

CONNECTICUT COLLEGE



Goodwin-Niering Center for the Environment

Class of 2012
Internship Reflection Papers

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Introduction

The Goodwin-Niering Center for the Environment at Connecticut College offers a certificate program that was developed to enrich the undergraduate experience with a concentration on environmental issues. Open to any major, it is particularly appealing to students who wish to blend their interest in the environment with a non-science major. With the help of a faculty advisor, students customize a curriculum including course work, seminars, and a conference.

During the summer following their junior year, students participate in highly structured internships, increasing the depth of their knowledge and commitment to the environment. These are professional level opportunities for students with career goals that include environmental policy, planning, law, economics, and education. The program enhances the effectiveness of internships by integrating them into the students' educational programs. The purpose of the internship is to offer students experiences that have a positive impact on their intellectual, professional and personal development through exposure to work environments that they might not otherwise encounter as an undergraduate. Students are offered access to stimulating ideas and people in their field of study and given substantive, meaningful work to do that will assist them in achieving their goals. On their return to college in the fall, they refine the relationship between their summer experiences and their senior integrative project.

In the summer of 2011, the eleventh class of certificate students participated in a wide variety of internships. After returning to college in the fall the students wrote internship reflection papers detailing their experiences. The papers were edited for purposes of clarity and consistency and compiled into this volume for the class of 2012.

More information on the certificate program can be found on the Center's web site at: <http://goodwin-nieringcenter.conncoll.edu>.

Kelsey Cohen
Architectural Studies major and Art minor
Project for Public Spaces, New York, NY

Public space is one of the last places on Earth that retains the original qualities of a place where people are perceived as equals, with no preconceived notions of ownership. “Space is, perhaps, our primary means of orientation in the world – physically, socially, and cosmologically. The need for spatial orientation is universal among humans. The meanings of space however, are not” (Delaney, 35). Therefore, what remains of public space has become extremely relevant to maintain and utilize. This summer I tried to better grasp how one makes the most of public space, by interning at Project for Public Spaces in Manhattan. PPS is a non-profit planning, design and educational organization dedicated to helping people create and sustain public spaces that build stronger communities. Founded in 1975 by Fred Kent, PPS has now completed projects in 2500 communities in 40 countries and all 50 US states. They not only focus on the common outdoor park or public seating area, but also civic centers, squares, downtowns, campuses, waterfronts, and transportation.

PPS has also created the concept of *placemaking*, how does one make a space a place? Placemaking is a four-step process – identifying the problems, developing the vision, making it happen, and sustaining excellence. PPS reflects the more innovative ways we seek to improve our environment, by taking what is already there, and trying to make the most use of it. Their beliefs stem from what early environmentalism has long advocated: starting local. In order to move forward, communities must be united.

During my time at PPS I had one ongoing project regarding campus environments. The terminology that appropriately depicts this relationship between an educational institution and the area it resides in is “Town and Gown.” Particularly, I wanted to explore how the physical relationship between the town and university affects their actual relationship. I researched exemplary schools working on their Town and Gown relationship in order to develop criteria and strategy for schools to improve upon this. And in order to fully understand the process and work of PPS, I went to all of these campuses myself and conducted an on-site analysis. Through these on-site visits I created a series of case studies on Vassar College, Connecticut College, and New York University. These case studies included a written report investigating demographics, ongoing community outreach and events, interviews with locals and administration, as well as photo documentation and topographical maps to further demonstrate how the physical distance between the town and the college affects their relationship.

Besides my main project, I participated in a project on revitalizing the downtown area of Bethlehem, Pennsylvania. I learned how PPS was collaborating with Bethlehem to create more comprehensive and engaging programs in their downtown and designed several different wayfinding systems. I also sat in on meetings on several other projects to understand the process behind the research, visits, and planning stages.

