

# ENVIRONEWS

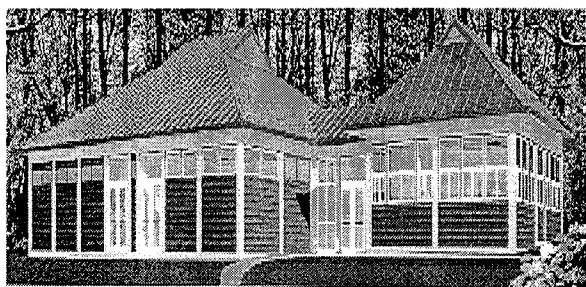
A NEWSLETTER FROM THE ENVIRONMENTAL SCIENCE & POLICY CLUSTER



## THE W.M. KECK ENVIRONMENTAL FIELD LABORATORY

In December 1997 the W.M. Keck Foundation awarded the College a \$750K challenge grant to construct an environmental field laboratory. Actual construction began on the field lab in October 1999. The lab will be completed in time for the fall 2000 semester.

The Field Lab will feature a teaching lab, dry lab, wet lab, computer lab and administrative area. The Lab will serve as a physical and intellectual bridge for environmental science research at W&M enabling students to conduct field experiments more effectively throughout the college.



*Lakeside View of the W.M. Keck Environmental Field Laboratory*

## SEARCH FOR FIELD LAB DIRECTOR

In September 1999, the ESPC, VIMS/SMS and Arts and Sciences signed a memorandum of understanding concerning a joint appointment for the new field lab director. The title for the position will be Associate Professor of Biology and Marine Science/Director of the WM Keck Environmental Field Laboratory. The home department will be Biology.

The search committee began reviewing applications December 1 and has brought three applicants to campus for personal interviews. The position should be filled soon and the director will begin to work sometime this summer once the lab is completed.

## SECOND CANON SCHOLAR VISITS W&M

In 1997, Canon Virginia awarded a \$40,000 grant to the College to fund a visiting scholars program promoting environmental education. On October 24-25, 1999, Dr. George M. Woodwell, director of the Woods Hole Research Center, visited the College. Dr. Woodwell, who specializes in botany, has dedicated his career to studying how natural communities function in the biosphere. Early in his career, he studied the effects of pesticides on the environment and was a founding member of the Environmental Defense Fund, established in 1967. Supported by Woodwell's research, EDF's founders successfully lobbied the EPA to ban most uses of the pesticide DDT in 1972. Woodwell has worked extensively in North American estuaries and forests and has conducted well-known studies of global warming, particularly as it relates to the Amazonian Rainforest.

Dr. Woodwell met with the Cluster Board, a group of Monroe Scholars and a group of students from VIMS/SMS. He also delivered a public lecture, "Global Manners in a Full World: The Reemergence of the Public Interest."

## NEW SUMMER RESEARCH STUDENTS CHOSEN FOR 2000

The ESPC awarded six summer research scholarships for summer 2000. The research this year will not only cover a variety of topics, but a variety of locales as well. The awardees are:

**Marielle Canter**  
*Hydropolitics in Africa: Freshwater Resource Strain and Conflict in the Lake Victoria Water Basin*

Faculty Supervisor: Stephen Ndegwa, Government

Marielle will examine how the degradation of Lake Victoria (both in quality and quantity of water and of its other renewable re-



sources) is leading competition and conflict; how this conflict is resolved; and what the obstacles are to this conflict's resolution.

#### **Radhika Dave**

*Reintroduction of the Asiatic Lion to Kuno Wildlife Sanctuary, India and the Study of Ecological Succession in Abandoned Fields and the Management Implications*

Faculty Supervisor: Paul Heideman, Biology

Radhika will be working on two interrelated conservation research topics with a faculty member at the Wildlife Institute of India. The research will be centered in two areas: the study of ecological succession in abandoned fields on the outskirts of Corbett National Park in north-central India; and the preparation of the habitat in Kuno National Park (central India) for the eventual reintroduction of free ranging Asiatic lions, now seen only in western India.

