The Coastal Conservation League Student Chapter

The Coastal Conservation League has, since its founding in 1989, been one of the South Carolina’s most effective and persistent environmental advocacy organizations. Headquartered here in Charleston, with subsidiary offices in Columbia, Georgetown, and Beaufort, the League’s current activities focus on land use, water quality, climate change, forestry, and wildlife preservation issues. Recent victories include leading the effort to establish and fund the South Carolina Conservation Bank and blocking the State Ports Authority from building a new port on Daniel Island.

As of 2005 the League began an effort to create an online activist network, to help coordinate local interested parties in League activities and conservation efforts. To this end, and in conjunction with College of Charleston MES student Jess Barton, the league established the Coastal Conservation League Student Chapter in 2006.

Through the medium of online activism students can take greater interest in participating in the political process that affects the environmental integrity of South Carolina.

With the recent graduation and departure of the student chapter founder, Jess Barton, the League has recruited three new coordinators to fill her shoes. Two of the coordinators, Cameron Lowery and Nikki Seibert, are students in the MES Program, and the other, Carly Sothoron, is an undergraduate Anthropology major at the College of Charleston. Together, this triumvirate plans to carry on the legacy of the student chapter for another year.

Among the notable benefits of being a student chapter member are the discounted outings that membership provides. In the past such outings have taken the form of kayaking trips with Coastal Expeditions, and guided naturalist tours of Bull’s Island and Francis Marion National Forest.

This year, the student chapter will maintain this tradition by involving students in outdoor activities that give them a sense of the natural beauty of the South Carolina region. The student chapter has already participated in two kayaking trips this Fall. One was the Island Giant Kayak race at the Isle of Palms, which students were able to enter at a significant discount. The
From the Director

December 2007

Well as you can tell, I’m still here! They have decided to keep me on as the program director until the end of this academic year, at which time I will begin my long awaited retirement. Currently, I am in the process of grooming my predecessor who will take over the reigns of the MES program next year. We will profile the new MES director in the Spring newsletter.

Let me first welcome the entering (2007) student class. This year’s class consists of 20 students (11 women and 9 men), of whom eleven students (55%) are from out-of-state. The total number of newly admitted students is up slightly from a year ago. These incoming students have successfully completed a wide range of academic majors. Of the twenty students, eleven students (55%) received their undergraduate degree in Biology; three students (15%) majored in a non-science related discipline (Anthropology, Health Education, Political Science); three students (15%) majored in Environmental Studies, and three students (15%) in Geology. The ongoing success of our program can be largely attributed to the diversity of academic disciplines and undergraduate institutions, as well as the interests and personalities amongst the student body. We also will have eight additional students starting the program in the Spring 2008 semester.

Last year the Graduate School initiated a program to award mini-grants to graduate students involved in research. Students, with the approval of their research advisors, submit a project description that is reviewed by the Dean of the Graduate School and members of the Research Committee. These grants are awarded on a competitive basis and provide up to $500 of support for students. In addition to the mini-grants, the Graduate School also awards $500 travel grants to students who make research presentations at professional meetings. There were 5 MES students who received Graduate Research and Presentation grants last Spring, and there have been 7 MES students who have received Graduate Research and Presentation grants this Fall. Each grant award was for $500, which means that MES students received $6000 in research support from the Graduate School in 2007. These funds can be used to offset the cost of transportation, food, lodging and conference fees.

The Graduate School will also be sponsoring the Second “Annual” Graduate Research Poster Session to be held on January 10, 2008. Abstracts to be included in the poster session are now being accepted. Up to five posters can be submitted from each of the graduate programs. The Ad Hoc Committee on Research and Funding will make the final decisions Abstracts that have been selected for the poster session will be posted on the Graduate Research and Creative Activities website and also incorporated into a program booklet. The posters will also be judged and awards will be given.

I highly recommend that students, with the encouragement of their advisors, take advantage of these new research initiatives. Applications and additional instructions on how to apply for these funding opportunities can be found on the Graduate School website.

I am also very pleased to announce (at this time) that eight students will be graduating from the program in December. We wish them all the best of luck in the years to come on that long road to success. We hope that all of our graduates will maintain in contact with the program, and we look forward to their alumni support in the future.

Best and Happy Holidays
Dr. Michael Katuna
Spotlight on Student Research

Current MES students at the College of Charleston are engaged in some exciting research and internship opportunities. The following highlights some of our student contributions to the field of Environmental Studies.