By interning at PPS, I gained a much better perspective on the placemaking process from start to finish, such as how PPS begins at the site through observing and interviewing locals to creating design concepts and presenting them to clients. With that being said, my internship position and project were created for me, therefore, the Town and Gown project I worked on was essentially on my own initiative. PPS is a busy place and my project, although beneficial was not a first priority. I felt that at times I was not given a lot of direction or expectation of what the final outcome of the project should be. Regardless, this is typical of certain tasks that are often assigned to employees, so it was a good experience in that respect. Looking back, I wish I had been more assertive on getting feedback throughout my project; I was too intimidated to ask other employees when my boss was consumed with other projects.

My internship at PPS has really allowed me to prepare for my senior integrative project. This semester I will be investigating the town and gown relations of New London and Connecticut College. Although I briefly explored this while at PPS, I am going all the way back to the opening of the college in 1911, to understand how we ended up in the reality of our current relationship, to further understand how it may be best moved forward. I look forward to applying the placemaking process throughout my project, and hope that someday these implementations will be a reality.

Reference

Delaney, Carol Lowery. "Spatial Locations." *Investigating Culture*. Chichester, West Sussex: Wiley-Blackwell, 2011. 33-74. Print.

Bryson Cowan

Government and Environmental Studies majors and Gender and Women's Studies minor
Small Planet Institute, Cambridge, MA

This past summer I interned at the Small Planet Institute in Cambridge, Massachusetts. Founded in 2001 by Frances Moore Lappé, author of the influential *Diet for a Small Planet*, and her daughter Anna Lappé, the Small Planet Institute is a non-profit that aims to disperse information and inspire change. The organization's mission is to "seek to identify the core, often unspoken, assumptions and forces — economic, political, and psychological — now taking our planet in a direction that as individuals none of us would choose." This concept of deeper empowerment, known as *Living Democracy*, is commonly applied to environmental issues, including food and sustainable agriculture. Information and stories of hope are spread through various forms of media – from best-selling books and regular speaking engagements, to articles, short video clips and educational web pages.

As the research and outreach intern in an office of 2 full-time employees, my responsibilities at Small Planet were many and varied. I had regular tasks such as maintaining the website and conducting research projects, but for the most part when I walked down the winding streets of Cambridge on my way to work each morning I was never sure of what the day would bring. One day I would be brainstorming the most effective ways to get Frances' newest book, *EcoMind*, into the hands of passionate students; the next I would spend hours on FAO STAT calculating the relationship between annual grain yields per capita and comparing it to population growth data.

My first learning objective going into this summer was to learn about the broad issue of food security, which is the global matter I wish to address in my SIP. The perspective I was able to gain through my interactions with Frances and her works, as well as the projects I pursued, resulted in a good foundation of knowledge upon which to build. Additionally, learning about sustainable food movements and environmental empowerment from someone who knows firsthand where specific policies and mindsets have fallen short, as well as where others had succeeded, was an invaluable experience.

Another one of my learning objectives was to gain a solid background in global sustainable food movements. Fittingly, one morning in July, Frances walked into our office and stated that she would like to create a timeline of the past 40 years of the food movement. Assigned this broad and daunting task, I started a Word document listing milestones throughout the decades that have marked times of change and sustainable growth. A few weeks later, the project had grown and included insights from food greats such as Marion Nestle¹ and Michael Pollan², and highlighted over 150 food milestones. What began as a simple idea on a Word document had blossomed into its own interactive webpage—a page that will hopefully serve as a learning tool and an inspirational resource for those interested in the sustainable food movement. Furthermore, conducting the research for the

¹ Author of *Food Politics: How the Food Industry Influences Nutrition and Health* (2002)

² Author of *The Omnivore's Dilemma: A Natural History of Four Meals* (2006)

project provided me with a strong background on global food issues of the past, as well as those that we currently face.

As someone interested in pursuing a career in business and politics, being immersed in a world filled with book publishing deadlines, academic research, outreach work and editing was an experience outside of my specific career trajectory. However, the months that I spent with Frances and the rest of the Small Planet team changed the way that I perceive environmental challenges and allowed me to expand on skills that will serve me in any career. Additionally, my personal views about food and the environment shifted as my time at SPI progressed. After reading Frances' books and similar academic works, I saw my place within the sustainable food movement differently and felt connected to the greater push for change and growth. Now a fellow-at-large, I will continue my relationship with Small Planet throughout this school year, providing research assistance, blogging and helping the Institute staff with projects.

