Double majoring in Italian Studies and Environmental Science and Policy (ES&P) has made me appreciate the liberal arts education Smith stands for. Experiencing the culture and landscape of Italy has helped me gain a new perspective on environmental science. It is possible to find connections between even the most seemingly unrelated fields.

Many Italians are still living in cities founded before the American continent was discovered. They are eating olive oil from the same orchards and wine from the same vineyards as the ancient Romans. Experiencing this unique aspect of Italian culture first hand has taught me about how a landscape helps create traditions and also about the importance of sustainable practices in keeping these traditions alive. Most of Italy has been touched by civilization. Even in remote locations you can still find evidence of human cultivation. The presence of this ancient history helped me to think in longer timeframes, a skill I have found relevant to the study of environmental science and policy.

Studying in Italy has taught me that there is both a scientific way of looking at a region and a cultural way. Italy has its fair share of environmental wonders. The country stretches from snowy Alps in the north to hot dry beaches in the south. The diversity of different regions comes from the fact that the long and narrow country is full of mountains. A scientist will tell you that this leads to greater speciation because the mountains impede migration. An Italian will declare it campanilismo, a term that encompasses the fierce loyalty Italians have for their region. They consider themselves Roman, Venetian, or Florentine, and only secondly Italian. In many ways the realities of the land forge the cultures of a country. In this case, the diverse climates and mountainous geography of Italy created a culture of regionalization.

Learning about a culture that I wasn’t born into was a rewarding experience. Understanding how people in other countries think takes time and effort. Understanding the many ways people are affected by their environment takes cross-disciplinary knowledge. Environmental Science and Policy is a worldwide discipline.
The simple act of turning on a light results in carbon dioxide, nitrogen oxide and sulfur dioxide emissions. These emissions contribute to climate change, pollution, acid rain and respiratory ailments. When looking at electric use from a national perspective, forty-five percent of the nation’s electricity is generated by burning coal and twenty percent is nuclear powered. Seventy percent of electric generation is powered by fossil fuels and only ten percent is renewable according to the US Department of Energy.  

Extracting fossil fuels from the earth also has an impact on the environment whether through mining, drilling or, of recent concern, hydraulic fracturing (hydrofracking) using chemicals. Most nuclear power plants produce electricity safely but the recent accident in Japan and the radioactivity generated by spent fuel rods are cause for worry. Using electricity wisely is important given the environmental consequences of producing it.

Clean, potable water is another resource that is easily wasted. The US Geological Survey conservatively estimates that the average American uses 80 to 100 gallons of water per day.  

Compare that with the fewer than three gallons of water available for cooking, drinking and personal hygiene to someone who lives in Bangladesh or another developing country. A faucet dripping at a rate of one drop per minute can waste 34 gallons per year and running the faucet when brushing your teeth can waste 2,800 gallons per year.  

Environmental Science and Policy (ES&P) students have tackled the issue of wasted resources head on. In ES&P’s capstone seminar last year, Emily Mailloux, ’11, implemented a project to promote water conservation in campus houses, and Esther Kwon, ’12, looked to reduce energy waste in houses via an energy competition this coming spring. These projects are right in line with the goals of Smith’s climate action plan. The College’s commitment to reducing resource waste includes a five percent reduction in potable water use and a ten percent reduction in electrical use through behavioral change. Smith’s Facilities Management has been installing meters in houses so that they can better monitor and manage energy and water use. This information also allows Smith to document the benefits of efficiency improvements, whether through low flow shower heads, additional insulation or lighting and mechanical retrofits.

As a result of such sub metering installations, Smith is now able to educate members of the community about the impacts of energy and water use through a web based dashboard that went online this fall (Visit the dashboard at www.smith.edu/conserve). This resource gives building occupants feedback on consumption and provides students with tools to help understand the connection between the environment and energy and water use. It will allow professors and students to download usage data into Excel spreadsheets for classroom projects, Sustainability Reps to engage Smithies in energy and water reduction contests, members of the Smith community to see the amount of renewable energy created from our solar installations, and, most importantly, allow individuals to see the benefit of energy and water conservation.

While Smith’s administration continues to invest in building improvements, we also encourage each campus member to make a contribution to our collective sustainability efforts by making changes in her/his behavior to reduce routine energy and water use. The efforts of individuals, when replicated by many, can really make a difference.

