As those who spent months organizing and planning the February 19th 8K race would say, it is H2 OVER! Members of MESSA, the MES Program’s student association, worked hard to make sure this year’s race was a success.

This ninth annual race raises money to promote improved water quality in the Charleston area. This year’s proceeds benefitted Charleston Waterkeeper, an environmental, non-profit organization whose mission is to preserve and protect the integrity of Charleston’s waterways by defending against pollution and contamination.

Between race registration, a silent auction, and 10% of proceeds from the gracious Taco Boy on Folly Beach, MESSA raised close to $6,500 for Charleston Waterkeeper.

Members of MESSA were incredibly pleased with the support from both volunteers and race participants. They could not have asked for a more perfect day for the race. The sun was shining, and the enthusiasm from MESSA volunteers and the Waterkeeper himself, Cyrus Buffum, really made the day special.

It was wonderful to see the support from the MES Program’s faculty and alumni at the race. Dr. Timothy Callahan and Dr. Vijay Vulava finished with record speed, but the MES program’s very own graduate Guinn Garrett was the overall female winner, continued on page three...
From the Director

Happy spring to our alumni, faculty, students and friends of the MES program. We've had a successful 2010-2011 academic year, with nine Graduate Assistants who received stipends to perform their thesis or internship projects. This new financial model has allowed us to indirectly support the efforts of faculty, both roster and adjunct, and in these times of economic hardships, we’re glad to be able to give back a little to our faculty. The goal is to continue this collaborative student-faculty emphasis in the coming years. Keep an eye out for the next call for proposals sometime this June, with a projected funding period of Fall 2011-Spring 2012. All MES students are encouraged to submit a proposal.

Speaking of research support, we will be funding six MES faculty research projects this summer, supported almost entirely by a gift by the Joanna Foundation. The Joanna group was started in Joanna, SC in the early 1900s to support the education of mill workers in the town. Today it funds marine and environmental studies programs around the country. A brief summary of the projects can be found on page 6. We plan to have another call for faculty research and development proposals next spring, for Summer 2012.

Several MES students have been very active in sustainability efforts on campus and in the Charleston area. Lindsey Graham and Jen Jones have been conducting studies to determine the baseline data on the impact of College of Charleston operations infrastructure. Dr. Brian Fisher of the Department of Political Science has been advising Jen and Lindsey and working with Burton Callicott, the Sustainability Committee, and the College’s leadership team for Facilities and Operations to gather information and initiate new projects and measures. The College is committed to reducing waste, energy consumption, greenhouse gas emissions, as well as influencing positive changes in perceptions and habits in our community. A Rainwater Harvesting project was started last summer, supported by Dave Joyner, MES alumnus and director of the Ashley Cooper Stormwater Education Consortium through Clemson Extension-Charleston. This project is linked to the Urban Agriculture group to provide irrigation water for the gardens at 28 Coming Street (Political Science building). Also, a study is underway to determine where alternative roofing infrastructure (“Green Roof”) could be installed on campus. This summer we should see some exciting results from all these efforts.

Most importantly, please join me in thanking Mark McConnel for all his hard work as Program Administrator. This is his tenth year as “field general” for the program! Mark is THE core of the program and has had tremendous impact on hundreds of students over the years. He has a seemingly effortless ability to make life easier for me and our entire faculty. Please take a minute to drop him a note of thanks or stop by and say hello. As always, I welcome your thoughts and comments on how to keep improving the MES program. Have a relaxing and productive summer.

- Timothy J. Callahan
Spring Break Opportunity

Dr. Susan Lovelace, who is responsible for the human dimension aspect of research at NOAA, presented MES students with the opportunity to assist in a two day national Well-being Indicator Workshop March 8-9 at the Hollings Marine Laboratory.

First year students Lauren Brown and Jarrod Loerzel participated in this opportunity over their spring break. They were able to meet social scientists and agency employees while working with a great workshopping team.

This volunteer opportunity had the potential for funding for a thesis project on the well-being of coastal communities after disaster. Lauren is now helping Dr. Lovelace with the project titled “Health and Well-being in Coastal Counties: Impact and Resiliency in the Wake of the Deepwater Horizon Industrial-Environmental Disaster”.