The knowledge and research experience that I gained while working with the Small Planet Institute and Frances Moore Lappé will serve as a strong foundation for the research project that I will be conducting this fall with Professor Dawson in the Government Department. For my Senior Integrative Project, I will be using an environmental justice framework to explore the issue of food security in Tanzania. A country rich in natural and food resources, Tanzania suffers from extremely high poverty, malnutrition rates and poor environmental management. These conditions are most often attributed to exploitation by the global north and unfair trade agreements; however, more is at play here. Diving into this issue at a local level, I will aim to uncover the ways in which gender relations at the community and household levels affect Tanzanian's access to clean food and healthy environments.

Zoë Diaz-Martin

Environmental Studies major and Latin American Studies minor

Center for Tropical Conservation, Duke University, Cocha Cashu Biological Station, Peru

I ventured into the Peruvian jungle to complete my CELS internship this past summer. I was taken on as a volunteer research assistant by Duke University post-doc and Connecticut College alum, Varun Swamy class of 2001, who is conducting a long-term ecological study on rainforest regeneration. This study is taking place at Cocha Cashu Biological Station, one of the most famous sites for tropical ecology research that is well known due to its pristine and faunally intact forest as well as its extremely remote location inside Manu National Park. The natural beauty of Cashu is truly stunning and it was a common occurrence to see monkeys, toucans, macaws, giant otters, caiman and all sorts of wildlife, adding to its popularity among researchers. Thanks to renowned ecologist John Terborgh, Duke and its Center for Tropical Conservation, important research has taken place at Cashu since the 70s and the groundwork for the field of tropical ecology, especially in the neotropics, has taken place at the station.

Dr. Swamy's study is focused on how the forest regenerates throughout different life stages of plants, from seed to sapling to tree. I was in charge of collecting data for the seed portion of his study; which entailed going to the study plots every two weeks, collecting everything inside the seed fall traps (all 500), sorting through everything that was in each trap (including bullet ants, frogs, grass hoppers, scorpions, etc.), finding all fruits and seeds (even rotting ones), and identifying them to species (or sometimes genus). If a fruit or seed was unknown, it was my responsibility to find out what it was by sorting through boxes of old specimen, books of Amazonian seeds and photo records of past unknowns. Though the work was tedious and difficult in the beginning, I grew to love it and learned to identify most of the species with ease.

My internship was an incredibly valuable learning tool showing me the difficulties and pleasures of fieldwork, the diversity of the tropical forest system and its interconnectedness. I learned more about the identification of flora and fauna in the field, as well as skills for averting natural enemies such as snakes and ants. I also learned a considerable amount about conducting a field study, barriers to overcome and ways to do so. This experience solidified my interest in conservation biology in the neotropics as a future career choice and my decision to apply to graduate programs next fall. Not only were all of my original learning objectives met, but I learned even more than was expected through experience and guidance from other field biologists that were also at the station.

Being at Cocha Cashu helped me tremendously in preparing me for my thesis, which is my senior integrative project. My thesis will be based on a 1986 study done by John Terborgh on keystone plant resources at Cocha Cashu. This important study has been cited and explained in various tropical ecology textbooks and is also referenced by almost any study done on tropical keystone plant resources. It explains how almost the entire fruit-eating community in tropical forests relies heavily on very few species of plants. These plants are so important because they fruit in the dry season when most other plants are not fruiting, and provide one of the few food sources available. Therefore these

species can set the carrying capacity for the fruit-eating community because they produce all available fruit during the fruiting lull. Despite the immense importance of this study, it doesn't provide quantitative data nor has it been revised since its publication twenty-five years ago.