#### **Katie Hodgdon**

*Direct Determination of Chlorinated Solvents in Water Using Gas Chromatography with Element Selective Detection*

Faculty Supervisor: Gary Rice, Chemistry

Recent epidemiological studies suggest an association between chlorinated water containing organic byproducts with an increased risk of developing bladder and rectal cancers. Other findings also suggest that these compounds are effective endocrine disruptors and are thus a potential threat to many biological organisms.

The current methods used in testing water for the presence of chlorinated hydrocarbons require sophisticated extraction systems. The biggest disadvantage of current methodology includes the need to partition the organohalogen compounds from the water matrix prior to gas chromatography separation. Katie's research will hopefully determine more efficient methods for optimal separation conditions and detection.

#### **Peter Maybarduk**

*Sustainable Development in Traditional Cultures: Siberut and the Orinoco Delta*

Faculty Supervisor: Bill Fisher, Anthropology

This project will consist of a two-part study abroad, first on the island of Siberut, Indonesia and then in the Orinoco Delta of Venezuela. The purpose of dividing the project into two locales is to focus the study on the global issue of sustainable development and to compare different models of how cultures are meeting this challenge.

In Siberut, Peter will live among the Mentawai people on the border of a 1M hectare national park. After Siberut, Peter will join Fundacion Tierra Viva in Venezuela, an organization working to promote conservation and dialogue between the Venezuelan government and the Warao people.

This study will focus on the interplay of traditional culture with industrialized culture and compare and contrast the differences between the economic models of the Warao and Mentawai. Peter will also investigate how the groups came to collaborate with non-governmental groups and if those collaborations are effective.

#### **Abby Ramsburg**

*Can Freshwater Amphipods Be Used as a Quick Index to Water Quality in the Coastal Plain?*

Faculty Supervisor: Greg Capelli, Biology

Abby's work will involve the development of a possible new and simple approach to water quality interpretation in coastal plain streams. The work will involve the use of amphipods, crustaceans that are common in many freshwater habitats.

In a recent report, Dr. Capelli suggested the possibility of a simple, rapid system for general water quality interpretation in the coastal plain: 1) Pristine, undisturbed water will be occupied by *G.pseudolimnaeus*; 2) Moderately impacted water will be occupied by *G.fasciatus*; & 3) Severely impacted waters will lack amphipods of any kind. Abby will help determine whether this system, which is based on circumstantial evidence, is actually valid.



### **Emilie Snell-Rood**

#### *Assessing the Success of Created Forested Wetlands in SE Virginia Through Ornithological Research*

Faculty Supervisor: Dan Cristol, Biology

By comparing the avian communities of created wetlands with those on natural wetlands, Emilie hopes to determine whether created wetlands are successful replacements for natural wetlands and what characteristics of created wetlands lead to successful occupations by birds.

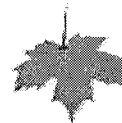
Investigation of the birdlife of created, restored and natural forested wetlands will determine: 1) The basic requirements of created and restored wetlands; 2) The typical avian community of development of a natural wetland; and 3) Whether or not humans can create a functional wetland ecosystem, and what management options provide functional compensation habitats.

### **NCUR/LANCY FOUNDATION AWARDS COLLEGE FUNDS FOR NEW SUMMER RESEARCH PROGRAM**

The Cluster worked with faculty from Arts and Sciences to develop a proposal for a unique undergraduate summer research opportunity. The proposal was submitted to National Conference on Undergraduate Research/Lancy Foundation and was one of four out of one hundred proposals selected for funding. The primary objective of this program is to provide ten undergraduates with the opportunity to conduct supervised research projects that enrich their academic training while contributing to understanding the policy issues that are important to the broader Williamsburg community. This program will provide the College with the opportunity to expand its community of learners while providing the students with the opportunity to have a direct impact on the Williamsburg/James City County community.

