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UNC environment

IE WELCOMES NEW BOARD MEMBERS

Bill Eichbaum is vice president of marine and arctic policy and the acting vice president of government relations at the World Wildlife Fund (WWF), one of the world's leading conservation organizations. Eichbaum has built an illustrious career as an environmental advocate. In the 1970s, he helped organize the first Earth Day. In the 1980s, he played a key role in the creation of the Chesapeake Bay Program. Before joining WWF in 1989, Eichbaum served as Massachusetts' Undersecretary of Environmental Affairs – one of many positions held during his 20 years of



PHOTO BY Jill Hatzai / WWF

public service. While working on environmental affairs for the state of Maryland, Eichbaum spearheaded legislation for the Clean Water Act, authorizing the creation of a national estuary restoration program. At the WWF, he is working to end destructive fishing practices, reduce pollution and establish a network of effectively managed, ecologically representative marine protected areas covering at least 10 percent of the world's seas. Eichbaum earned a BA in international relations at Dartmouth College and an LLB at Harvard Law School. ♣

Lloyd Yates is president and chief executive officer for Progress Energy Carolinas, an electric utility serving 1.5 million customers, with more than 13,000 megawatts of generation in a 34,000-square-mile service area in the Carolinas. In that role, Yates is responsible for management and strategic direction of the electric utility. Yates has more than 28 years of experience in the energy business, including nuclear and fossil generation and energy delivery. Yates graduated from the University of Pittsburgh with a BS in mechanical engineering. He also earned an MBA from St. Joseph's University in Philadelphia. He attended the Advanced Management



Program at the University of Pennsylvania's Wharton School and the Executive Management Program at the Harvard Business School. Yates serves on several community-based boards and is a member of the North Carolina Economic Development Board, the North Carolina Community College Foundation Board, the Institute Nuclear Power Operations Accreditation Board, the Association of Edison Illuminating Companies Board, the N.C. Chamber of Commerce Board, the S.C. Palmetto Business Forum, the Executive Leadership Council and the WakeMed Board of Directors. ♣

NEW HIRES

The Gillings School of Global Public Health's Department of Environmental Sciences and Engineering approved **Jun Li** as a Research Assistant Professor.

The Center for Sustainable Energy, Environment and Economic Development (C-SEED) has added **Glenn E. Schweitzer** as a part-time senior research fellow. Schweitzer is based in Washington, where he is also the director of European and Eurasian Programs for the National Research Council. ♣

PEOPLE NEWS

Congratulations to **Greg Gangi**, the IE's associate director for education, for being recognized by the University with a 2010 Tanner Award for Excellence in Undergraduate Teaching. The Tanner Award is one of the highest campus-wide recognitions for excellence in teaching. Gangi was one of five UNC faculty members selected from nominations across the campus to receive this honor, along with a \$7,500 stipend. ♣

New Grant will Generate Energy Opportunities for North Carolina

When Chris Lazinski was beginning coursework at the UNC Institute for the Environment's Albemarle Ecological Field Site (AEFS) during the fall semester of his junior year, he wasn't sure what internship would be the best fit for him. What he did know was that he wanted to gain work experience in renewable energy and find a way to help his adopted home of Hatteras Island.

With the help of IE faculty and staff, Lazinski tailored an internship with the UNC Coastal Studies Institute to develop wind energy on the Outer Banks. He conducted research on the feasibility of installing a wind turbine at Cape Hatteras Secondary School for Coastal Studies in Buxton, and his plan gained widespread support from teachers and administrators who intend to use the turbine as a learning tool for math and science students. Lazinski finished the semester by writing grant proposals in an effort to gain funding for his project, which would result in the first turbine in one of the East Coast's windiest locations.

"This experience definitely helped to prepare me for a future career because I learned and refined a number of useful skills," said Lazinski, now a senior Environmental Science major. "Collaboration among a number of stakeholders, writing grants, giving presentations, conducting feasibility studies and siting an actual wind turbine are all skills that I'll be able to take with me into a career in the renewable energy industry."