For my thesis I will be doing an analysis on the fruiting pattern of plants in the dry season to see which truly are the keystone species. To do so I will use a quantitative approach in analyzing the fruit phenology data gathered during my internship to refine Terborgh's list of keystone plant resources. Secondly, I will be comparing this data to weather data to see if changes in weather year to year or over a long period of time have caused changes in fruiting patterns. Finally, I will be comparing the success of keystone species in a faunally deficient versus faunally intact, to gain insight into the implications of hunting on keystone species' ability to regenerate in the future. This gives my thesis another element related to conservation biology.

I had a truly wonderful experience during my summer internship - I was able to learn so much about tropical forest systems, be a part of an important ecological study as well as collect data for my honors thesis. I hope to return to Cocha Cashu in the future to continue doing fieldwork, learning from hands on experiences and meeting interesting people along the way. Finally, I am thankful to Connecticut College, Career Enhancing Life Skills and the Goodwin-Niering Center for the Environment for all the help I've received in this endeavor.

Stephen Dworkin
English major
E-The Environmental Magazine

During the summer of 2011 I had the pleasure and privilege of interning at *E-The Environmental Magazine* as an Editorial Intern. *E-Magazine* is one of the United States' oldest environmentally focused periodicals, originating as a response to the infamous Exxon Valdez oil spill and publishing its first issue in 1990, on the 20th anniversary of the first Earth Day. *E-Magazine* was founded by Doug Moss, who now owns and operates the nonprofit organization as well as co-writing EarthTalk—a syndicated column that appears in many major media outlets across the U.S.—and is edited by Brita Belli, who was also my boss and internship supervisor. *E* publishes a bi-monthly magazine, but has in recent years begun to concentrate on keeping up-to-date with environmental news through its website. Most of the work I did at *E* directly addressed the organization's desire to expand its online reporting and blogging.

Before I arrived at *E* I wasn't sure what to expect. I understood the basic responsibilities pertaining to my internship position—research, fact-checking, and, I hoped, some writing—but didn't have the faintest clue whether I would be sitting in an office all day or hiking through industrial parks with a camera and microphone trying to snag an interview. Despite the fact that my work turned out to mostly involve the former, I didn't find myself disappointed. Brita, my supervisor, proved to be friendly and helpful, telling me on my first day that the internship was self-directed and could encompass any of my own interests with regard to environmental issues. I had planned on a senior integrative project addressing the global e-waste crisis, and so prepared myself for a summer of writing about old computers and printers while my editor looked on grimly.

But when I found myself with the kind of freedom I had interning at *E*, my brain seemed to draw itself into its own devices and interests. I began to write about politics—the 2012 presidential election, mostly—and all the things politicians were doing to undermine sound environmental and scientifically viable policy. Brita was my champion, sending me ideas via the standard medium of professional commiseration—email—despite the fact that her office was all of 30 feet away. She recognized that my passionate foray into the links between environmental issues and political policy was filling in a content gap that *E* had long been trying to plug. And so, while other interns wrote about sustainable wines and greener water bottles, I plunged headlong into analyses of Mitt Romney's climate change flip-flops and Michele Bachmann's hell-bent determination to smash the EPA.

This is not to denigrate the work other *E* interns and employees accomplished. The continual effects of climate change on the weather and the debate over fracking for natural gas were hot topics on *E*'s website, and the organization's focus on providing green living advice to the average American consumer was commendable, not to mention extremely practical in forwarding the myriad causes of the environmental movement. *E-Magazine* had covered politics in the past as well, and I was proud to finally have a forum to vent my frustration with the country's inability to tackle these issues where

I could be productive and would be taken seriously. I also had the opportunity to write about green apps—iPhone or iPad software that enabled environmentally responsible shopping or easy energy saving—and green devices such as solar chargers for cell phones and laptops.