Deirdre Manning is the Director of Environmental Sustainability at Smith College where she oversees sustainability initiatives and the implementation of the Smith Climate Action Management Plan. She is an energy and sustainability professional with over fifteen years of experience in policy development, management and end user advocacy in higher education and various government agencies. Deirdre serves on Governor Patrick’s Energy Efficiency Advisory Council where she represents the interests of end users. Before coming to Smith in August 2010, Deirdre was the Director of Sustainability and Energy Management at Boston College.

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Photo: Judith Roberge
Emily M. Dwyer (’13)
-Major(s): Economics and Environmental Science & Policy
-Hometown: Winchester, MA
-House: Morrow
I currently serve as the ES&P intern and student liaison, and work closely with the Program Coordinator, Joanne Benkley. As the program intern, I am responsible for communicating opportunities, internships, jobs and events to current students and program alumnae. I also act as student editor for the newsletter. As student liaison, I plan events for ES&P students and answer student questions—overall, I help bridge the gap between students and the program.

This summer, I interned at Enviro Business Inc., an environmental consulting firm located in Massachusetts, where I assisted in the Marketing, Environmental Health and Safety, Real Estate, and Telecom divisions. My work included inputting information into 21e Site Assessments, writing company blog posts with current environmental and sustainability news, online database and internet research, and updating and organizing EBI’s client database. The education in both the natural and social sciences that I receive at Smith definitely makes for a well-rounded education—this, in turn, has helped me to have successful experiences outside of the classroom.

Aside from working and school I love to kayak and hike around New England. I am looking forward to being abroad in Switzerland during spring semester 2012, where I will study at the University of Geneva, and intern with an international organization.

Hester Garskovas (’12)
-Major(s): Environmental Science & Policy and Italian Studies
-Hometown: Cambridge MA
-House: Emerson
As an ES&P intern I help provide guidance and information for students considering the major or minor. My job is also to communicate the concerns and interests of my fellow students to the ES&P program coordinator and director. My favorite part of the program is the hands-on opportunities and internships that are available that directly relate to the skills I am learning in my classes. The interdisciplinary aspect of the program allows me to take relevant classes in both the sciences and humanities; these courses have helped to shape my views about some of the pressing issues that our Earth is currently facing. I have also had successful experiences outside of school, such as my internship last summer working for an energy-consulting firm in Washington, DC. While there I assisted with research related to international climate change policies to advise prominent energy companies, which I felt confident doing with my background and major.

Victoria Helms (’12)
-Major: Environmental Science & Policy
-Minor: Film Studies
-Hometown: Darien, CT
-House: Morrow
As an ES&P liaison, I help provide guidance and information for students considering the major or minor. My job is also to communicate the concerns and interests of my fellow students to the ES&P program coordinator and director. My favorite part of the program is the hands-on opportunities and internships that are available that directly relate to the skills I am learning in my classes. The interdisciplinary aspect of the program allows me to take relevant classes in both the sciences and humanities; these courses have helped to shape my views about some of the pressing issues that our Earth is currently facing. I have also had successful experiences outside of school, such as my internship last summer working for an energy-consulting firm in Washington, DC. While there I assisted with research related to international climate change policies to advise prominent energy companies, which I felt confident doing with my background and major.
Everybody must eat. Every day. Because of these two facts the production, processing, and policies surrounding food shape the structure of our communities, the environment, local to global politics and our health. In short, food touches every aspect of our life. So, it makes sense to train a critical eye on the subject of food and its effect on society both historically and in the future. That is why, after demonstrated interest by students and faculty, the Center for the Environment, Ecological Design, and Sustainability (CEEDS) now offers a new environmental concentration in Sustainable Food.

The Sustainable Food Concentration at Smith allows students to engage in an interdisciplinary exploration of food and many aspects of sustainability in a cohesive, supported, and stimulating way. Thinking about food and sustainability issues is an important start toward deeper understanding of a topic. Coursework for the Concentration extends from a gateway course through an academic core to a final capstone course that engages students on team-based projects in our local community. But the Concentration also requires students to learn by doing. Students participate in two practicum experiences which can include internships, paid or non-paid jobs, or projects on campus. Typically, students apply in their sophomore year or junior year.

What are the students like in the new Concentration? A total of fifteen students are currently enrolled in the Sustainable Food Concentration—7 students from the class of 2013 and 8 students from the class of 2014. These students come from a variety of majors, from American Studies to Biological Sciences and Geosciences to Religion, and their interests are broad, too. Many students are interested in social justice issues surrounding food and the effects of food policy on food production. Other students either grew up on farms or have worked on farms and are interested in the business end of farming and the associated economics or in starting their own farm. Faculty advisors of the Concentration come from an equally wide spectrum of subject areas—landscape studies, engineering, and the study of women and gender, among others. Hopefully, this wide range of interests and experiences will result in a sharing of knowledge and provide a multi-disciplinary learning environment to the Concentration group.