Through the efforts of the Institute, Lazinski's experience is not uncommon among Carolina students. And thanks to a new grant funded by the North Carolina State Energy Office and UNC students themselves, even more will have opportunities to gain hands-on experience in renewable energy.

Developing Energy Leaders Through Action (DELTA) will fund more than 60 undergraduate and graduate internships of varying lengths, including three year-long, full-time fellowships for recent graduates, and a combination of summer and school-year internships. Students will be able to participate in applied research and direct assistance work across the state for groups ranging from UNC-Chapel Hill to Fortune 500 energy companies, to local and state governments and nongovernmental organizations.

The State Energy Office is providing \$324,736 for DELTA, and Carolina students have chosen to add up to \$60,000 over two years from UNC's Renewable Energy Student Fee, which was instituted by a student-led referendum during campus elections. Each semester, UNC students pay a \$4 student fee and the Renewable Energy Special Projects Committee (RESPEC) of the Carolina student government is



Chris Lazinski

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CAROLINA'S UNDERGRADUATE ENVIRONMENTAL DEGREE PROGRAMS MARK 10TH ANNIVERSARY

POPULAR B.S. IN ENVIRONMENTAL SCIENCE AND B.A. IN ENVIRONMENTAL STUDIES HAVE OPENED NEW AVENUES OF STUDY FOR UNC UNDERGRADS

Environmental education has had a long and distinguished history at the University of North Carolina at Chapel Hill. For decades, Carolina undergraduates interested in environmental issues could delve into these areas while earning degrees in public health, geography, geological sciences, city and regional planning, public policy analysis, or marine sciences, for example.

In the late 1990s, a UNC report concluded that the time was right to harness the University's considerable interdisciplinary expertise in the environmental realm. It also determined that there was strong interest among Carolina undergraduates in environmental majors, and that outside organizations saw the value of students with this type of education.

Doug Crawford-Brown, former director of the UNC Institute for the Environment and its predecessor, the Carolina Environmental Program (CEP), was one of the faculty members called together by then-CEP Director Bill Glaze to discuss and design these new majors, which would be administered by the CEP rather than any one department.

"We felt what was missing was a broadly interdisciplinary degree program that examined all the ways that different disciplines contribute to an understanding of the environment, environmental policy and the relationship of society to nature," recalled Crawford-Brown, now executive director of the Cambridge Centre for Climate Change Mitigation Research at the University of Cambridge. "So we decided to create a set of University-wide, cross-cutting undergraduate degree programs to supplement and expand existing degree programs, and to combine the sciences, social sciences and humanities to look at the environment from a wide range of perspectives."

In the fall of 1999, the CEP, in partnership with the College of Arts and Sciences, enrolled its first students in the B.S. in Environmental Science and the B.A. in Environmental Studies majors. That first year, 10 students enrolled; today, 248 students have a primary or secondary major in the B.S. or B.A., or list the intent to major in one of the two.

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IE BRINGS FUNDING TO NORTH CAROLINA

The Southeastern States Air Resource Managers Inc. (SESARM) recently awarded a \$1.05 million contract to a collaborative group that includes the Center for Environmental Modeling for Policy Development (CEMPD) at the Institute for the Environment. The contract, which is supported by federal funds, will advance air quality modeling to help North Carolina and other Southeastern states evaluate ozone, fine particles and regional haze. The goals of this effort are to protect public health and the environment in an effective and efficient manner that does not unnecessarily impair economic development.

IE's Environmental Resource Program (ERP) received a \$500,000, five-year award to support environmental health outreach across North Carolina as part of UNC'S Center for Environmental Health and Susceptibility (CEHS). ERP director Kathleen Gray and Neasha Graves will staff the CEHS Community Outreach and Education Core (COEC). The COEC's efforts focus on improving public understanding of how susceptibilities and environmental factors interact to cause disease, with a goal of enabling people to make informed decisions about reducing disease risk and hazard exposure.

