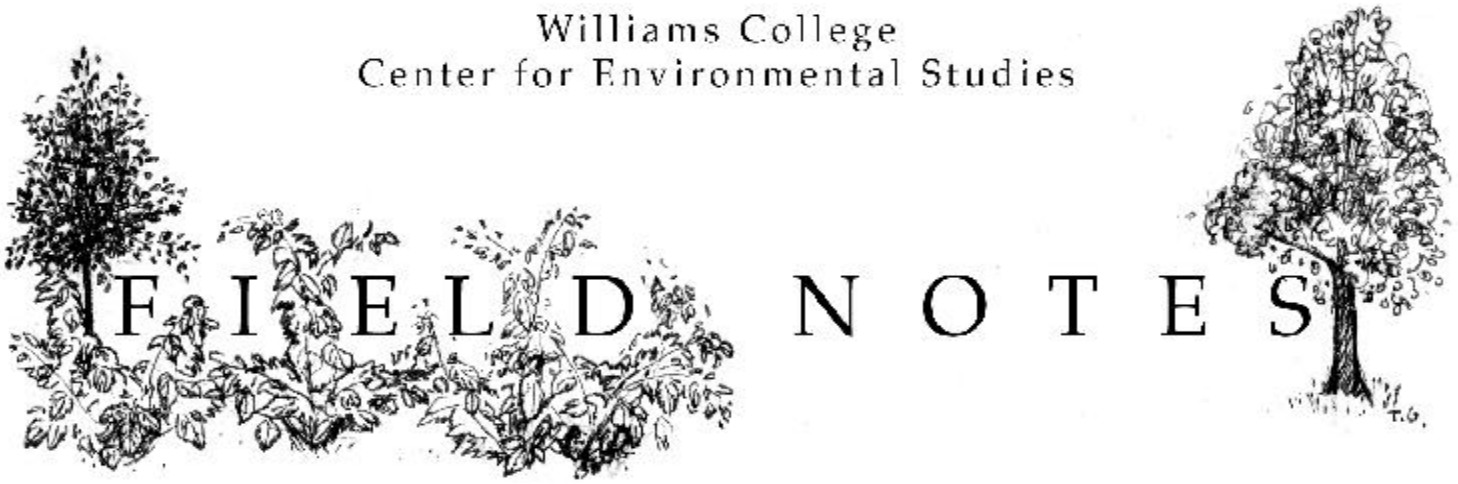
Williams College
Center for Environmental Studies



FIELD NOTES

Fall 1999 / Winter 2000

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Letter from the Director

The Center in the Community, The Community in the Center

During the past six months, the Center has been involved with several activities that reinforce our historical mission of simultaneously incorporating the regional environment into our academic program and making the resources of the CES accessible to our surrounding community. Over the summer Rachel Louis and I met with representatives from the Massachusetts Technology Collaborative, the Center for Ecological Technology (Berkshire County), the Berkshire Natural Resources Council, the Williamstown Rural Lands Foundation, and other citizens' groups to plan a series of public forums on regional energy alternatives. The first of these meetings was hosted by the Center on the Williams Campus and featured wide ranging discussions on moving away from our current dependency on fossil fuel energy sources and toward alternative fuels such as solar, wind, biomass, fuel-cells, and low-head hydro. Rachel's article in this issue of *Field Notes* gives fuller details of this exciting evening. Since October a steering committee has met to plan further dialog sessions to be held at a variety of venues in the region and to deal with specific aspects of developing future energy sources.

We have commenced explorations with the Library Committee at Williams and David Pilachowski, the recently appointed College Librarian, about sharpening the focus of the Matt Cole Library in Kellogg House toward a more regional information and data resource. As we move into a more, but not exclusively, electronic means of storing and retrieving information, we would like to see the MCL develop into a facility that will enable our students, faculty, and the public to gain easy access to data and materials about Western New England and Eastern New York. Some of the electronic information would originate from student and faculty research, some from the traditional print sources, and some would be from linking into regional electronic databases such as the MASSGIS and the Berkshire County Regional Planning Commission.

Finally, several of the courses that were offered brought regional environmental issues into the classroom and our students out into the surrounding landscape. Dick Birnie, Chair of the Department of Geological Sciences at Dartmouth and father of ENVI concentrator Katherine Birnie '00, taught a course on Remote Sensing and Geographic Information Systems through the ENVI program this fall. The local landscape served as the main structural feature analyzed by various means in the course. Several of the student projects in the course examined local environmental issues such as maximum "build-out" of Williamstown and changes in regional land uses over the past several decades.

The Environmental Planning course, this year taught by Roger Bolton, Sheafe Satterthwaite, and me, focused on student team projects on regional environmental issues, all of which had relevance to wider, generic problems. Becca Parkinson '00, Tanu Kumar'01, Olivia Imoberdorf '00, and Aya Reiss '00 tackled the problem of "Cars on Campus" and how Williams College should accommodate vehicles in motion and at rest. Kate Figge '01, Bria Larson '00, Caren Mintz '01, and Ethan Plunkett '00 examined various ways of lessening the intrusive aspects of U.S. Route 20 as it cuts through the Hancock Shaker Village. Possible uses of the former Pownal Tannery site, North Pownal, VT were explored by Sarah Connolly '00, Jessica Leibler '01, Rebecca Silver '00, and Chris Spence '00. This study looked at various brownfield restorations of a Superfund site that was being cleaned up as the students conducted their project. The fourth project was developing alternative approaches to a small housing development along the summit of Northwest Hill that is being planned by a local land-owner. Meg Cooley '01, Emily Earle '01, David Joyce '00, and Jay Slowik '01 suggested various scenarios for developing the land, outlining the environmental advantages and disadvantages of each.