Niall Cytryn (Advisor: Professor Lindeke Mills) is currently engaged in an internship with the Sustainability Institute located in North Charleston, producing the South Carolina Green Building Directory.

The South Carolina Green Building Directory will be an online database that provides users with all the information they will need to find products and services that go into new construction or remodeled homes and business facilities in South Carolina. The website is online at: www.scgreenbuildingdirectory.org

Niall became involved in this project when he was seeking out possible internship opportunities. The Sustainability Institute had in mind creating a database of this nature for some time, but they needed someone to actualize it. Niall stepped in to fill this need, and as project manager, he is responsible for all of the logistics of this project, including research, database and website creation as well as the supervision of the undergraduate interns who are assisting him. He also receives support and direction from the Sustainability Institute’s staff when necessary.

Stacy Stefan (Advisor: Felicia Sanders) is working on a thesis exploring the decline in Brown Pelicans and Royal Terns on South Carolina's barrier islands.

Stacy says, “South Carolina’s coast is home to thousands of beautiful seabirds, including Brown Pelicans and Royal Terns. These unique birds use South Carolina’s small, barrier islands to breed and raise their young in the summer months. As coastal wildlife, they are prone to hazards, both natural and manmade, that put their livelihood at risk. Their presence and well-being are reliable indicators of the health of local habitats which are co-occupied by humans. As ecological indicators, seabirds provide us with the red flags we need to prevent human health crises. As aesthetically pleasing wildlife, they are valuable assets to coastal community’s tourism economies.”

Unfortunately, Brown Pelicans and Royal Terns have been experiencing a decline of unknown cause in South Carolina, even in the nearby Cape Romain National Wildlife Refuge. Fortunately, these seabirds have been banded in South Carolina since 1932 and data from their band encounters has been collected ever since. By using GIS to analyze this data (the first time that GIS has been used to map out the distribution trends of these birds and how that trend has changed over the last 75 years), Stacy may be able to uncover potential explanations for their decline. Her thesis will provide SCDNR with the fundamental information they need to properly manage these birds, thereby insuring their future residence in South Carolina.

This project is supported by funding from three state agencies: the South Carolina Department of Health and Environmental Control, the South Carolina Energy Office, and the South Carolina Department of Commerce.
MESSA
Master of Environmental Studies
Student Association

MESSA is the College of Charleston’s official student organization for the MES Program, and everyone who is enrolled in the program is a member. MESSA arranges parties and celebrations for fun, award ceremonies to honor achievements, volunteer activities to promote environmental stewardship, regular meetings to serve as venues for ideas, an 8K foot race to raise proceeds for charity, and outreach events to educate the public. Here is a brief summary of the events that MESSA organizes:

The 8K For H₂O:

2007 was the fourth year MESSA hosted this annual event. There were almost 150 participants and nearly 50 volunteers. Every year the event raises thousands of dollars that are donated to a local non-profit organization dedicated to maintaining and improving water quality in the local community. In 2007 this organization was Lowcountry Earth Force, the 2008 charity will be Friends of the Edisto (FRED).

Annual Fall Oyster Roast:

This event is a good excuse to eat oysters and have fun interacting with students and faculty in a casual atmosphere. Musical entertainment has been provided in the past, as have mountains of oysters and other more land-based foods and beverages. All of the oyster shells from this event are donated to SC Department of Natural Resources for their oyster habitat restoration projects.

Annual Spring Fling:

This is another party designed to bring all the MES’ers and their faculty members together in fun. It is the last official gathering before the end of the school year. Faculty are encouraged to attend this event to celebrate their hard work and important contributions to the MES Program.

Volunteer Activities:

Every year MESSA members and officers arrange new and exciting volunteer activities. Last April MESSA participated in Earth Day celebrations at the Charleston Airforce Base and Park Circle in North Charleston. Later during the spring semester, MESSA participated in Move-Out Help-Out, a program that collects items students no longer want and redistributes them to charities. MESSA continues to monitor water quality at Bowen’s Island with the South Carolina Oyster Reef Restoration Project sponsored by DNR. To find out about more events please visit the MESSA website at www.cofc.edu/~messa or contact any of the current (soon to be former) officers:

President: Niall Cytryn, ncytryn@gmail.com
Vice-President: Samantha Bruce, samanthabruce8@yahoo.com
Treasurer: Andrew Ray, ajray@edisto.cofc.edu
Secretary: Stacy Stefan, stacystefan@yahoo.com
Social Chair: Stefanie Huffer, huffer_sl@yahoo.com
Public Liaison: Julia Carter, joya016@yahoo.com
Volunteer Coordinator: Catherine Booker, catherine.booker@gmail.com

Nominations for new officers are currently underway and these offices will officially change hands beginning in January 2008.
other was a more casual kayaking trip through Mt. Pleasant’s Shem Creek that was free for student members. There are plans to organize other kayaking trips along South Carolina’s waterways as well, in addition to an outing to the climbing wall at James Island County Park, and a sustainable fishing trip.

