in a tree trimming crew to perform the job under her guidance. Tree trimming can be difficult, so it takes an experienced professional to properly instruct the crews where to cut, when to cut, and how to maintain the area without harming the power lines or the trees themselves.

During her years in the NRCM program Amy was passionate about ecosystem restoration and native plants. For this reason she decided to complete her internship requirement by accepting a position at the UK Arboretum, where she worked to remove invasive plants and replace them with natives. Eventually, her internship turned into a part-time job. Her work experience proved to be valuable when it came time for Amy to graduate because, like many students, she did not have immediate plans to pursue a Master’s degree. Instead, she was offered a position at Floracliff Nature Sanctuary doing much of the same type of work she had done at the Arboretum. It was there that she applied for her current position as an arborist through ECI, but it wasn’t until a year later that they finally offered her the position.

Looking back, Amy says that, “The internship requirement was very beneficial. My internship turned into a paying job, which eventually led to another paying job. Having those paid positions only added to the experience that I already had while I waited to hear back from ECI. It can be argued that working at the Arboretum ultimately led to the professional career path that I am on right now.”

With that being said, Amy would advise current NRES students to start looking early in their college careers for internships, volunteer work, and part-time jobs that relate to their interests. After all, there’s no way to know where they might lead. Also, do not be afraid to take the difficult classes because the knowledge you gain from them is well worth the extra effort.

For more information on internship opportunities at the UK Arboretum, visit their website: http://www2.ca.uky.edu/arboretum/Joinus.php

Photo credits:
Amy Bowe
http://farmersrecc.com/
NRES Newsletters: Behind the Scenes

By: Autumn Foushee and Jad Husayni

We are really proud of the NRES students who have created and written the NRES newsletter for the past 5 years. Starting with the kernel of an idea from NRES Steering Committee member and advisor, Dr. David McNear, Sarah Wightman (NRCM ‘10) launched the first issue in April 2010. She handed the baton to Sandy Broadus (NRES ‘12), who wrote, edited and published the fall ‘11 and spring ‘12 newsletters. Eric Hope (NRES ‘13) took over in spring of 2012, and handed it over to Sarah Barney (NRES ‘14) in 2013. We thought it would be fun to see where these alumni are now, and what they have to say about their experience in the NRES program.

Sarah Wightman

Sarah Wightman felt right at home in the NRCM program because it offered her a unique opportunity to study a mixture of environmental science, economics, and policy. This catered to Sarah’s specific interests because she wanted to study the environmental sciences without having to become an actual scientist per say. Sarah is currently enrolled in a joint degree program at the University of Michigan, where she is working towards obtaining both a law degree and a Master’s degree in environmental policy and planning. Sarah feels that her courses in the NRES program and time as the first NRES Student Assistant helped prepare her for graduate school by constantly challenging and improving her writing skills, something that has proven to be very beneficial as she is now the Editor-in-Chief of the Michigan Journal for Environmental & Administrative Law. In addition, Sarah gained valuable experience working in a professional environment when she fulfilled her internship requirement with the Kentucky Department of Environmental Protection, where she developed compliance assistance for regulated entities like gasoline stations and hazardous waste generators. Her secret to success and advice for current NRES students is to, “Take all of the opportunities you can find, and work hard at school and in every job. Prove yourself to be a smart, hard worker who is passionate about your work. If you are passionate about your work, you will be good at it, and my enjoyment of environmental work has allowed me to succeed so far!”

Sandy Broadus

Sandy Broadus did not have a definitive career path in mind when she first entered college, but what she did know was that she wanted a major that covered a broad spectrum of environmental subjects and opened the door to varied career path opportunities. Sandy found everything she was looking for in the NRES program because it offers a wide range of opportunities for students to gain knowledge and experience in topics that fit each student’s academic and personal interests. Sandy took full advantage of her time in the major by getting involved in many of the programs and activities on campus related to natural resources and the environment. She was a member of Greenthumb and the Earth Days in the Bluegrass Planning Committee, an active participant in the Sierra Club's UK Beyond Coal Campaign, an Ag Ambassador, and the NRES Student Assistant!