William & Mary's proposed summer research program, *Crossroads Research: Undergraduate Research and Service to the*

*Williamsburg Community*, will be dedicated to a multi-disciplinary examination of the *Crossroads* area. Each summer, ten students will conduct research whose results will help inform the *Crossroads* planning process. Student projects will fall into three broad areas: environmental science (including biology, chemistry and geology), social science and the humanities. A faculty mentor will be assigned to each of these three areas. Students will conduct research as a team. The program is designed to facilitate cooperative exchange between students both within and between their area of study. The Team will then prepare a unified, multi-disciplinary report that incorporates each group's research. Students will present the conclusions of their research to the College community, the *Crossroads* Committee and the public at large. They will also present at next year's annual NCUR Convention in Knoxville, Tennessee.



### **CLUSTER TO COSPONSOR PROGRAM ON LAND CONSERVATION**

The Williamsburg Land Conservancy, with assistance from the ESPC, will sponsor a land conservation workshop on May 19, 2000. The program will feature a morning presentation by Stephen Small, Esq., author of *Preserving Family Lands I and II*. Mr. Small advises landowners on federal income tax and estate tax planning to help preserve family lands.

The afternoon will include presentations on: Smart Growth by Gus Bauman, Esq.; Statutory Framework of Land Conservation in Virginia, Leslie Trew, VA Outdoors Foundation; and Professional Responsibility - New Rules of Professional Responsibility in Estate Planning and Real Estate, John Levy, Esq., William and Mary School of Law.

For information on registration, please contact ESPC at extension 15075.



## **NEW ENVIRONMENTAL SCIENCE PROGRAM FOR LAWYERS**

The Cluster Director, Lynda Butler, and David Neibuhr of the Chesapeake Bay National Estuarine Research Reserve System at VIMS, have been developing an educational program on coastal ecosystem science for law students and attorneys. This special project is funded by the National Oceanic and Atmospheric Association (NOAA).

The two PI's have been compiling and organizing information for the participant handbooks in a format suitable to and meaningful for the proposed audience. The participant handbook is an inclusive document and is now the foundation for a coastal science for lawyers textbook.

Drafts of the participant handbook chapters are now being tested with focus groups. The first pilot presentation was held April 8, 2000 at the New England Aquarium in Boston, MA. Approximately 50 law students from the area attended the day-long workshop. The workshop was very well received by the students and plans are being made to duplicate the program in Baltimore and Washington, DC, as well as on the West coast.

## **EARTH SUMMIT SYMPOSIUM PLANNED**

Members of the Environmental Science and Policy Cluster Board took part in a May Seminar (1999) to plan a workshop focusing on issues raised at the 1992 Rio Conference on the Global Environment and Sustainability for the 21st Century. In addition to the Cluster members, faculty and administrators from the departments of philosophy, anthropology, sociology, and the Schools of Law and Marine Science also participated.

Over the course of two weeks the panel reviewed a variety of written materials to determine which materials would be used for an

undergraduate seminar. The seminar was first held this past spring semester and plans are to continue the seminar fall 2000 and spring 2001. A day-long symposium focusing on global issues and global sustainability will be held in February 2001. This symposium will feature guest speakers and panel discussions and will be open to the public.



## **CLUSTER ASSISTS NATIONAL GLOBE PROGRAM**

The ESPC provided the School of Education with a \$25,000 grant to run the national GLOBE training program for local, regional and state secondary school science educators. The GLOBE program is designed to teach students to collect real data and submit it to national sites, such as NASA, through the use of the Internet. Students are able to see firsthand how data is used to analyze such issues as global warming. The Cluster support was used to provide a refresher course to teachers who have already gone through the training and are trying to adapt it to Virginia's SOL's; to conduct a 3-day training workshop for any educator wanting to use this program; and to expand the training team to include at least two new trainers and to host another Train the Trainer workshop. At present, W&M is the only teacher-training site in Virginia.

To contact the Cluster, please call extension 1-5075 or send us an email at [espcen@wm.edu](mailto:espcen@wm.edu). You can also visit our website at [www.wm.edu/ESPC](http://www.wm.edu/ESPC).