Its goal is to evaluate the health and well-being of people in the Gulf Coast counties that were affected by the oil spill. Lauren will help collect, clean, and analyze the data as well as provide support for the overall project. In doing so, she will be able to develop her own thesis question and associated methodologies.

Dr. Lovelace would like to personally thank Lauren and Jarrod for the time they committed to the social science indicator workshop. Their assistance was invaluable, and their addition to the group dynamics will greatly benefit the project.
This year, MESSA is proud to recognize two recipients of the Dana Beach Outstanding Service Award. Local resident Dana Beach has contributed significantly to the environment in this community. Specifically, he organized and has served as Executive Director of the Coastal Conservation League. Many MES students have substantially contributed to the MES Program and to the college and greater community. To acknowledge some of these contributions, and to encourage students in their long-term civic participation, MESSA honors them with a service award in Mr. Beach's name.

Since her first semester, Lindsey Graham has shown dedication to both the MES Program and to the greater Charleston area. Her involvement as a member and an officer in MESSA has been invaluable. Lindsey was the 2009-2010 secretary, and she has volunteered for the 8k for H20, the Beach Sweep, the Charleston Green Fair, and Adopt a Highway. Lindsey served as the Graduate School Association delegate for MESSA, and was then elected treasurer of GSA. Additionally, she has volunteered for Fish America Program with SCDNR, Kiawah Island Sea Turtle Patrol, Center for Birds of Prey, and the City of Charleston Planning Preservation and Sustainability Greenhouse Gas.

Lindsey is working on improving the College as a whole and believes that the unique metropolitan campus of the College of Charleston represents an opportunity for novel research and for the College to lead as an example. She has focused her Masters thesis research on sustainability at the College, which includes conducting a green-house gas audit and developing strategies to implement sustainability initiatives. Lindsey is an exemplary member of the college and greater community, embodying the qualities and characteristics of Dana Beach.

Jen Jones has also exemplified unwavering dedication to the MES program and to the College of Charleston. As the 2009-2010 Public Relations Liaison of MESSA, Jen served as the race director for the 8K for H20, coordinating and overseeing all aspects of the race. Her involvement extends into the community, as she coordinated MESSA's Earth Day and Green Day Fair booths. Jen has also taken the initiative in MESSA's effort to support the undergraduate idea of a green fee to promote sustainability on campus.

In addition to serving within MESSA, Jen is currently the President and Vice Present of GSA. She has worked with the other GSA officers to "adopt" Cannon Park, giving students the opportunity to volunteer, enhance our local community, and interact with local residents. As a leader in both MESSA and GSA, she has contributed to the community of the College of Charleston. She completes her responsibilities with excellence, and she is quick to brainstorm and volunteer in any way she can for any event or process. Jen is a very passionate person, and she uses this passion to complete tasks with the highest quality.
**MESSA Events**

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<tr>
<th>Event</th>
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<tr>
<td>Welcome Back Party</td>
<td>January 15</td>
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<tr>
<td>8K for H2O</td>
<td>February 19</td>
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<td>Floating Down the Edisto</td>
<td>March 26</td>
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<td>Spring Fling</td>
<td>April 16</td>
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<td>April 20</td>
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**Looking Back: Spring 2011**

- January 12: MES Orientation
- January 15: MESSA Welcome Back Party
- January 20: Graduate Research Poster Session
- January 25: State of the Student Body Address
- February 15: MESSA Volunteer Event: Lowcountry Open Land Trust
- February 19: MESSA 8K for H2O
- March 26: Student/Professor/Alumni Mixer
- April 11: Peace Corps Volunteer Panel Discussion
- April 16: Spring Fling
- April 20: Peace Corps Launch Event
- May 6: Spring Commencement
MES Students Receive Funding

Congratulations to MES students Jennifer Hein, Sarah Latshaw, and Jarrod Loerzel!