Finding out about these neat little contributions to the greening of our daily lives was rewarding in and of itself, but knowing I was publishing information that would reach a lot of readers made the experience even more valuable. My writing ranged from informative news briefs on summer heat records and the consequences for environmental regulations that may result from negotiations within the Congressional Deficit “Super Committee” to openly partisan blogging on Al Gore’s recent essay in *Rolling Stone* and Republican attempts to roll back light bulb efficiency standards. I also got a chance to edit stories written by *E*’s other writers and learn about the process of publishing a periodical, from the research and interviewing I participated in to formatting the final product and attracting sponsors. These are skills I am confident will come into play in any future writing careers I embark upon, especially if I wind up involved in online journalism once again.

These skills will also come in handy as I move towards completing my Goodwin-Niering Center senior integrative project. My focus having changed from e-waste to politics (and my advisor having been understanding and helpful), I will be spending the semester researching and writing about the disconnect within the mind of many American voters between environmental regulation and the many benefits it has provided. My focus will be the role the media plays in this, and I will try to address why people in the United States, as opposed to in many other affluent countries, fail to recognize how environmental protections directly benefit them. This is especially pertinent in light of how many ideologues are now attacking environmental regulations as barriers to economic development, not only using inaccurate information but also judging economic progress to be more important than human and environmental health or environmental justice. My final products will be an editorial essay on this topic, which I will aim to publish in a major periodical, as well as a more scholarly analytical essay discussing my findings. My experiences working for *E-Magazine* have strongly prepared me for this endeavor, and have broadened my understanding of printed media and its effect on how many national political and environmental issues are framed within the minds of readers.

Lucy Frye
Architectural Studies major and Art History minor
Carpenter & MacNeille Architects and Builders, Essex, MA

During the summer of 2011 I interned at the architectural firm, Carpenter & MacNeille (C&M) located Essex, MA. In 1996 architect Robert MacNeille and builder Terry Carpenter, teamed up to start the design/build firm. Over the past fifteen years they have grown from operating out of Terry's barn to employing 30 individuals, adding an interior design division, and an onsite sister company, Stephen Terhune Woodworking, which handles much of C&M's construction and custom interior needs. Tradition and innovation are two ideals that C&M strongly highlights. Dealing predominately with 100-150 year old homes, they find it important to preserve old architectural values and respect the heritage of the New England area. Furthermore, C&M has designed multiple LEED certified buildings and strives to be mindful of the environment in all of their designs.

Upon establishing C&M, Terry and Robert were very passionate about operating in the style of a master builder, that is, the firm would be involved in every step of the design/build process from initial client meetings, to designs, construction, and finally, interior details. This method of management not only keeps costs down through streamlining and the exclusion of outsourcing, but also establishes a very close client relationship, which is something that C&M is known for and works hard to maintain.

A unique aspect of Carpenter & MacNeille is that the firm operates out of a trolley barn that was built in 1895. This barn is a very culturally and historically valuable building that used to house cars and generate power for the Gloucester, Essex, & Beverly Street Railway Company which provided public transportation throughout Cape Ann from the 1890s until 1920. Being interested in historic preservation, working in this noteworthy building was an added bonus of the internship.

My responsibilities throughout the summer consisted of a series of projects that would ultimately create a history of the C&M building with plans for future changes. I began my work by researching the unique building and putting together a complete history of the building to be submitted to the Massachusetts Historical Commission for consideration of inclusion on the State Register of Historic Places. From here I moved on to create as-is documentation and drawings of the building; this included measuring out the property and translating this information into accurate computer drawings. I then looked into the everyday workings of the space and highlighted where the building needed improvements and how unsuccessful spaces could be reworked. I took these improvements and carefully combined them with other sustainable improvements that I had researched in order to create a renovation plan that harmoniously combined historical and sustainable aspects. I spent the final weeks of the summer working with one of the three other interns to build a scale model of the Essex Falls Trolley Barn. In addition to these tasks I would help out around the office and job sites as needed, including running errands, delivering furniture to work sites, measuring buildings, completing drawings, creating files, and making copies.