The Center for Sustainable Community Design (CSCD) and the UNC Center for the Study of Natural Hazards and Disasters were recently awarded a grant of \$190,000 to measure and model community resiliency to natural disasters. The research will integrate concepts of physical and social resilience. The two-year project, funded by the Department of Homeland Security, will be managed through the University of Maryland's START (Study of Terrorism and Responses to Terrorism) program.

CSCD director Phil Berke, the deputy director of IE, has also been awarded a \$140,000 grant from French Associates to evaluate the quality and implementation of the Community Rating System (CRS) of the National Flood Insurance Program (NFIP). CRS provides incentives for community action beyond NFIP's minimum standards for floodplain regulation by reducing flood insurance premiums of residents up to 45 percent.

Robert Peet, a professor in the Department of Biology and member of the IE Faculty Advisory Committee, and IE have received a \$175,000, two-year grant from Dominion North Carolina Power to continue monitoring the establishment and survival of floodplain tree seedlings downstream from the Roanoke Rapids Power Station.

David McNelis, director of IE's Center for Sustainable Energy, Environment and Economic Development (C-SEED), has been awarded a \$50,000, one-year contract from the US Russia Foundation for Economic Advancement and the Rule of Law to address the challenge of improving energy efficiency in America and Russia. As part of the grant, C-SEED hosted Russian scientists during a workshop in Chapel Hill, and McNelis will lead a group of U.S. experts in visiting Moscow to help develop action plans to shape public policy.

Researchers at Georgia Tech will serve as the primary investigators and Colorado State University researchers are also part of the group, which will aid in the development of state implementation plans (SIPs) required by the Clean Air Act. Zac Adelman is the principal investigator leading the Institute's team.

"This research will be extremely significant for the state of North Carolina and other states in the Southeast as it will provide accurate simulations of future air quality and emissions," said Adel Hanna, director of CEMPD. "By projecting into the next decade, we will be able help states in the region assess their compliance with the National Ambient Air Quality Standards and whether policy changes need to be made."

The National Ambient Air Quality Standards (NAAQS) are established by the EPA under authority of the Clean Air Act to regulate outdoor air in the United States. The standards are designed to protect human health – especially among vulnerable populations such as those suffering from respiratory illness, the elderly and children – and they apply to critical air contaminants like ozone, particulate matter, carbon monoxide, sulfur dioxide, nitrogen oxides and lead. If states are not in compliance with NAAQS and have not submitted approvable SIPs to regain compliance, public health and the environment may be adversely impacted and states risk losing funds from the Federal Highway Administration. Information to be produced in this project will be critically important to North Carolina because several cities, including Charlotte, are either out of compliance or nearing such a distinction.

The air quality monitoring project, which began April 13, 2010, will continue through 2011. With funding from the EPA, the project will provide critically important data for agencies in 10 southeastern states – Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and West Virginia.

Where are They Now?

WE CAUGHT UP WITH TWO MEMBERS OF UNC'S FIRST ENVIRONMENTAL GRADUATING CLASS



JOSHUA SMITH

B.A. in Environmental Studies, 2000

J.D. with Certificate in Environmental Law, Pace University School of Law, 2007

Smith runs a solo law practice in Charlotte, handling corporate, trusts and estates and criminal defense work. He is also involved in matters related to federal and state environmental regulations, particularly the Clean Water Act, the North Carolina Brownfields Program and the Dry-Cleaning Solvent Cleanup Act.

"Once I learned of the new environmental majors at UNC, I knew that I would focus my undergraduate studies on environmental issues and the search for solutions. The analytical and conceptual skills I learned have served me well in the practice of law, as well as other facets of my life. As an attorney, the ability to keep the big picture in focus while analyzing the more discrete issues is essential. This thought process and approach to problem solving was instilled throughout my education at UNC, and especially so within the environmental program.

"The most valuable and enjoyable parts of my experience in the program were the access I had to my professors and the attention they gave each student, as well as the opportunity to play a role in helping these majors get up and running."

