



The Goodwin-Niering Center for Conservation Biology and Environmental Studies



Reflection Papers for the Class of 2004

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Pop Sustainability, New York City NY

This summer I interned at Pop Sustainability, a non-profit based in New York City. Pop Sustainability's primary mission is to take the idea of global sustainability (environmental, economic, and social) into mainstream and popular culture. They aim to do this by hosting local events, organizing challenges on college campuses, and organizing larger events that attract the attention of mass media outlets and ultimately reach a large audience of people. Pop Sustainability does not conduct any specific activity that helps the environment such as a group like the Sierra Club or NRDC, but instead attempts to reach individuals and encourage them to think and act in a manner that contributes to increased sustainability. This could range from helping a specific charity, to make a better effort to recycle, to simply changing your buying practices in order to only support those companies that conduct business in a sustainable manner. The specific audiences of Pop Sustainability are generations X and Y, the demographic with the largest buying power and influence in today's society. Ultimately, Pop Sustainability aims to make contributing to a sustainable planet the "cool" thing to do.

My internship responsibilities included editing communication and presentation materials such as the web site, business overview kit, brochures, and other literature that is presented to the public and other organizations. Creating and producing special events intended to draw current activists together, as well as other events designed to reach out to the general public to mobilize new activists. Finally, I helped develop new organizational partnerships in order to form mutually beneficial relationships that would help both organization increase the amount of people they could reach without increasing the amount of financial resources being used.

As far as completing my original objectives is concerned, I feel that I was for the most part successful. Without a doubt, I learned a tremendous amount about the way an NGO operates and attempts to gain influence. During my internship at Pop Sustainability this summer I learned an incredible amount about activism, running a non-profit, and helping an organization and its ideas connect with new people. The Pop approach to activism is very interesting and very pragmatic. It reinforced my own thoughts that people do not appreciate having ideas thrown in their faces, but instead successful activists should attempt to relate to the audience they are trying to reach and convey the message through forums the audience is comfortable to using to receive information. This was reinforced by sitting in on meetings with top P.R. people, fashion designers, etc. during the planning of a plastics recycling event which will be co-sponsored by

the City of New York. I also learned that there is an incredible amount of “behind the scenes” work that goes into running a non-profit. Fundraising is hugely important, as everything in today’s world takes money to do, and using that money wisely is obviously very important. Coordinating with other organizations is also very important. Partnerships allow a non-profit to use its available resources in the most efficient way possible. Finally, I learned that an organization must make direct connections with new people who are already interested in being active, in addition to the more passive audience one encounters at an event such as the plastics recycling campaign. These connections are established through events that I helped organize, such as The Building Blocks of Sustainability. The type of connection formed is different because these are people who are already looking to become involved and just need an outlet for their motivation. These events serve this purpose two fold by educating people on the specific subject matter of the event, as well as educating them about Pop Sustainability. Overall, interning at Pop was definitely an eye-opening experience, and I feel that I learned invaluable tools about pragmatic, realistic activism for our modern media driven society.

However, there were also some downsides to my internship experience. I set out wishing to learn more about specific theories related to resource mobilization and social movement theory. While I did learn much about the practical side of running an NGO, I feel that I didn’t quite learn enough about the theory behind it all, and this is what I originally intended to do. It also may be too early to tell whether or not this internship truly prepared me for the project that lies ahead of me. Though I didn’t learn specifically about theory, I feel that when studying it much of the ideas that I learned through hands on experience will probably gain a whole new weight and meaning in the context of the theory, and the converse will apply as well.

For my Senior Integrative project I wish to complete a one semester independent study studying social movement theory and resource mobilization theory. First, I wish to learn what it is that generally motivates individuals to action. Is it NYMBY type attitudes, guilt that their own lives are being lived too selfishly, the belief that participating in movements will help them gain social status, or is it just the simple desire to do good in the world? I want to learn which of these creates the most motivation in individuals to mobilize, and furthermore, how this knowledge can be exploited to help social and environmental movements. Next, I wish to learn the basic concepts behind these theories in order to gain a better knowledge of how resources are mobilized and critical mass is achieved in movements.