Questions about the Sustainable Food concentration? Want to learn more? Contact Paul Wetzel (585-2646; pwetzel@smith.edu) or Joanne Benkley (585-3951; jbenkley@smith.edu) at CEEDS. Or go to the web at www.smith.edu/food. Please join us!

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**Understanding Our Roots: The New Sustainable Food Concentration**

By Paul Wetzel

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**What are some of the courses that student concentrators are taking?**

- ENV 100 Environment and Sustainability: Notes from the Field.
- ENG 119 Writing Roundtable: What's for dinner?
- SWG 230 Feminism and the Fate of the Planet
- ITL 205 Savoring Italy
- SOC 233 Environment and Society
- PSS 300 Deciduous Orchard Science

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**Student concentrators are gaining practical experience in the realm of sustainable food as a(n)...**

- Intern at Berkshire Grown, Great Barrington, a not-for-profit that promotes local food and farms
- Pantry volunteer at the Northampton Survival Center
- Smith College Botanic Garden summer intern
- Worker at a model sustainable farm near Madurai, India
- Intern for Hunger Solutions/Food Research and Action Center as part of the Americorp Vista program in Washington, D.C.
- Field hand at Godard’s Red Hen Farm and Mineral Hills Winery - Florence, MA
- Intern in Burkina Faso, helping start plant nurseries and working on reforestation and water conservation
ES&P Senior Spotlight
By Hester Garskovas, ’12

Student: Rebecca Chazin, ’12
Smith House: King
Hometown: Denver, Colorado
Major(s): Economics and Environmental Science & Policy

Q: What was your favorite class here at Smith so far?
A: My government seminar, The Politics of the Environment with Donald Baumer because I was given the opportunity to research a topic that interested me. I researched wind energy policy at the federal and state levels and the current climate of renewables and its future. Another important course is GIS: Intro to Mapping Your World because every ES&P major should have GIS experience.

Q: Have you had any cool internships that you want to tell me about?
A: Between my sophomore and junior years I used my praxis at the regional air quality council in Denver. I got to work on a bunch of their projects including community outreach about ground level ozone and a state implementation plan that every state has to submit to the federal government.

Q: What’s the best environmental documentary you’ve seen?
A: King Corn...it’s super funny and really informative. It’s so weird that everybody has corn DNA in their bodies.

Q: Is there a professor/course that anyone interested in the environment shouldn’t miss out on taking?
A: World Food Systems taught by Nola Reinhardt. It’s an economics course and it’s really interesting. It’s all about US agricultural policy and international development and about how those topics intersect with the environment.

Q: What environmental topic are you currently most interested in?
A: Urban and regional planning/transportation planning. It’s about creating sustainable cities and communities.

Q: What are some ways to live greener here at Smith?
A: Living at Smith I do all the same things as at home like recycling and taking short showers. It's really easy to compost here. I think I knew about it in some abstract form before I came to Smith. I know I want to try to compost at home because in Denver there's even a service that will take the compost and give free supplies. I've also been thinking of getting a CSA (community supported agriculture) share.

Q: What are the benefits of majoring in ES&P?
A: The major is really applicable to everyday life because we're constantly interacting with our surroundings. In ES&P it's possible to study a bunch of different subjects from social sciences to humanities and natural science -it encompasses the liberal arts education so well. Environmental Science and Policy is such an umbrella major and there's a wide range of faculty with different interests who are doing research on all different topics. It's easy to double major and it compliments economics well. People are sometimes surprised by my double major. They say it's a rare breed of economist that thinks that way, but it's actually a very good pairing and a useful major.

Q: Where are you planning to do after graduation?
A: I'm going to take a year off and then apply for a dual degree program masters of urban planning and public policy or public administration so I may be studying for GMAT. I also want to do AmeriCorps or “WWOOFing” (World Wide Opportunities on Organic Farms). I know for sure I will be doing something environmental and focused on public policy.

Q: What’s your favorite animal?
A: I like moose because they're majestic animals.
Ever since I worked on a farm for two seasons I have been deeply interested in all issues related to food, including farming, farm policy, food access and farm viability. Over this past summer, while working as an intern for the Vermont Farm-to-Plate Initiative, I heard about Food Day. This special day, planned for October 24th, was designed to “bring together Americans from all walks of life—parents, teachers, and students; health professionals, community organizers, and local officials; chefs, school lunch providers, and eaters of all stripes—to push for healthy, affordable food produced in a sustainable, humane way.” As the incoming Sustainability Chair, I wanted to make sure Smith got involved because I know many students who are interested in food issues.