TODAY'S STUDENTS CONTINUE TO EXCEL

10th Anniversary, continued from page 1

"The fact that enrollment in these two majors has increased exponentially over the past decade really shows that we have met an important need and interest for our students," said Greg Gangi, associate director for education at IE. "The growth of the majors and the demand for environmental courses continues unabated, and we've been thrilled by the extraordinary caliber of the students we've been able to attract."

In 2009, the College of Arts and Sciences took over the administration of these degrees as part of the newly created Curriculum in the Environment and Ecology (CEE). While the CEE delivers the academic program and confers the degrees, the Institute for the Environment continues to provide field study experiences, Capstone projects, internships, research opportunities and other experiential learning that are so important to students' education. (A Bachelor's degree in Environmental Health Science is administered through the Gillings School of Global Public Health.)

"We are gratified by the confidence and support that the University has shown in the CEP and IE over this past decade as we have continued to build and strengthen this important academic program," said IE Director Larry Band. "But the greatest beneficiary of these programs will be our environment and society in general, because the graduates coming out with these degrees are ambitious, passionate and prepared to take on the major issues facing our planet." ■

Here's what several of our current environmental students have been up to:

MICHAEL MIAN

Senior Michael Mian of Concord, N.C., is the latest in a long line of UNC environmental majors to be selected as a Udall Scholar by the Morris K. Udall and Stewart L. Udall Scholarship and Excellence in National Environmental Policy Foundation in Tucson, Ariz. Mian was one of 80 Udall Scholars chosen nationwide for 2010 for their commitment to careers in the environment or several other areas, and for demonstrated leadership potential and academic achievement.

Mian, a Morehead-Cain Scholar, is double-majoring in Political Science and in Environmental Justice and Conflict Resolution, a self-designed major, with a minor in Entrepreneurship. After graduating, he plans to earn a joint law and master's degree in Environmental Management and then launch a career that embodies his commitment to environmental justice and international action on climate change.

In high school, Mian co-founded an organization that has since expanded to 25 U.S. and Canadian college and high school chapters working to eliminate inequality in science education. He also helped implement a program through UNC's Homeless Outreach Poverty Eradication that leases plots to local gardeners and produces organic food for local sale, with proceeds benefiting the local homeless population. Over the past few summers, Mian has interned with the Foundation for Sustainable Development in Uganda and studied carbon mitigation with the Center for International Forestry Research in Indonesia. Last December, he was a delegate to the United Nations Conference on Climate Change in Copenhagen.

Mian brings the number of Udall Scholarships awarded to Carolina students to 14 since the awards began in 1996. The award covers tuition, books, room and board up to \$5,000 for Mian's senior year.

LAURA HAMRICK

Through an exciting, student-designed and -led program, UNC environmental students Emma He and Laura Hamrick and five fellow UNC students spent five weeks this summer in Guizhou, the poorest province in China, teaching English and exploring issues of sustainable development. The program, Sustainable Educational and Economic Development Strategies (SEEDS), was the brainchild of He, a UNC environmental student from Guiyang, the capital of Guizhou province, who arranged this partnership with the schools and education department of her province's local government.

For three weeks, the UNC students taught English to middle and high school students and teachers in a small city outside of Guiyang, and travelled to nearby villages to learn about their local customs and handicrafts.

The group also spent a week working with two nongovernmental agencies, Green Home and the Guizhou Association for Community Construction and Rural Governance, on several projects in the village of Ludi. They went door-to-door to gather information about trash disposal, agricultural pollution, and the methane wells used to produce energy for the village, as well as cultural traditions and handicrafts.

"Our goal was to help the NGOs learn more about the area," Hamrick explained. "Together with several Chinese university students, we gathered information and compiled it into a 'green map' of the village to help the NGOs visualize the environmental issues and as a way for villagers to start to engage in these projects and begin to think about protecting their environment."