I also want to learn the role that popular culture and mass media play in helping and/or hindering social movements. Currently our culture is one of consumerism, and our media encourages this. Culture and media are both powerful tools, however. If they can make a new boy band or new shoe style into a national craze over night, it seems that the same tools could be used to turn sustainability and eco-consciousness into ideas that are part of popular culture.

Michelle Gorham
Clark Lab, Duke University, Durham NC

I completed my internship at Duke University’s Clark Lab in Durham North Carolina. Clark lab, in combination with Coweeta’s long-term research site, has developed long-term experiments

and monitors studies on man-made forest gap sites, seed dispersal sites, and sapling plots. The goal is to determine disturbance and climate affects on the dynamics of 20th century forests in the southern Appalachians including Duke Forest and Coweeta forest of the Carolina Piedmont. Other ecological studies less intensely pursued involved the Pine forest succession sites at Duke University's Free Air CO₂ Experiment (FACE). This site provides data on how changing atmospheric chemistry will, and is, affecting growth in pine forests.

As a field assistant for Clark labs at Duke University, I worked on the research projects of five ecology graduate students. I worked primarily with Mike Dietze, the research assistant for Dr. James Clark. His doctoral thesis was based on wind disturbance, gap dynamics, forest simulation modeling. On a smaller scale, I also worked with the following graduate students on their projects: Inés Ibáñez, who studied plant population dynamics, ecophysiological response to climate change; Michelle Hersh, who studied soil ecology, plant-fungal interactions; Shannon LaDeau, who studied variability in the fecundity of common tree species due to disturbance and climate change; and Mike Wolosin, who studied 3D canopy structure, adult tree growth, remote sensing and statistical modeling.

I went to Duke with the intention of assisting graduate students, and thereby develop my independent study. Upon accepting the job I anticipated assisting with analysis of field data, participating in data collection, and having consistent interaction with Dr. James Clark. However, rather than working with Dr. Clark, an environmental scientist who specializes in fire ecology, I only met with him a few times. After working at Clark lab for a number of weeks, Dr. Clark asked if I would like to start an independent project. However, we decided that a project in his lab would not be mutually beneficial. I concluded that the execution of a study relevant to my interests would then conflict with my obligation as a field assistant for Clark lab. The projects considered had no nexus with my desired independent study.

Throughout the internship, my research skills improved in accuracy and my personal devotion to the research projects increased. When one is personally vested in a job, full dedication is an increasing reality. The job demanded a personal investment and, similarly, a passion about nature. Initially the latter was true for me, but as the summer progressed, both my excitement about the research my desire to obtain successful results increased. My knowledge concerning the effects of climatology, specifically the effects of CO₂ on loblolly pine forests, expanded exponentially as I worked intimately in the forests nearly every week.

During my internship, I learned how to voice concerns and opinions in a work setting very different from any that I had previously experienced. While the internship did not meet my assumed expectations, I became well versed in core collection, sapling and tree identification, as well as seed collection and identification for trees of the Southeast. While sampling hemlocks in the Coweeta Long Term Research (LTR) site, I identified the woolly adelgid (*Adelges tsugae*) on the underside of many Hemlocks (*Tsuga candidensis*) in high elevations. This was the first sighting in North Carolina. Theoretically an exciting research opportunity, distance prohibited further study of the *Adelges tsugae*. A student of the University of Georgia's graduate program is currently studying the adelgid in Coweeta.

I also realized that although field research is interesting and compelling, graduate school in the natural Environmental Sciences is not a field I wish to pursue. I am more interested in

humanitarian application of environmental science, including environmental consulting and environmental economics.

My summer internship as a field assistant for Clark Labs prepared me for my independent study project by increasing my knowledge on tree and sapling identification, and I became keenly aware of the biotic diversity within the Carolina Piedmont and Appalachian Mountains. Intense exposure to the environmental effects of geography and geology on species regeneration taught me to more thoroughly analyze the environment. My capacity for understanding forest dynamics and generally ecology grew with extensive observation of forest sites.