Jennifer Hein (advisor: Isaure de Buron) has been awarded a South Carolina Sea Grant NERR Fellowship to fund her project "Comparative impact of the invasive parasite species, Anguillicoloides crassus on the American Eel populations between the ACE Basin and North Inlet NERRs and the Cooper River"

Sarah Latshaw (advisor: Paul Nolan) has received a NOAA Coastal Management Fellowship for 2011-2013. Sarah will be working in Charleston with the South Carolina Department of Health and Environmental Control (DHEC) Office of Ocean and Coastal Resource Management (OCRM) on a project to identify vulnerabilities and mitigate coastal hazards in South Carolina: http://www.csc.noaa.gov/cms/fellows/pdfs/2011_SC.pdf

Jarrod Loerzel (advisor: Susan Lovelace) has been awarded a NERRS Graduate Research Fellowship through NOAA to fund his project "Social Valuation of Ecosystem Services in the ACE Basin, South Carolina" for two years. Information about this award may be found at: http://nerrs.noaa.gov/Fellowship.aspx

MES Curriculum Updates

A revision of the MES Program curriculum has been approved for the Fall 2011 semester that will decrease the total number of required credit hours to 37. It will change the core courses by adding one hour to EVSS 646 Core Seminar and by adding a new core course: EVSS 632 Social Science Methods. This new class will be offered in Spring 2012 and in subsequent spring semesters. Within these 37 hours, students are required to take 23 credit hours of core courses as outlined below:

Environmental Studies
- EVSS 646 Core Seminar (2 cr.)

Environmental Statistics:
- EVSS 659 Environmental Statistics (3 cr) or
- EVSS 624 Biometry (4 cr)

Environmental Policy:
- EVSS 601 Econ Theory for Policy Analysis (3 cr)
- EVSS 602 Public Policy (3 cr)
- EVSS 632 Social Science Methods (3 cr)

Environmental Science:
- EVSS 610 Environmental Biology (3 cr) or
- EVSS 631 Pollution in the Enviro. (3 cr) or
- EVSS 640 Earth Systems Science (3 cr) or
- EVSS 650 Energy Production (3 cr)

Thesis/Internship:
- EVSS 690 Internship (6 cr) or
- EVSS 691 Thesis (6 cr.

Current students may continue to use the requirements that were in effect when they started the MES Program, or they may use the new curriculum. To do so, they must graduate with 37 credit hours and must take EVSS 632 Social Science Methods in the Spring 2012 semester.
The Fifth Annual Graduate Research Poster Session featured 29 posters from students across the Graduate School, including eight MES students.

A total of four top posters were chosen, including that of **Anne Cubeta** (advisor: **Joel Gramling**) for her poster "A Habitat Characterization and Suitability Model for the Endangered Wetland Plant *Lindera melissifolia* in the Southeastern Coastal Plain".

**MES Student Posters:**

- **Kathleen Clancy** (advisor: **Norman Levine**) Development of an Environmental Degradation Index for Potential Hazardous Material Releases using Berkeley, Charleston, & Dorchester Counties, South Carolina
- **Anne Cubeta** (advisor: **Joel Gramling**) A Habitat Characterization and Suitability Model for the Endangered Wetland Plant *Lindera melissifolia* in the Southeastern Coastal Plain
- **Jestine deWerdt** (advisor: **Vijay Vulava**) Tracking Polybrominated diphenyl ethers (PBDEs) during Conventional Wastewater Treatment
- **Abby Goodson** (advisor: **Wayne McFee**) The Characterization of Fatty Acids in Blubber and Pleural Appendages of Diseased and Healthy Pygmy and Dwarf Sperm Whales (*Kogia breviceps* and *Kogia sima*)
- **Michael Griffin** (advisor: **Timothy Callahan**) Paving the Lowcountry: The Potential Impact of Impervious Surface on Small Coastal Watersheds
- **Jessica Rowland** (advisor: **Patrick Hurley**) The Influence of Amenity Migrants on Land Use Planning in Jackson County, North Carolina: A Political Ecology Approach
- **Evan Sherer** (advisor: **Derk Bergquist**) The Influence of pH on Predator/Prey Interactions of the Eastern Oyster, *Crassostrea virginica*, Atlantic Blue Crab, *Callinectes sapidus*
- **Ryan Wenzel** (advisor: **Allison Welch**) Amphibian Community Dynamics During Long Leaf Pine Restoration, A First Year Analysis
Congratulations to the Spring 2011 graduates of the MES Program!