The UNC students also taught young children in Ludi about environmental protection, valuing nature and conserving waste, and spent time collecting litter with the children. ■



CHAD CARY

B.S. in Environmental Science, 2000

M.S. in Geography, Portland State University, 2006

Cary is an active duty officer in the National Oceanic and Atmospheric Administration's (NOAA) Officer Corps. In nearly a decade with NOAA, he has been assigned to ships conducting fisheries and oceanographic research in Alaska, worked as an operational hydrologist at the National Weather Service's (NWS) Northwest River Forecast Center in Portland, Oregon, and is now working in Washington, D.C. as executive officer at the NWS Environmental Modeling Center, where he oversees a suite of numerical forecast systems that provide environmental guidance for weather prediction community.

"During my time in the environmental program at UNC I acquired the skills to manage long-range projects, write scientific documents, utilize GIS and maximize individual talents in group activities to successfully complete complex term projects. As a professional, working well in teams is critical to my success, and I attribute my excelling at this competency to the numerous times I was afforded this opportunity as an undergrad."

"My favorite experience in the program had to be studying abroad in Salzburg, Austria. During the summer in Salzburg, we studied the environmental impacts of pollutants being emitted from a local power plant, and worked in teams to develop solutions. Studying a real-time issue in such an environmentally progressive community was both interesting and incredible rewarding." ■

"WHETHER IT INVOLVES WASTE MANAGEMENT, ECOLOGICAL MODELING, DELINEATING WATERSHEDS TO COUNT EVERY LAST DROP OF WATER, OR EVALUATING THE IMPACTS THAT RESOURCE GATHERING INFLECTS UPON A REGION, THERE IS A GREAT DEAL OF SATISFACTION IN STUDYING ENVIRONMENTAL ISSUES BECAUSE OF THE CLOSE LINK BETWEEN THE SCIENCE AND SOCIETY"

UNC INSTITUTE FOR THE ENVIRONMENT

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HAIL TO CAROLINA'S 2010 ENVIRONMENTAL GRADUATES



Graduate Elinor Benami chats with Richard Andrews, chair of Department of Public Policy.



From left: Lawrence Band, director of the Institute for the Environment; David Moreau, chair of the Curriculum for the Environment and Ecology; and Greg Gangi, associate director for education at IE; confer Walter Rogers his diploma.



Speaker Stephen T. Smith of McMillan, Smith & Plyler addresses the graduates.



Lindley Barrow celebrates her achievement with her mother.



Graduate Hillary Nicholas (left) chats with a friend during the reception.

UNC INSTITUTE for the ENVIRONMENT

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tasked with developing appropriate projects to sponsor.

“When we heard about this project, it was very exciting because we had been exploring the idea of creating internships in energy management and renewable energy,” said RESPC co-chair Erin Hiatt, a junior in Public Policy and Environmental Studies. “But we didn’t have the experience and connections to make sure internships were of a high quality and rewarding for students. Partnering with the Institute for the Environment to provide this service makes a lot of sense.”

Several other groups across campus are collaborating with the Institute to provide these opportunities. Partners include the Curriculum for the Environment and Ecology, the School of Government’s Environmental Finance Center, the Center for Sustainable Enterprise in Kenan-Flagler Business School, the School of Law, the Department of Environmental Sciences and Engineering, the Department of City and Regional Planning, the Department of Economics and its minor in Entrepreneurship, the Department of Public Policy and the Curriculum in Applied Sciences and Engineering. Also assisting will be UNC’s Sustainability Office, Energy Services and Energy Management.

The Institute already takes the lead in providing experiential education for undergraduate students involved in environmental studies across campus. Students have access to hands-on learning at three North Carolina field sites and two international field sites, and through local internships and in-depth research projects. DELTA will allow IE to expand these offerings, which students have repeatedly cited as being transformative.

“There is a growing demand among students to participate in energy-related internships and learning activities,” said Greg Gangi, associate director for education at IE and one of the principal investigators for the grant. “They are seeking out unique opportunities to help North Carolina communities and they know there will be career opportunities during the impending clean energy transition.”

