EnviroNews

Newsletter of the Santa Clara University Environmental Studies Institute

Volume XX *Winter 2004*

Two New Courses for Spring

ENVS 194: Faith, Ethics & Biodiversity – Wednesdays 2:15-5:15 p.m.
Addressing the global collapse of biological diversity is a primary ecological challenge, and religious institutions are now contributing to debates over how to re-direct human social behavior. This course will explore the theological implications of the biodiversity collapse, and recent religio-ethical responses, from an interdisciplinary perspective. It will integrate a survey of this crisis with a critical analysis of the response by major faith traditions, paying particular attention to the distinct contribution that religion plays, could play, or has failed to play in addressing the root causes of biodiversity loss. This course will be taught by Keith Warner, and **fulfills the third Religious Studies requirement**.

ANTH 145: Historical Ecology – MWF 9:15-10:20 a.m.
Historical ecology investigates the historical relationships between cultures and their environments. Students will use various types of data including historical documents, maps, and land use information to learn how to reconstruct the historical ecology of the Santa Clara Valley.

Also this Spring:
ENVS 1: Intro to Environmental Science
ENVS 98: Outdoor Leadership Expedition (OLE)
ENVS 145: Environmental Technology -- **This course also satisfies the Technology requirement**.
ECON 130: Latin American Economic Development
CHEM 1: Environmental Chemistry
HIST 85: Intro: U.S. Environment History
POLI 130: Global Environmental Change

Pizza & Advising
Wednesday,
February 11, 2004
5:00 p.m. – 6:30 p.m.
Alumni Science 120

Find out more about our classes and programs!

What's Inside...

Workshop Series: Environmental Purchasing Criteria for Technology

We have all seen the growing media coverage of electronic waste (or e-waste) and its economic and environmental costs. What can universities do about it? Santa Clara University is hosting a series of three workshops on environmental purchasing criteria for electronics (primarily personal computers). These workshops are designed for university computer buyers and those who set procurement policy for information technology.

The goal of the meetings is to help university electronics buyers assess the feasibility and desirability (pros and cons) of incorporating environmental purchasing criteria into their decision-making. This will be a neutral forum in which all points of view on the issues are treated respectfully. A full agenda for each meeting is attached. There will be ample time at each workshop for discussion and question-and-answer.

January 26, 2004 - The Impact of E-Waste
3:30-5:00 p.m., Wiegand Teleconference Room
What environmental problems does electronic waste pose? What is the electronics industry doing to solve them?

February 9, 2004 – Adopting Environmental Purchasing Criteria for Information Technology
3:30-5:00 p.m., De Saisset Museum Auditorium
Why adopt green purchasing criteria? How are they defined? How can they be implemented?

March 8, 2004 – How Industry is Addressing Environmental Purchasing Criteria for Information Technology
3:30-5:00 p.m., De Saisset Museum Auditorium
What are the impacts of adopting green criteria on cost, performance, and other factors? What are the barriers to building greener electronics? How are technology companies responding to environmental criteria?

To RSVP for these workshops, please email Jeannette Sacman (jmsacman@scu.edu). These workshops will count towards colloquium credit for Environmental Studies majors and minors. Please contact Jeannette for information.

Earth Day in January

Join the G.R.E.E.N. club for a habitat restoration opportunity at Muir Woods. "Earth Day in January" kicks off this year's Earth Season at Muir Woods, when volunteers get together for a day of planting, trail work, and plant removal. This will take place on Saturday, January 24, 2004 from 9:00 a.m. – 12:30 p.m. For more information or to register, contact Maggie Penkert (mpenkert@scu.edu)

Wildflowers and Opportunities at Ulistac Natural Area Abound!

Next time you are walking by Swig, take a moment to stop by the Ulistac Outreach Center's brand new office! Exciting things are happening in Room 103…take advantage of all the opportunities before you:

Habitat Restoration
We host restoration work sessions the 1st Saturday and 3rd Sunday of every month. Come dig in the dirt (no, not in Swig…at Ulistac)! We provide all the tools. Just make sure you wear long pants and sturdy shoes. Water and a lunch are a good idea if you are planning to stay for the entire session. *Time:* 10:00 a.m. – 2:00 p.m. through March. Leadership opportunities available.

Leading Field Trips and Tours
Want to work with kids? Want to be an environmental educator? Learn how to be a field trip leader or a park docent, and lead tours for the public, as well as elementary school children of all ages! Internships are possible.

Communications Internship
Students with film and editing skills/experience are needed to create new, innovative marketing materials for Ulistac Natural Area and the Restoration Project. The following projects would be great additions to your portfolio: 5-7 minute introductory video, 20-minute park history video, various training videos. A student is also needed to create a tri-fold brochure for marketing and volunteer recruitment. Course credit may be available.