**Tera Baird** (Advisor: *Maria Whitehead*)
Thesis: Insect Availability for Swallow-Tailed Kites (*Elanoides forficatus*) in Four Human-Managed Habitats in the South Carolina Coastal Plain

**Tessa Henson** (Advisor: *Matthew Rutter*) *Tessa is the recipient of the Spring 2011 Outstanding Graduate Student award for the MES Program.*
Thesis: Assessment of Genetic Variation in Tolerance and Metal Accumulating Ability of Eight Populations of *Chamaecrista fasciculata* in Response to Elevated Soil Cadmium Levels

**Rebecca Keller** (Advisor: *M. Scott Harris*)
Internship: Encouraging Organized Growth of Charleston County: Developing an Energy and Sustainability Element to be Incorporated into the Charleston County Comprehensive Plan

**Emma Paz** (Advisor: *Norman Levine*)
Thesis: The Importance of Vegetation in a Statewide Carbon Budget using GIS

**Aaron Petty** (Advisor: *Karen Burnett*)
Thesis: The Effects of Dietary Antioxidants on Oxidative Status and Disease Resistance in the Pacific White Shrimp, *Litopenaeus vannamei*

**Jessi Rowland** (Advisor: *Patrick Hurley*)

**Kelly Sloan** (Advisor: *John Zardus*)
Thesis: Barnacle Growth as an Indicator of the Onset and Duration of the Clinical Symptoms of Debilitated Turtle Syndrome Affecting Loggerhead (*Caretta caretta*) Sea Turtles

**Laurence Sutley** (Advisor: *Layne West*)
Internship: Content Assessment for a South Carolina Low Impact Development (LID) Manual
Faculty Research and Development

The MES Program offers summer support through the Joanna MES Faculty Research Fund for faculty research and development. This support covers travel costs, supplies/equipment, journal page charges, or other activities that will benefit the MES Program and the state of knowledge in environmental studies.

The following projects have been funded for Summer 2011:

“Research Opportunities for MES Students in the Tropics”: Dr. Martin Jones, Environmental Statistics. Dr. Jones will lay the groundwork for establishing a formal academic relationship for collaborative research projects between students and faculty from the College of Charleston and universities in Honduras and Nicaragua.

“Investigation of Geochemical Controls on the Fate of Emerging Contaminants in Soil and Water Environments”: Dr. Vijay Vulava, Geology and Environmental Geosciences. The overarching goal of this research is to investigate the efficiency of soil environments in filtering pharmaceutical chemicals and predict the vulnerability of shallow groundwater resources.

“The Cultural and Political Ecology of Chinook Salmon (Oncorhynchus tshawytscha): Managing Social Ecological Relationships and Conflict in the Yukon River Drainage”: Dr. Annette Watson, Political Science. Dr. Watson will measure the political and social effects of the decline of Chinook salmon populations.

“A Climate Survey of Inuit Communities in South Baffin Island, Canada”: Dr. Brian Fisher, Political Science. The project will assess the effects of climate change on South Baffin Island communities (Arctic), and will continue this research in vulnerable coastal communities of Charleston.

“Long term Changes in Herpetofaunal Diversity at Kiawah Island.”: Dr. Eric McElroy, Biology. The objective is to track reptile and amphibian populations in response to land use change with the goal of developing long term plans for sustainable development and the management of developed areas.

“Centennial to Millennial Scale Coastal Evolution and Landscape Change in Central South Carolina”: Dr. M. Scott Harris, Geology and Environmental Geosciences. Dr. Harris will establish a paleogeographic reconstruction of the landscape history of the Coastal Plain and Continental Shelf of the South Carolina portion of the South Atlantic Bight.
The MES Program and The Graduate School celebrated the start of the new Peace Corps Master’s International (PCMI) program at the College of Charleston on the evening of April 20th. Students, faculty, and alumni joined returned volunteers and invitees for the official launch party.

Jennet Robinson Alterman, the Executive Director for the Center for Women, was the keynote speaker at the event. A member of the Graduate School Advisory Board and a returned volunteer, Ms Alterman spoke about her Peace Corps experiences.

The first PCMI students will enroll in the MES Program in the Fall semester, and will go overseas after completing their initial coursework. Information about PCMI at the College of Charleston is online at http://pcmi.cofc.edu/