Those internship opportunities will continue to expand thanks to IE and through the support of the N.C. State Energy Office, Carolina students and other groups. As for Lazinski, he is continuing his efforts to make the Outer Banks the national leader in wind energy generation and he has some advice for his fellow students. ■



Chris Lazinski and the other Fall 2009 AEFS students with site director Robert Perry.

“I WOULD NOT SETTLE FOR ANYTHING LESS THAN EXACTLY WHAT YOU WANT,” HE SAID. “I WAS PASSIONATE ABOUT WIND ENERGY AND AFTER A LITTLE LOOKING AROUND AND SOME EXTRA EFFORT, I WAS ABLE TO FIND THE BEST INTERNSHIP FOR ME, WHICH ALLOWED ME TO DO SOMETHING THAT WAS BOTH INTERESTING AND REWARDING.”

— CHRIS LAZINSKI

INSTITUTE AIDS NATIONAL GOVERNMENT AGENCIES AND PROFESSIONAL PRACTICE

Phil Berke, director of IE’s Center for Sustainable Community Design and deputy director of the Institute for the Environment, has made numerous high-profile presentations recently, including one at the White House, to discuss ways to build community resiliency and reduce the risk from natural hazards.

In April, Berke presented the Resiliency and Vulnerability Observatory Network (RAVON) plans at the White House Conference Center in Washington to the President’s National Science and Technology Council’s Subcommittee on Disaster Reduction. RAVON was originally conceived in a June 2008 conference of leading researchers on resiliency of cities and regions to natural hazards, and was funded by the National Science Foundation and the United States Geological Survey. The RAVON proposal entails setting up a series of collaborative nodes aimed at providing the social science community, planners, policy makers and society with the knowledge and predictive understanding necessary to reduce vulnerability and enhance resiliency of individuals and communities.

In March, Berke was an invited participant at a Workshop on Rebuilding for Resilience: How Science

and Engineering Can Inform Haiti’s Reconstruction, funded by the United Nations International Strategy for Disaster Reduction, the U.S. Agency for International Development and the National Science Foundation. The workshop took place at the University of Miami (Fla.).

In May, Berke briefed the National Academy of Engineering at the Engineering Sustainability in the Face of Natural Hazards Symposium in Boulder, Colo. In addition to the RAVON plans, Berke focused on a core area of research at the IE Center for Sustainable Community Design aimed at providing the researchers, planners and policy makers with a better understanding of factors that drive better planning and policy to reduce future risks posed by natural hazards and climate change. Despite increasing knowledge about hazards and their impacts, disaster losses increase in part because of how we “design” our communities.

Chancellor Holden Thorp drew heavily upon the research and expertise of members of the Institute for the Environment when he announced on May 4 that the University of North Carolina at Chapel Hill would go coal-free within the next decade. An Energy Task

IE PARTNERS WITH TOWN OF CHAPEL HILL TO EDUCATE LOCAL RESTAURANTS ON PREVENTING STORMWATER POLLUTION

All sorts of businesses contribute to stormwater runoff – in many cases, the problem is simply that owners and employees don't realize where the water goes after it enters the stormwater drains. (Hint: That water doesn't go to a plant for processing – it goes directly into local streams and waterways.)