My objectives prior to starting the summer were to learn about the steps it takes to get a home off of the paper and into a reality, as well as improve my design skills. Through this internship I learned more than I had originally expected, not only did I become comfortable using the technology of the office, such as ArchiCAD and the various high tech printers, but I also learned about the architectural process and all the tiny details that go into creating a successful home. Furthermore, in the fun and friendly office environment, I met many great people and connections with whom I plan to stay in touch throughout my project and job search. The exposure to historic buildings and the design process that I gained this summer will be invaluable to my senior integrative project, which deals with both these topics.

I will be basing my senior integrative project off of Carl Elfante's quote, "The greenest building is the one that is already built". In today's society we are very focused on sustainability and green technology; however, in producing new products and building new structures we are forgetting one of the most basic environmental efforts, reducing, reusing, and recycling. My project looks into the reuse of older buildings and explores how these buildings can be brought up to speed in terms of sustainability and efficiency without sacrificing the historical integrity of the building. More specifically I will look into three different properties, each in different economic situations, and from the information gathered put together a set of guidelines intended to aid property owners in sustainable and historic renovations.

Elizabeth Noonan
Environmental Studies major and Economics minor
Staples Sustainability Department, Framingham, MA

Staples is the largest office supply company in the world selling a wide range of products for the office. A major movement in the company right now is their “Staples Soul” approach which is in place to ensure that along with economic success, they have a positive impact on the environments and communities with which they are in contact. Staples Soul is split up into four categories: diversity, environment, community, and ethics. This summer I was an intern in the environmental branch of Staples Soul. The environmental branch itself is also split into four categories including: environmental products, recycling, energy and climate, and environmental education.

As a sustainability intern in the Environmental Affairs department, I was responsible for doing background research on current and future projects within the company and I had the opportunity to work on a number of very interesting and rewarding projects. I did a large amount of research on e-waste laws in all 50 states and how Staples could make sure their electronics collection and recycling programs are in compliance. I also worked on benchmarking the sustainability goals that other large retail companies had set, reached, or were working towards, so that Staples could set goals accordingly. I was given the task of starting recycling programs in the Staples Child Care and Planogram facilities which involved meetings with the Facilities manager and visits to the sites to figure out the program logistics. As Staples is in the process of improving the clarity of its materials’ environmental labeling, online and in their catalogue, I spent a lot of time communicating with the marketing teams at about 30 different environmental certification firms, including Rainforest Alliance, Forest Stewardship Council, and many others. This included determining how best to display their logos in our materials.

In addition to the projects I was conducting on my own, I had the opportunity to shadow my boss on many of his meetings and gained insight on many of the other sustainability projects within the company and how they fit the different departments. I was also able to participate in conference calls and set up informational interviews with many people in the company who work in different departments but focus many of their projects on sustainability. As Staples has a large intern program, I also had many opportunities and experiences with the other interns. Interns were divided into groups to complete projects that were separate from our departments, allowing us to meet and work with many people in the company. Our project focused on driving associate engagement within the company and we worked with members of the HR Internal Communications team.

My original objective going into this internship was to learn more about how sustainability is relevant to, and incorporated into, the workings of a large company. I certainly did get to see how the department was valued and how resources were allocated to it. Being able to sit in on meetings and meet many people who are working hard to make sustainability a priority in such a large company where the bottom line is always going to be the main focus, was very eye-opening. I think the fact that I was the first sustainability intern made the first few weeks a bit less productive, as they

tried to figure out what types of things to have me work on and participate in. But as time went on everything went more smoothly.

Having the opportunity to intern in the corporate office of a Fortune 100 company while still in college is an incredibly valuable learning experience; just being in the office every day was educational on its own. I learned a great deal about a wide range of things from how to conduct oneself in a large office to how things go from ideas to reality in a large system. Being able to meet with and talk to some of the top executives in the company and hear their perspectives on sustainability and the business in general, was extremely interesting.

The knowledge I have gained about how sustainability fits into a major corporation will be incredibly valuable for my Senior Integrative Project which will focus on how sustainable practices are applied in large companies. More specifically, I will be focusing on case studies in the hospitality and tourism industry. I will be looking closely at environmental and cultural sustainability and how tourism impacts the host country in both positive and negative ways. This will include case studies that show the range of scenarios and impacts that the tourism and hospitality industry has on the world.