Sandy is now working as a water sample technician for Rhithron, an environmental consulting company in Missoula, MT. When asked what advice she may have for current students, Sandy proposed, “Honestly, the most important thing is perseverance. The job market is terrible right now, so you may experience a lot of rejections. The important thing is to keep putting out applications and even apply for jobs that are out of your league - any interview is good practice, even if it doesn't end in a job offer.” In addition, Sandy credits the diversity of classes in the NRES program for providing her with knowledge that was applicable to all of her potential professional endeavors.
Eric Hope

Eric Hope had the privilege of visiting many of the nation’s national parks while growing up in Louisville. His parents were passionate travelers and outdoor enthusiasts, so he gained an appreciation for the natural world at a very young age. Eric’s love for the outdoors carried forward into college, where he gave up a brief stint as a pre-pharmacy major to pursue a degree program more geared towards his true passions: nature and the environment. As a NRES student, Eric performed multiple internships, worked as the NRES Student Assistant, and took courses related to Wildlife Biology and Management with hopes of one day fulfilling his childhood dream of working for the National Park Service (NPS). His first internship was under Dr. Patrick Angel with the Appalachian Regional Reforestation Initiative, where he worked as a tree-planting team leader educating groups of volunteers on how to properly plant trees in an attempt to restore Appalachia’s mixed mesophytic forests. The following year, he participated in an AmeriCorps internship with the Teton Science Schools that landed him in Jackson, WY. While there, Eric led residential environmental education programs throughout Grand Teton and Yellowstone National Parks, an experience that further solidified his desire to one day work for the NPS.

Sarah Barney

After graduating earlier this year, Sarah Barney packed up and headed south to explore the wonders of Ecuador and Peru in a less formal educational setting. Sarah wanted to pursue new opportunities to work and learn in a context less structured than college was, so she has undertaken several projects with this goal in mind. Sarah began her post-college adventure by volunteering on an organic farm and ecotourism lodge in Tarapoto, Peru. She then traveled to the Amazon to work as a research assistant for a macaw conservation project in Tambopata National Reserve. To travel and work effectively as she travels from one destination to the next, Sarah applies similar organizational and planning strategies she used to find success as a NRES student and Student Assistant. Despite strong organizational skills, though, Sarah also said, “allowing myself moments of chaos has been another important strategy, as these are the times I find the most inspiration.” Sarah found the flexibility of the NRES program and the support of associated faculty to be a key to her success in the program because it allowed her to have some independence in her academic choices, which she found empowering.
Wildcat Wheels & Big Blue Cycles

As the UK campus undergoes a boom in construction projects and with more construction to come for the next few years, now is a better time than ever to make the switch to riding a bicycle to campus instead of driving. Frequent lane closures make navigating campus by vehicle nearly impossible, but UK’s recent improvements in bicycle accessibility make commuting to campus safer and easier.

This past summer, UK Parking and Transportation Services invested $65,000 towards improving and expanding bike lanes, shared-use roads, and designated shared-use sidewalks to encourage the adoption of bicycle transportation around campus. Fluorescent green striping through intersections like Cooper Drive and University Drive, in addition to buffered bike lanes, are designed to increase motorist awareness of bicyclists, improving the safety of the commute for everyone involved.

For those who need further coaxing, the Office of Sustainability started a new bicycle rental system, Big Blue Cycles, in which students can borrow high-quality bikes for the school year for free! All they need to do is pledge not to bring a vehicle to campus and in exchange they get a bike, helmet, and lock for the entire year. All 160 bicycles have been designated for the 2014-2015 year, but stay tuned for announcements regarding availability for next school year. Wildcat Wheels also provides day-, week-, and semester-long bicycle rentals to anyone who wants to give it a try. Thanks to the University’s recent efforts in collaboration with Wildcat Wheels, bicycling at UK is more efficient, safe, and affordable than ever before.

To learn more about Wildcat Wheels and bicycle rentals, visit their website at: http://www.sustainability.uky.edu/wwbl

UK Office of Sustainability: Pick It Up

Attention all NRES students, faculty, and alumni! Help join the effort to make the University of Kentucky a litter-free campus and win cool prizes at the same time by participating in the UK Office of Sustainability’s newest promotional campaign, Pick It Up. All you have to do is take a photo of someone (even yourself, selfies are welcome) picking up litter around campus and email it with the person’s name, time, and location to pickitup@uky.edu to receive a free Get Gnarly T-shirt. But there’s more! Look for the whereabouts of Gnarly the Gnome around campus by using weekly clues from the Kentucky Kernel or UK Sustainability’s Facebook or Twitter accounts. When you see Gnarly, walk up to him and see what he has to say for the chance to win a gift card to local restaurants courtesy of UK Dining Services. You never know who may be watching, so think twice the next time you decide to walk past a piece of litter and instead, just Pick It Up!