In honor of Food Day, the SGA established Food Week, which took place between October 24th and October 27th. We kicked the week off with a farmers market on Chapin Lawn which showcased local farmers and food producers from the area. These included Godard’s Red Hen Farm of Florence; Zawalick’s Sugarhouse of Florence; Maple Valley Creamery of Hadley; Hungry Ghost Bread, Vessel Coffee Shop, Indigo Coffee, and the student org Smith Community Garden, all of Northampton; Outlook Farm of Westhampton; and Park Hill Farm of Easthampton. We also had a table representing Smith’s Dining Services, with maps illustrating where Smith’s food comes from. The market, developed to bring the Smith community closer to those who produce their food, even included free ice cream from Maple Valley. Later that afternoon, we had a lecture on sustainable systems, given by Tom Wessels of Antioch New England, which aimed to connect the meaning of sustainability with food.

Tuesday we held a panel discussion with women who are moving, shaking and re-shaping the New England food system. The event featured Jenny Nelson- Office of Senator Bernard Sanders (VT) Legislative Liaison / Agriculture Policy Advisor, Jodi Lew-Smith ’89- High Mowing Seeds: Research Director, Kelly Coleman- CISA Program Director, and Cris Coffin- American Farmland Trust: New England Director. Through my summer work in Vermont, I had the honor of learning about these women and gathered them to give budding Smith leaders ideas for how they can get involved and help transform the food system. Women are overwhelmingly leading the regional food system renaissance, and this panel presented an excellent opportunity to unite the Smith community, as a whole, around an issue that touches all of us.

On Wednesday, Kathy Zieja and Ann Finley from Smith Dining Services, along with Erik Atkins of Black River Produce addressed a student audience on Smith’s engagement with local food. Smith has a long history of cooking local food and we wanted to help students understand how much local sourcing Dining Services does. Adding to that conversation was a representative from Black River Produce, our primary local produce distributor, who helped explain the logistical issues facing local farmers. Those in attendance enjoyed specially made pizza and Sidehill Farm yogurt from the nearby town of Ashfield.

Finally, on Thursday Tasha Moultrie-Phillips, a founding member of Concerned Citizens of Mason Square Farmers Market and employee for the Food Bank of Western Massachusetts spoke to students about the importance of effective urban food policy. As issues related to food access gain attention, it is important to learn from those who are making a deep impact, especially those right in our own community of Western Massachusetts.

Food Week was initiated by the Student Government Association Sustainability Committee, and co-sponsored by: The Center for the Environment, Ecological Design, and Sustainability, the Center for Work and Life, the Environmental Science and Policy Program, the Smith Alumnae Association, and, of course, Dining Services. All of the
As you may be aware, Smith College dedicated the Ada and Archibald MacLeish Field Station in May 2008, thanks to a generous gift from former Smith President Jill Ker Conway. The MacLeish Field Station (MFS), located in West Whately about 20 minutes from campus, strives to foster field-based environmental research, in addition to outdoor education and low-impact recreation.

Recently, Smith received a major three-year grant from the S.D. Bechtel, Jr. Foundation to develop an environmental education and research facility on the site. The Bechtel Environmental Classroom aims to achieve the Living Building Challenge (LBC), one of the most progressive building ratings in the world.

LBC is overseen by the International Living Future Institute, an NGO aimed at instigating a global transformation toward sustainability; sustainability that is dedicated to supporting and maintaining natural systems, instead of contributing to their decline. LBC combines technical priorities, common throughout most rating systems, with a set of core values, serving to prompt the complex conversations necessary to address problems currently blighting the design and building industries. Specifically, LBC buildings aim to generate energy on-site through renewable resources, capture and treat all waste water, use local and non-toxic materials, and employ design as a tool for inspiration and education. Another innovative aspect of this certification process is that it measures the actual performance of the buildings in action, requiring projects to be operational for 12 consecutive months prior to evaluation.

This fall, Smith College hired Scapes Builders, a green building company based in nearby South Deerfield, to act as General Contractor for this project. Scapes is highly experienced in green/LEED (Leadership in Energy and Environmental Design) building, having served as the General Contractor for the new LEED Gold Native Plant Center at Nasami Farm, among other notable projects. They are also familiar with the MFS site and its complexities, as two members of Scapes are themselves Whately natives, and understand the LBC aspirations for the project.