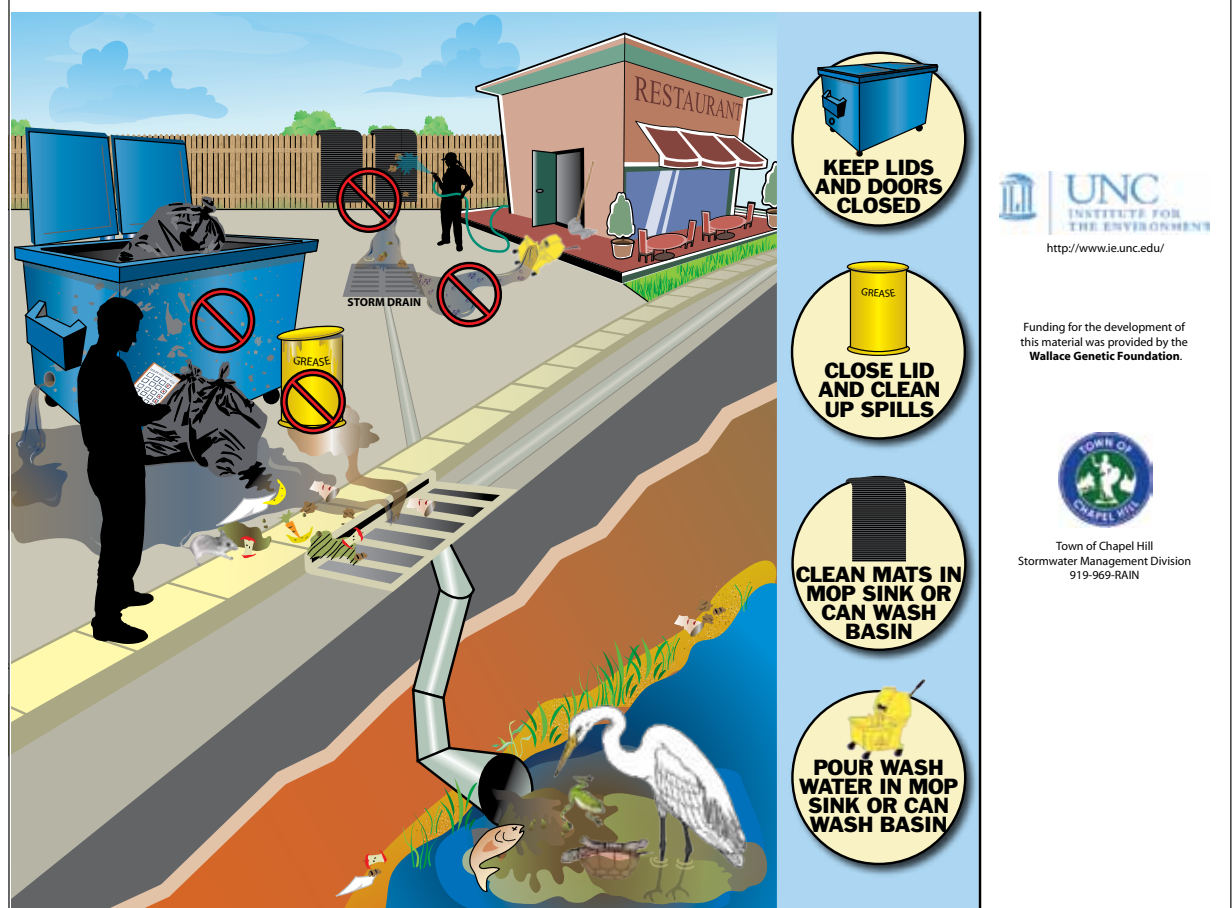
Thanks to a \$75,000 grant from the Wallace Genetic Foundation, the Institute's Environmental Resource Program (ERP) has partnered with the Town of Chapel Hill to educate local restaurant workers on stormwater pollution.

Along with the Town's Stormwater Management Division and an advisory committee comprised of stormwater educators, environmental health staff from surrounding areas and several local business representatives, the team reached out to more than 240 restaurants in Chapel Hill.

First the team conducted focus groups with restaurant owners and managers, and with back of house staff: dishwashers and others who work in the kitchen and often take the soapy water or greasy pots out and dump them in the stormwater drains.

"We led focus groups in Spanish and English, and we heard a lot of interesting things," said Kathleen Gray, IE Associate Director for Outreach and Public Service and principal investigator on the project. "Most people didn't know anything about stormwater, or how their restaurants might contribute to stormwater pollution, or that the drains that we see around town connect directly to creeks and other waterways. We also learned what was important to the participants, at work and at home, which helped us develop materials that spoke their language."