Daniel Seehausen
Environmental Studies major and Economics minor
Intelligent Renewable Energy, Freiburg, Germany

During the spring semester and summer of my junior year at Connecticut College I spent from December to August abroad in Baden-Württemberg Germany. For a three-month portion of my time abroad (February, March, and April) I completed an internship in Freiburg im Breisgau. Located in southwest Germany and bordering both France and Switzerland, Freiburg is the sunniest and warmest city in the country. Consequently, Freiburg is the unofficial solar energy capital of mainland Europe and is known as the 'Green City'. The city officials, having more members belonging to the German 'Green' party than any other and have adopted environmental stewardship, smart growth, and renewable infrastructure as some of the city's most important considerations. In fostering such a 'green' city, Freiburg is the chosen location of many renewable energy and green development firms. I completed an internship with Intelligent Renewable Energy (Intelligent-RE) which operated out of the Solar Info Center in Freiburg as well as a nearby town by the name of Waldkirch.

Intelligent Renewable Energy offers a wide range of services ranging from IT solutions to environmental consulting. With the CEO, Rian van Staden, as the former head of the International Solar Energy Society (ISES), Intelligent-RE focuses on green development and specializes in photovoltaic energy information dissemination. Being a small firm, Intelligent-RE often reshapes staff for specific commissions and jobs. This was one of the perks of working within the Solar Info Center, a building which houses a myriad of firms all operating within the renewable energies market. As an intern, I was able to work closely with Rian van Staden as a researcher, translator, author, and translator. For the first two months I worked in the Solar Info Center in Freiburg, often with another employee of Intelligent-RE, researching green development strategies that could be effectively implemented in southern Serbia. Receiving money from an Austrian development firm, Serbia commissioned Intelligent-RE to produce an action plan designed to increase energy efficiency in hopes of mitigating approaching energy shortages.

For the final month of the internship I retreated to the satellite office in Waldkirch, a 20 minute train ride outside of the city, and worked on both polishing the Serbian action plan as well as compiling various information regarding renewable feed-in tariffs in Europe. To simplify, a feed-in tariff for a renewable energy source as an energy producer is a premium that is paid, most commonly by a government, to energy producers who are feeding the grid electricity produced from renewable energy sources. For example: I produce energy from coal and I am paid 15 cents per kilowatt-hour for my electricity by the utilities. You produce energy from wind power and you are paid 17 cents per kilowatt-hour for your electricity, with the premium of 2 cents per kWh guaranteed, and sometimes subsidized, by the government. The (biased) result: You have successfully taken advantage of an ingeniously implemented feed-in tariff scheme that has effectively increased the share of energy from renewable sources in your country while increasing energy stability and security *all while*

making a premium! I have simply perpetuated a fossil fuel reliant economy/nation, which suffers from all of the ailments that such reliance brings, while making a measly 15 cents per kWh.

My original objectives for the internship experience were to increase my knowledge of the renewable energies market, specifically of solar (photovoltaic), wind, and bio-energy. Understanding this and reflecting upon my experience at Intelligent Renewable Energy, I can confidently say I have learned more than I ever expected during my time abroad. Not only was I able to explore and satiate my original curiosity, I was also introduced to new concepts related to my interests, including green development, information flow, and energy security. My internship has been an invaluable learning experience for me in not only helping me understand how a firm operating in the renewable energies market conducts itself, but also, more importantly, in solidifying my interest in the field of renewables and assuring me that it is a career I want to explore. If I had to, I would trade my new found absolution for all that I learned during my time abroad, as it is an invaluable aspect to succeeding and enjoying any chosen field of work.

With my senior integrative project (SIP) revolving around feed-in tariff implementation in Germany and its relative successes/shortcomings, including a projection of potential in the United States, my internship has provided me with a priceless background and introduction that will undoubtedly augment my SIP. The focus of interest regarding feed-in tariffs that my internship has provided me with remains the most valuable form of preparation that I was provided.