(See Ulistac on p. 3)

BioSphere: Plants in Heat

Humans are warm-blooded, or homeothermic. This is a characteristic we share with all mammals and birds. If you're not picky about the "blood" part of "warm-blooded", then some plants fall in this category as well. They don't have blood, but some of them produce body heat well above that of the surrounding environment. There are several hundred plant species that fall in this category, and unlike mammals, the heat is more about sex than anything else.

This isn't about a vague sort of warmness. In fact, the bloom of the dead-horse arum (which, by the way, smells like a carcass) cranks out more heat than almost any other known plant or animal tissue. Scientists have found higher rates of body heat production only in the flight muscles of some insects. All this heat production, or thermogenesis, serves the function of releasing strong aromas into the air to attract pollinators. Some of these odors are quite pleasant, from the American lotus for example, but some mimic the most rancid putrescence you can imagine. The same insects attracted to a rotting carcass are attracted to these particular plants. In fact, some of the same chemical compounds are found in both. But instead of finding a lovely spot to lay eggs, these insects are tricked into carrying pollen. Some of these plants even trap the insects for a number of hours to guarantee pollination. There is speculation that the heat produced by these plants is a small reward for trapped insects such as beetles, who would normally expend a great deal of energy moving around and generating muscle heat to keep warm.

The excitement today is the recent discovery of the unique way these plants self-regulate heat production. It is so unique, in fact that the Japanese scientist Ikukatsu Ito has applied for a patent on this protocol and details are not available. The only hint forthcoming is that this new understanding will revolutionize the technology that currently controls devices such as air conditioners. The inspiration for all this was the eastern skunk cabbage of North America and Asia, another plant never to pick for a bouquet. As unsavory as some of them may be, these plants have provided inspiration for human creativity and innovation.

Reference: Milius, S. "Warm-Blooded Plants?". Science News. December 13, 2003. Vol. 164. pp. 379 – 381.

BioSphere is a program on Environmental Voices, KSCU's environmental radio show. BioSphere addresses issues of the sustainability of human practices on Earth, while simultaneously celebrating the more intriguing characters in Earth's great biodiversity. The program's goal is to improve public environmental literacy under the premise that knowledge fosters active and powerful citizenship. Tune in to Environmental Voices on Sundays at 7:00 p.m. on 103.3 FM.

(Ulistac, continued from p.2)

1st ANNUAL WILDFLOWER WALK!

The 1st Annual Wildflower Walk is Saturday, April 3, 2004, 10:00 a.m. – 2:00 p.m. Come for fun nature activities, tours of the park, demonstration gardening, lessons about native and non-native plants, and wildlife viewing. If you can volunteer to help with set-up and clean-up, or if your campus organization would like a table at the event, please contact the Ulistac Outreach Center.

Even more fun events!

Check our website for the latest dates and times for fun events that are still being scheduled as this goes to press! www.scu.edu/envs/ulistac

Ulistac Outreach Center: Swig 103, (408) 554-5419, Office Hours: 9:30 a.m.-3:00 p.m.
Outreach Coordinator: Kelly Crowley, kcrowley@scu.edu

Ulistac Natural Area is the only 41 acres of habitat in the entire of City of Santa Clara. When restoration of the park is complete, it will contain seven California native habitats, including a ¾-acre Bird and Butterfly Garden, oak woodlands and wetlands. Directions to Ulistac are on the Restoration Project's website.

Winter Wildlife Quiz

(From www.enature.com)

North American animals have numerous strategies for surviving the winter. Some migrate to warmer climes, others head for a long winter's nap, and some stay where they are and rely on fur, speed, fat, teeth, and claws to keep them safe, warm, and well fed. How much do you know about the winter behavior of North America's animals? Test your winter wildlife knowledge by taking our quiz.

1. Which animal has the densest, warmest fur on earth?
A. Beaver
B. Sea Otter
C. Polar Bear
D. Mink
E. Musk ox

2. How much weight might an adult Grizzly Bear gain before retiring for the winter?
A. 50 pounds
B. 100 pounds
C. 200 pounds
D. 300 pounds
E. 400 pounds
F. All of the above

3. Which animal remains active all winter, and doesn't retire to a den for a sustained period?
A. Eastern Chipmunk
B. White-tailed Prairie Dog
C. Red Squirrel
D. Black Bear
E. Polar Bear

4. Choose the animal species that does NOT regularly appear in a white-furred form.
A. Eastern Gray Squirrel
B. Arctic Fox
C. Grizzly Bear
D. Least Weasel
E. Gray Wolf
F. Black Bear

5. Which of the following species will travel to a new area for the winter?
A. Manatee
B. Caribou
C. Bison
D. Snow Goose
E. Snowy Owl
F. All of the above