For my Independent Study Project, I will develop an interactive adult environmental curriculum for use in sub-urban and urban settings, and to apply it in the City of New London. Through this curriculum, residents will learn about ecology and contemporary environmental issues via interactive lectures and hands-on application. Research and development of lesson plans will be conducted this semester and continue into next semester. The seminars will take place during the spring as inclement fall weather could discourage otherwise interested participants. Immersion in nature and hands-on ecology are elements strongly emphasized in my hypothetical lesson plan, so I want to take full advantage of the outdoors.

Adam Weinberg
United States Geological Survey, Albuquerque NM

The internship I completed this summer was with the New Mexico Water Resources Division (NMWRD) of the United States Geological Survey (USGS). The internship was a valuable experience, and the experiences made possible by my living in New Mexico were potentially equally as important to my growth as a student and a person.

The NMWRD of the USGS is responsible for monitoring and studying the water resources of the state of New Mexico. The NMWRD has flow-rate gauging stations at streams and rivers, as well as at various points in Albuquerque's system of arroyos that prevent flooding by channeling run-off from storms away from streets and neighborhoods. Unlike other USGS departments, NMWRD receives contracts from firms and other government departments to conduct scientific studies. The department receives a significant amount of funding from these contractors, called cooperators. As USGS faces increasing federal budget cuts, the department will become increasingly dependant on these cooperator funds.

The two projects I worked on were cooperator projects with the military and with a mining company called MOLYCORP. The first project I was involved with was research on historical water-quality in a number of springs and pools that are home to an endangered species of pupfish on the White Sands Missile Range in southern New Mexico. In this project I became somewhat familiar with GIS software, and learned to overlay geographical information with environmental resources and property lines. This enables me to identify which of the pools and springs in which the pupfish live are located within the Missile Range. Having identified the pools for which we needed information, I dug through a number of past USGS reports for the relevant data.

I spent the bulk of my time on the project with MOLYCORP. After completing the pupfish project, we traveled to Red River, New Mexico, a small resort town northeast of Taos, to conduct slug-tests in a number of wells. MOLYCORP has mined the metal molybdenum, a metallic element that resembled chromium and tungsten, from its property in the town of Questa. The mine has reached the end of its useful life and is in the process of closing down. In creating a mine closure plan, MOLYCORP needs to meet a number of environmental requirements, including the quality of water flowing out of the mine property. The statute is such that the firm must either meet stringent clean water standards, or demonstrate that, after treatment, the water flowing out of the mine has the same water quality as it would have been had there been no mining at the site. MOLYCORP had never tested the water prior to mining the property, so the NMWRD and a number of independent contractors have been hired to assess what the likely water quality was prior to the mining.

The primary role I played in this very extensive project was to help my supervisor construct slugs from PVC pipe, and to help conduct slug tests in a number of wells at the test site in Red River. For the remainder of the internship I was responsible for running the data generated from these tests through ground-water hydrology analytical models. The statistics generated from this work provided a picture of certain ground-water flow properties in the rock underlying the site. I ran the new statistics through another mathematical model to predict how much drawdown we could expect from conducting a pump-test at the site, given a certain size pump for a variable amount of time. My final task was to go back to the site with a coworker to run the pump-test.

My learning objectives for the internship were partially met. I was scheduled to measure well water levels in southern New Mexico, but this did not work out. Water level measuring was completed in Red River trips, so I did get some of experience through that. One of my primary objectives was to find out whether hydrology is a field that I would consider for future graduate studies. In this respect my internship was successful, as groundwater resources research is a field that I now expect to become increasingly exciting as I gain a better technical understanding of the science. The internship certainly exposed me to aspects of ground-water hydrology that I had not even considered for my senior project. Though I still have a great deal of work and thinking to do before I begin, I believe I now have a better chance of successfully completing the project than I did prior to the internship.

For my senior project I will conduct a ground-water hydrology study in a portion of the Connecticut College Arboretum. I will sink a number of wells into the ground and then study properties of the groundwater flow. Properties I expect to track will be height and fluctuation of the water table, direction of the groundwater flow, and, depending on the type of wells I use and the equipment available, I would like to conduct tests similar to those I worked on in Red River to determine other properties of the groundwater flow within the soil.