Site clearing has just recently started for the construction of the new classroom at the MacLeish Field Station. The new facility will include administrative, seminar, and lab spaces allowing for increased accessibility to the many resources available at the Field Station. The design process, which began in Fall 2010, has been quite extensive due to the complex conditions required to achieve LBC certification.

As the imperatives outlined by the LBC tend to be more focused on urban landscapes, the rural context of this new project forced the design team to reexamine green building precedents, and in some cases revert to traditional systems. For example LBC requires that the building utilize net-zero water. At first, designers looked to the potential for a rainwater catchment system, in which all potable water could be harvested and treated on site. However, water treatment facilities of this magnitude were found to require considerably more space and money than an alternative method, the traditional well. This conclusion was reached through the help of a special studies student in the Engineering department who examined all the systems by which the new building could achieve net-zero water. Ultimately the student proposed a well be drilled on site. Although not typically associated with green building and sustainable design, the proposed well utilizes water from renewable aquifers, and is recharged by both precipitation and the facilities greywater system, supplying the most sustainable, and cost efficient, method.

In line with LBC guidelines, total water use in the operation of the building will be very low, as there will be no water used in toilets or the mechanical systems of the building (heat, A/C, etc.). The building has been designed with composting toilets instead of traditional flush toilets, which will drastically reduce water use as well as producing nutrient-rich humanure for use on a nearby permaculture garden. Additionally, a small rainwater catchment system will be established to irrigate the permaculture garden. The complete site plan will also include a native wildflower meadow, and in a feat of creative transplanting, will incorporate many saplings already existing on site.

All mechanical systems will be powered exclusively by electricity generated by a photovoltaic (PV) array. This includes all lighting throughout the building, which will be LED and equipped with day-lighting sensors, automatically turning lights on only if current day light is insufficient. Additionally, lights will be controlled via manual on/off switches, which act as points of education themselves, reinforcing the behavior of turning off lights when exiting a room. Interestingly, the PV will not be located on the roof of the building, as is typically seen in many designs, but will be used to create a small pavilion nearby, creating a space for class gatherings during poor weather in addition to increased accessibility to the panels themselves, for both teaching and maintenance purposes.

Considerations of materials for the classroom were especially important to this design, as can be seen in the enhancement of polished concrete floors embedded with rocks local to the area. Furthermore, a portion of the building will have wood flooring, allowing for classes and performances by the Dance Department. The siding for the building will be sustainably harvested wood or wood salvaged from old barns in the area. Lastly, all paving on site will be permeable and constructed from fieldstone on site.

(Continued on page 8)
events were designed to give the Smith community a
taste of the wide array of issues that are related to food
policy, and emphasize how everyone is connected,
whether they realize it or not. No matter how discon-
ected one feels, it is our hope that the week’s events
helped make people realize the importance of these
issues, and how they can change our food system into a
more sustainable one.

Ali Zipparo is a senior ESE&P major who
has worked hard to raise awareness about
food-related issues during her time at Smith.
She has served as the Ada Class Student
Government Association (SGA) Senator and SGA Vice President; she currently
serves as the SGA Sustainability Chair.

“When we try to pick out anything by itself, we find it hitched to everything in the Universe.”

- John Muir

Students enjoy the opportunity to connect with their local food producers.

Local vendors prepare their wares for the opening of the Food Day Farmer’s Market outside the Campus Center.

A final notable aspect of Living Building designs is the downgraded role of the automobile. While it is required to drive to our site for limited purposes (emergency vehicle access for instance), the design team was challenged to encourage a pedestrian friendly environment despite the remote location of the structure. Ultimately, vehicular access to the building itself was significantly limited. While most visitors will be required to park a short distance away
and walk along a leisurely path through the woods to reach the classroom, the building will also be handicapped accessible.

The current goal is to have the new classroom open to the Smith community late in the spring semester, and to organize an official opening for the building in conjunction with Smith College commencement and the reunion weeks soon thereafter. Over the course of the summer the building will be utilized by summer research interns from Smith, in addition to attendees of the new field studies program, Field Studies for Sustainable Futures, a two-week residential program for High School girls. Beginning in Fall 2012, faculty will be able to reserve the Bechtel Environmental Classroom for class use.

If you have questions about the MacLeish Field Station or the Bechtel Environmental Classroom please contact Reid Bertone-Johnson, Field Station Manager at 585-3328 (rbertone@smith.edu). To follow progress on the building, including photos of the construction, visit our blog: http://smithceeds.wordpress.com/