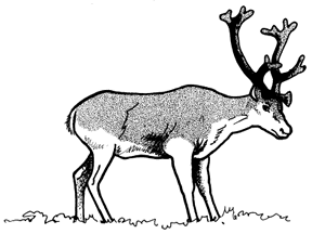
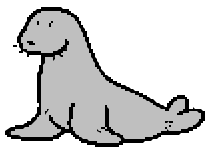
6. Animals generally put on fat for two reasons: warmth and food reserves. Which of the following species reaches the heaviest weight?
A. Grizzly Bear
B. Polar Bear
C. Northern Elephant Seal
D. Walrus

7. Match the predator (1-7) with the prey (a-g) that it commonly eats.

1. Arctic Fox	a) fish
2. Lynx	b) squid
3. Northern River Otter	c) clams
4. Mink	d) seal
5. Polar Bear	e) snowshoe hare
6. Walrus	f) lemming
7. Northern Elephant Seal	g) muskrat

--ANSWERS--
Question 1: Sea Otter
Question 2: All of the above!
Question 3: Red Squirrel.
Question 4: Grizzly Bear
Question 5: All of the above!
Question 6: The Polar Bear
Question 7: 1-f; 2-e; 3-a; 4-g; 5-d; 6-c; 7-b

For more details on the answers, visit the full article online:
http://www.enature.com/feature/feature_news.asp?storyID=590


SPECIAL ANNOUNCEMENTS

Costa Rica in the Fall

ENVS 196 Sustainable Development in Costa Rica will be offered in Fall 2004. Here are the details:

- Credit: 5 units upper division, and includes a 1 week trip to Costa Rica during Thanksgiving Break.
- Interested students should fill out an application by May 3, 2004. Applications will be available at the ESI office on April 2, 2004.
- Cost: ~$1700 which includes airfare, food and lodging, and in-country transportation.
- Deposit of $500 due from accepted students by May 17, 2004.

Love the Outdoors??

Consider taking ENVS **98 Outdoor Leadership Expedition (OLE)** in the Spring and learn about responsible outdoor recreation. OLE is a one unit academic course offered on a Pass/No Pass basis for individuals who welcome the opportunity to explore the natural world, gain safety and outdoor technical skills, learn about the environment, and develop leadership skills. You will participate in hands-on leadership initiatives like backpacking and low-impact camping while integrating relevant academic content to achieve the course objectives. For more information, please contact the ESI office.

HHMI Community of Science Scholars: 2004 Summer Research Program

Our Biology, Physics, Chemistry and Psychology departments place an emphasis on individually mentoring students and providing them with research experiences. Twenty undergraduates will be chosen to work in the labs of participating faculty as part of the Community of Science Scholars Initiative (CSSI) supported by the Howard Hughes Medical Institute (HHMI). Four students will also be placed at local Biotech companies.

Students will conduct research full-time in a participating lab during a 10-week period beginning in June. Students will attend weekly research meetings to discuss work-in-progress, and attend weekly ethics discussions about the ethical complexities commonly faced in scientific careers. All students will present their research results at an end of the summer symposium.

More information will be provided at the **HHMI CSSI Open House on Wednesday, January 28, 2004** at 5:30 p.m. in the Alumni Science Commons. Applications will be available there, or afterwards from DS 204. Applications are due by February 23, 2004.

STUDENTS WANTED

Attention seniors: The Business and Sustainability initiative is sponsoring a Biomimicry Workshop from January 29-February 2, 2004 in Palo Alto, CA. Participants include biologists and naturalists with a passion for the natural world, an understanding of sustainability and an interest in applying nature's elegant design strategies to human challenges. Successful completion of the course will qualify you for potential inclusion in the newly forming Biomimicry Design Center in Palo Alto. Other employment with the Biomimicry Guild, full-time, part-time, or as a sub-contractor is also a possibility. If you are interested, let them know that you were recommended by Dianne Dulmage from Acterra. Check out the website for more info: www.globalcommunity.org/business/upcoming.shtml

Internship Opportunities
(may be available for credit)

The **Institute for Bird Populations** is seeking students interested to fill numerous full-time internship positions during the summer of 2004. There are opportunities in the Monitoring Avian Productivity and Survirorship (MAPS) Program, Back-country Point Counts in Western National Parks, and Fire-effects Study in the Sierra Nevada. For additional information, check out their website at www.birdpop.org/internships.htm.

Ulistac Natural Area has internship opportunities available. Contact Kelly Crowley at the Ulistac Outreach Center in Swig 103, by phone at (408) 554-5419, or by email at kcrowley@scu.edu.

Conservation Internships available through the Student Conservation Association (SCA). Opportunities available throughout the US in over 50 disciplines including: Archaeology, Botany, Environmental Education, Geography and GIS/GPS, Historical Interpretation and Research, Range Management and Taxonomy. Get onto their website for additional information: www.thesca.org/explore.cfm. Use the search wizard to find the best position for you.

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