I am still in contact with my boss and now close friend, Rian van Staden, and I am overjoyed that he is willing to communicate and provide me with advice regarding the SIP I am writing. When all is said and done regarding my time in Germany, the contacts, associates and friends I have made through my internship remain the most valuable and enduring facet regarding my time in Germany. I am deeply grateful to Intelligent Renewable Energy and the South African born, yet proudly living in Germany, Rian van Staden.

Leah Varga
Biological Sciences major and Dance minor
Aquarium of the Pacific, Long Beach, CA

The Aquarium of the Pacific, Long Beach, CA is a non-profit organization founded in 1998. The mission of the Aquarium is to instill a sense of wonder, respect, and stewardship for the Pacific Ocean, its inhabitants, and ecosystems. Its vision is to create an institution dedicated to conserving and building Natural Capital (nature and nature's services) by building Social Capital (interactions between and among people). The Aquarium of the Pacific is a relatively young aquarium, but is the fourth largest in the United States.

I was one of four Marine Mammal Photo Identification/Research Interpreter interns. My responsibilities included taking photographs of marine mammal life seen out on the water between the coast of Long Beach, and Santa Catalina Island. During the boat trips I also recorded the time, GPS position coordinates, the daily conditions, and the number, species, and behavior of the particular marine mammal we were watching. I assisted my fellow interns and the Boats Coordinator in photo identifying different individual whales, mainly blue whales, but also gray, humpback and fin whales. When not on the boat, we entered the data into an Access Database, which at the end of the summer was compiled and sent to Cascadia Research Collective in Olympia, WA, where the primary photo identification research is stored. I also photo processed all of the blue whale dorsal fin photographs I took out on the water, matching them within the summer of 2011, to the blue whale photos of the summer of 2010, and finally to Cascadia's historical catalog that has blue whale photos from the early 1980's. Finally, the three interns and I put together an interactive poster presentation to take out on the floor of the aquarium to educate the guests about our research and our matched blue whale photos over the years.

My original objectives were met and exceeded. I became an experienced wildlife photographer, with many hours behind the lens of the Canon Rebel camera. Data collection and data entry were both improved this summer, as well as my communication and education skills with the visitors on the boat and in the aquarium. Finally, I expected to become familiar with the photo identification process for dorsal fin matching, but my expectations were exceeded in that I became incredibly proficient and was allowed and instructed to compare the photos to Cascadia's historical catalog instead of just stopping the research process within the walls of the aquarium.

The lessons I have learned and the experiences from my internship are incredibly diverse and highly valued. I learned a great amount about the Pacific Ocean ecosystems, organisms, all of the marine mammals off the coast of Southern California, and specifically blue whales. The biological and ecological lessons will be extremely valuable for my future goals and adventures. It was also my first career-oriented professional work environment, thus I learned and became comfortable with peer and supervisor interactions as well as educating the public. I also became proficient at completing tasks and speaking vigorously and enthusiastically with guests, which was all fairly easy and enjoyable since we were all passionate about the ocean and the environment. My internship allowed me to

become more comfortable and proficient with various computer and software programs, data entry and organization, as well as photo identification.

My internship has prepared me for my senior integrative project by providing me with a growing interest in the ocean, marine mammals specifically cetaceans, and good communication skills. I also developed a passion for further researching the environmental and ecological issues and implications surrounding our oceans and marine mammals. My interest has been sparked by this summer's internship in California, and I am excited to begin researching for my senior integrative project on conservation, environmental, and ecological topics about marine life, cetaceans, blue whales in particular, and how humans are so closely connected to the ocean.

My senior integrative project will focus on the factors that affect the population size of the blue whale, *Balaenoptera musculus*, including human impacts such as increased shipping traffic, a decline in whaling, and the effects of underwater noise. My project will look at the population of the blue whale, the conservation concerns related to the stability of the population size, and what can be done to keep these large whales in our oceans. The project will include a review of literature and past research on blue whales, population size, factors that impact the population, and possible solutions to the environmental problems.