For more information on Pick It Up, visit the UK Office of Sustainability website at: http://www.sustainability.uky.edu/pickitup
In 2006, the U.S. Environmental Protection Agency (EPA) and the Commonwealth of Kentucky filed a lawsuit against the city of Lexington for failure to maintain storm water and sanitary sewer systems, both of which were in violation of the Clean Water Act. At the time, Lexington’s sewer systems were out of date, poorly maintained, and frequently experienced sewage overflows that discharged into surrounding streams. As part of the EPA’s consent decree, the city of Lexington was required to repair their storm water and sewage systems in addition to implementing supplemental environmental projects around the city.

Thus, in 2009, the Lexington-Fayette Urban County Government Department of Environmental Quality and Public Works, in partnership with LexArts, created the Lexington EcoART Program to assist in fulfilling these supplemental environmental projects. The EcoART Program aims to provide non-traditional educational tools in the form of visual arts to connect the public with the environment, encourage environmental responsibility, and promote a healthy and environmentally sustainable way of life. Some of the issues emphasized include water quality, litter, recycling, land preservation, and energy conservation. Artwork can be seen around Lexington in the form of colorfully painted storm drain sewers, bus stops, and symbolic sculptures that represent natural processes such as water cycles, to highlight a few.

Since its establishment, the EcoART Program has awarded seventy-six grants of $5,000 and two grants of $25,000. Recipients have included non-profit organizations, public and private schools, churches, and individual artists from all over the area; the only requirement is that the project takes place in Fayette County. A panel of art administrators, environmentalists, and educators reviews the applications based on the artist’s ability, quality of the proposed project, and potential educational impact.

The EcoART Program is an important investment in education and community outreach, and is just one of several supplementary programs that help make Lexington a healthier place to live, work, and learn.

For more information on how to apply for a grant, or for a complete list of previous winners, visit the website at:


Pictured above: sidewalk art to generate awareness for littering (top row and middle); water fountain expressing water cycles- the background is made out of leaves (bottom right). (Photos courtesy of Lexington EcoART Grant Program)
Becoming a Natural Resources and Environmental Science Student

By: Geri Philpott

Many people ask us what it is like to be an NRES student. Recently the College of Agriculture, Food and Environment sent one of their Agriculture Communications Specialist’s on an overnight field trip with the students in the NRE 201 Natural Resources and Environmental Science course.

The group traveled from Lexington to Munfordville, KY where they spent the day in the Green River with Monte McGregor, an Aquatic Scientist/Malacologist for the Kentucky Dept. of Fish & Wildlife Resources. Students received hands-on experience sampling for mussels.

That evening the group camped at a research center just outside of Mammoth Cave National Park. This facility has great space for lectures and for the students to cook all their meals.

Day two focused on cave ecology. Students visited Mammoth Cave National Park with Park ecologists and Crumps Cave with faculty from Western Kentucky University. These were not typical cave tours. Instead, students learned about current projects including air quality monitoring, water testing, and ongoing bat research.

You can watch the video, “Becoming a Natural Resources and Environmental Science Student” here: http://tinyurl.com/becomingNRES

Spotlight on Sustainability: Greenhouse Living Learning Community

By: Dr. Mary Arthur

It is impossible not to notice all the construction on campus, much of which is part of UK’s plan to dramatically increase on-campus housing. Less obvious is the simultaneous effort to create themed living-learning communities (LLCs) targeted towards first-year students. One of those new communities is Greenhouse, the Environment and Sustainability LLC. Greenhouse is the only LLC that focuses on environmental issues, and it is a joint effort of the College of Agriculture, Food and Environment, and the College of Arts and Sciences, co-directed by NRES Steering Committee faculty Drs. Carmen Agouridis and Mary Arthur, along with Drs. Alan Fryar and Shannon Bell from the College of Arts and Sciences. Students in Greenhouse come from different colleges and are in different majors, but all bring an interest in engaging in the process of improving sustainability on campus and beyond. Students in the Greenhouse LLC take a class called Pathways and Barriers to Sustainability, where they learn about the three pillars of sustainability – economic vitality, social responsibility and well-being, and environmental stewardship – and integrate sustainability concepts into their own developing areas of expertise. If you know of high school students interested in sustainability and the environment, tell them about the Greenhouse LLC.

Website: https://greenhouse.as.uky.edu/