CLEANING PRACTICES AFFECT YOUR SANITATION SCORE...AND OUR WATER.



The team developed training videos in English and Spanish, tailored for each audience. They also created a stormwater model, a poster and hands-on exercises that can be used to train restaurant employees. The group, which includes Project Coordinator Amy MacDonald, has been working with stormwater educators and health department and restaurant staff to test these materials, and has recently received a follow-up grant to implement these materials more broadly.

The Chapel Hill restaurants involved have been very receptive. Greg Overbeck, marketing director of the Chapel Hill Restaurant Group, which includes 411 and Spanky's, serves on the advisory committee. "Restaurants are some of the biggest culprits in not following the guidelines for stormwater runoff policies – but it's often simply a lack of knowledge," he said. "What's wonderful about this project is that it's educating people in the restaurant business about

the difference between the storm and the sewer drain – and once people understand that, I think they'll be more than willing to comply."

Gray noted that the project provides a nice synergy with the Institute's researchers, in particular IE Director Larry Band's stormwater research. And the partnership with the Town of Chapel Hill "has enabled each of us to do more than we could have alone," she said.

Wendy Smith of the Town's Stormwater Management Division heartily agreed, "By combining the expertise and field experiences of Town and IE staff, we are able to locally address a nationwide problem of water pollution originating from food service establishments. Educational efforts to reduce stormwater runoff pollution in the commercial sector are still in their early stages; but by using these tools, we can begin to improve water quality in our streams, rivers, lakes and oceans." ■

Force, led by Tim Toben, who is chair of the IE Board of Visitors and the N.C. Energy Policy Council, made the recommendation that UNC end its coal use.

"Carolina's cogeneration facility is one of the cleanest-burning, most efficient coal plants in the country and has won national awards for efficiency from the Environmental Protection Agency," Toben said. "But it still burns coal, and that must end to avoid contributing to the worst effects of global climate change. And unless you set a deadline for ending coal usage, you're not going to get to it."

The task force recommended an end to all coal use on campus by May 1, 2020. The University plans to begin by replacing 20 percent of its coal with biomass no later than 2015, and perhaps by 2012.

Among IE's task force members are: Pete Andrews, professor and chair of the Department of Public Policy, IE Faculty Advisory Committee member and Progress Energy Faculty Fellow; John Cooper, program director of MDC Inc. and member of the IE Board of Visitors; David McNelis, director of IE's Center for Sustainable Energy, Environment and Economic Development; and Mary Cooper, an Environmental Sciences undergraduate major.

IE Director Larry Band has been named chair of the Board of Directors of the Consortium of Universities for the Advancement of Hydrologic Science, Inc. (CUAHSI), an organization representing more than 100 U.S. universities. CUAHSI receives support from the National Science Foundation to develop infrastructure and services for the advancement of hydrologic science and education in the U.S. He was previously chair-elect.

CUAHSI enables the water science community to advance the understanding of water and its centrality to life, earth and human society. The organization serves the research community by developing and operating research infrastructure; improving access to data, information and models; facilitating interactions among the diverse water research community; promoting interdisciplinary education centered on the water cycle; and translating scientific advancements into effective tools for water management and policy.

Tony Reevy, IE's senior associate director, was selected in March to chair the policy board of the Albemarle-Pamlico National Estuary Program (APNEP), which protects parts of the coastal environment in Virginia and North Carolina.

The policy board provides community involvement, participation and support for APNEP, which aims to improve water quality and maintain the Albemarle-Pamlico region's ecosystem's in a 52-county region of southeastern Virginia and northeastern North Carolina. APNEP is made up of representatives from federal, state and local government and residents, businesses, educators and researchers.

The stakeholders identify environmental problems and then develop actions to address those problems. APNEP and its partners have helped protect and restore the region's environment and made popular a more holistic approach to ecosystem and watershed management. APNEP is headquartered in the N.C. Department of Environment and Natural Resources in Raleigh. ■