On the legislative front, student chapter members have many opportunities for involvement. One of the advantages of membership is the ability to receive legislative updates that allow students to participate in the legislative process that affects South Carolina environmental law and policy. To this end the League is able to transport students to and from important policy events, such as public hearings, and exciting opportunities such as Conservation Lobby Day, where students can get first hand experience lobbying their state representatives for environmental change.

In terms of campus involvement, the student chapter is also positioning itself to be a conduit for the organization of sustainability activities that aim to make the College of Charleston a greener campus. With the student chapter’s wide reach and e-mail readership, the League hopes to keep students informed of activities that they can participate in that will help achieve this goal. Membership in the Student Chapter is $15.00 per year, and can be attained through the Coastal Conservation League website at www.coastalconservationleague.org

(CCL Student Chapter continued from page 1)

**About the Student Chapter Coordinators**

**Nikki Seibert** grew up in Raleigh, North Carolina and moved to Wilmington to attend UNCW where she received her BA in Environmental Studies. While in Wilmington she interned with Audubon, New Hanover County Arboretum, and the City of Wilmington Storm Water Services/Cape Fear River Watch. During her college career she also started the UNCW Habitat for Humanity campus chapter. After graduation she worked in Environmental Education at Airlie Gardens and then for Mecklenburg County Parks and Recreation in Charlotte. She returned to the coast to work as a Construction Crew Leader with Sea Island Habitat for Humanity (Johns Island) as an AmeriCorps member and is now the Green Building Coordinator for the Affiliate. Nikki is a student in the MES Program and serves as the Recycling Coordinator for the campus. Her hobbies include playing with her dog, kayaking, photography and writing.

**Cameron Lowery** is originally from East Brunswick, New Jersey, but he grew up in Conway, SC. He received a BS in Anthropology from the College of Charleston in 2006, and has spent time traveling and researching in Costa Rica, West Africa, and China. His travels impressed upon him the fact that environmental problems are a universal factor in human life. His interests include environmental law and policy, especially as they pertain to global climate change. During his time in Charleston he has been a member of Alliance For Planet Earth, The Coastal Conservation League, The Charleston Fellowship of Reconciliation, and Charleston Food-Not-Bombs. He has also volunteered at the Charleston homeless shelter, Crisis Ministries. He is currently a first-year student in the MES Program, and a father to his 16-month old daughter.

**Carly Sothoron** is in her senior year at the College of Charleston studying Anthropology and Environmental Studies. She comes from a small farm in southern Maryland where she developed a fondness for the great outdoors due to her surroundings of vast woodlands and a menagerie of animals. Since her arrival in Charleston she has been very involved on campus and within the city of Charleston. She is a very active member of the Recycling Committee and Alliance for Planet Earth. Last summer Carly interned with Lowcountry Earth Force, a local non-profit organization focusing on environmental education. Her interests include traveling, bicycling, recycling, surfing, volunteering and relaxing in one of the hammocks on her porch.
Athan Barkoukis '06 is the Northeast Ohio Program Manager for Green Energy Ohio, a state chapter of the American Solar Energy Society. If you have an interest in renewable energy, get in touch with Athan! (Athan@GreenEnergyOhio.com) He was recently featured on the Weather Channel (see the video link on the MES Alumni site at www.cofc.edu/~environ/alumni.htm) speaking about Solar Power and the Amish.

Tommy Linstroth '04 is the Head of Sustainable Initiatives for Melaver in Savannah, GA. He has written a book (published by the University of Vermont Press in November) Local Action: The New Paradigm in Climate Change Policy, and will be providing sustainability tips on a Farmers’ Almanac TV series due out in 2008. Tommy also reports that the local chapter of the US Green Building Council that he has started in Savannah is still growing, with already more than 100 members.

Sara (Saksewski) Windjue '03, the Energy Education Specialist for the Wisconsin K-12 Energy Education Program (KEEP), was requested by Earth Passengers, an environmental education organization in Taiwan, to participate in a three-day teacher workshop in Nantou, Taiwan. At the workshop, teachers used KEEP materials to learn how they can infuse energy education into their curriculums. The Delta Education Foundation sponsored the workshop for 58 elementary and middle school teachers from all over the island.

Sara presented the teachers with KEEP’s conceptual framework and engaged them in activities focused on why we need energy, developing energy resources, the effects of energy resource development, and managing energy resource use.

Congratulations to the MES Program’s Fall 2007 Graduates!

Sarah Goldman (Advisor: George Sedberry) Thesis: Feeding Habits of some Demersal Fishes on the Continental Slope off the Southeastern United States
Elizabeth Haley (Advisor: Timothy Callahan) Thesis: Field Measurements and Hydrologic Modeling of the Turkey Creek Watershed, South Carolina
Elizabeth Mihalik (Advisor: Norman Levine) Thesis: Watershed Characterization and Runoff Modeling of the Chapel Branch Creek in Orangeburg County, South Carolina
James Powell (Advisor: Craig Browdy) Thesis: White Spot Syndrome Virus Detection in Atlantic White Shrimp, Litopenaeus setiferus, and Blue Crabs, Callinectes sapidus, of the United States South Atlantic Coast
Andy Ruocco (Advisor: Vijay Vulava) Internship: Remediation of a Petroleum Contaminated Groundwater Site Utilizing Multi-Phase Extraction: Assessment and Overview
Ludivine Renaud (Advisor: Dr. Timothy Callahan) is working on a research internship with the USDA Forest Service at Center for Forested Watershed Research located in Cordesville, SC. The title of her internship is “Greenhouse Gas Emissions From Bottomland Hardwood Wetlands in Francis Marion National Forest, SC.”

According to Ludivine the goal of her research is to study the emissions of methane, nitrous oxide and carbon dioxide from the natural bottomland hardwood wetlands that exist in the Francis Marion National Forest. Using the method of gas chromatography, she is attempting to understand how water table levels effect the emissions of these three greenhouse gases.

This project is part of a larger initiative to understand the consequences of wetland restoration in the Mississippi Delta Region of Louisiana. Ludivine’s research provides control data because the sites she is studying are considered "control" (undisturbed) wetlands. In Louisiana, wetlands had been drained and clear-cut over several decades for agricultural purposes, and because of this they have lost their values for flood control, carbon sequestration, and wildlife habitat.

Ludivine says “Adaptive management must be part of the restoration process because years of fertilizer input might challenge the success of restoration of these wetlands to natural conditions. The ultimate question is whether or not it is possible to restore wetlands to initial conditions and if not, what can be done to restore them as close as possible to this state to retrieve their values.”

Spotlight on Student Research

Andrew Ray, a research assistant at the South Carolina Department of Natural Resources (Advisor: Dr. John Leffler), is currently writing a thesis entitled "Microbial dynamics of zero-exchange culture systems as they relate to shrimp (Litopenaeus vannamei) performance."

Andrew says, “Aquaculture systems have historically contributed to the pollution of local environments by necessitating a constant flux of water to alleviate the concentration of contaminates. However, super-intensive, zero-exchange systems offer an eco-friendly alternative to such practices. These culture systems rely on the abundance of microbial organisms such as bacteria, algae, and zooplankton to remove contaminants from water rather than placing that water back into local estuaries. Furthermore, aquaculture animals such as shrimp have been shown to gain some nutritional advantages from microbes.”

The purpose of Andrew’s research is to find correlations between the structure of microbial communities and some growth and health parameters of shrimp. Various treatments were applied to mesocosm-scale shrimp culture systems in an effort to alter microbial dynamics. The structures of these systems were then analyzed using light microscopy, fluorescence microscopy with image analysis software, high pressure liquid chromatography (HPLC), and lipid profile analysis using gas chromatography. Following these analyses, correlations were implied between the abundance of certain microbial groups and the performance of shrimp.
Visit The Native Species Garden

In the spring of 2004, work was completed to convert the area behind the Political Science Green Building into a model of an urban native species garden. Funding was provided by the Sustainable Universities Initiative, the National Fish and Wildlife Federation, the Urbanization and Southeastern Estuarine Systems (USES) project, the MES Program and the Political Science Club at the College of Charleston.

The benefits of native species gardening range from lowering the amount of water, pesticides, and fertilizers needed for healthy plants to maintaining the natural biodiversity of a habitat. Plant species native to a particular area are generally better adapted to soil and climate conditions, making them easier and cheaper to grow and maintain.

The garden is located at the corner of Wentworth and Coming Street, behind the Political Science Building at 114 Wentworth Street.