In all of these endeavors it is our intention to bring Williams students into direct contact with the region's biological, cultural, and social communities as environments for study. The collateral benefits of fostering and nurturing student participation in regional environmental issues are that the students see the region and its citizens in a new light while the people with whom the students interact gain new perspectives on them and the College. Additionally, the approaches developed in community-based learning in this region will travel with the students as they venture beyond Williamstown. As one participant in ENVI 302 wrote in her course journal this fall: *I feel that this class has added to my connection to Williamstown, especially in forcing me to go out into the community and interacting with community members. … I feel like I have a stronger connection to the town, as if I have contributed more to it than just by being a student…. This class has also increased my interest in environmental regulations in my own hometown.*

- Hank Art, Director

People Around CES

New Hopkins Forest Manager: Drew Jones

Many of you have undoubtedly seen me around already—at Kellogg House, driving around in the green, slightly embattled pick-up or, perhaps, slinking into log lunch in a blaze-orange hat. I arrived at CES in August (just ahead of 500 other first years) as the new Manager of Hopkins Memorial Forest.

As the Forest Manager, my job builds on the caretaker duties undertaken for many years by Carl Phelps. The manager position goes beyond the caretaking aspects, however. Central among my duties will be facilitating and coordinating research and teaching activities at the 2,400 acre facility, while also maintaining it as a recreational and educational resource for the greater Williamstown Community (yes, it's a rather vague job description—call for details). Some of the projects that student caretakers and I have been involved with thus far include coordinating the fall festival, posting and marking the forest's boundaries, maintaining trails, and overseeing the deer hunting season.

My background and interests are about as varied as the job I have taken on. Prior to coming to Williams, I worked as a wildlife biologist in Elkins, West Virginia—perhaps best known as host to the

Drew Jones, HMF Manager

"International Ramp Festival and Cook-off," a true culinary adventure. Prior to Elkins I held an even more remote post as an agroforestry volunteer with the Peace Corps in Africa, after which I completed my Masters degree in forest ecology at Duke University. In a "former life" I worked several temporary positions in New England including one with Massachusetts Audubon and another at Mount Greylock. Certainly, a fondness for the Berkshire Region that I retained from those days was a major factor in bringing me back to the area.

Some of you have seen me jogging and dodging cars on the streets of Williamstown. My other interests include hiking, bird watching, tennis, and in the fall, watching baseball (after all, it must affect shagbark hickory management issues throughout the east). My favorite author is, perhaps, Rand McNally.

Currently, of major interest to me is charting a course for Hopkins Memorial Forest that engages students as well as faculty and the greater college community. There is truly a myriad of possibilities for student involvement in Hopkins Forest—from conducting honors thesis research, to leading public programs and hikes, to designing exhibits for the Rosenburg Center, to working as a caretaker and serving on the users committee. I'd really like to have more student input on forest related activities so, please, feel free to stop by the forest or Kellogg and share your ideas. See you in the forest.

Faculty On Leave

Assistant Professor of Economics **Doug Gollin** is currently visiting Yale University as a Gaylord Donnelley Fellow with the Yale Institute for Biospheric Studies. The fellowship is for young academics to work with Yale researchers in any area relating to environmental science or policy. Prof. Gollin's work is on agriculture and technology change. "One piece of my research here involves a study of the impacts of international agricultural research on economic growth and productivity. A second looks at the uses of plant genetic resources in the development of improved crop varieties, with a particular focus on the economic value of genetic resources. Finally, a third line of work looks at the relationships between agricultural growth and broader economic growth.

"My work on the first project looks specifically at the International Rice Research Institute, located in the Philippines. I have worked with colleagues at IRRI on and off for 12 years, and I am headed there again in February." In December he traveled to Zimbabwe to meet with colleagues from the International Crops Research Institute for the Semi-Arid Tropics. Prof. Gollin will return to Williams in January, 2001.

Antonia Foias, Assistant Professor of Anthropology, spent three months last summer in Guatemala, where she has an on-going archaeology-ecology field project at the Classic Maya center of Motul de San Jose, in the Peten jungle of northern Guatemala. Three Williams undergraduates (Cathy Warren '99, Elly Spensley '01, and Carrie Ryan '00), two non-Williams undergrads (Dan Glick and Annie Lapin) and two graduates students from Tulane (Aaron Deter-Wolf and Suzanna Yorgey) participated in the project, mapped, excavated and generally had a good time in spite of the heat, humidity and a relatively bad cook.

Prof. Foias is on leave from Williams for three semesters. She is currently working as a Research Fellow at Dumbarton Oaks-Harvard University in Washington, DC until May 2000. She is working on her second book on the Classic Maya civilization and the relationship between the economic and political structures of this famous pre-Columbian culture of Central America. In May 2000, she will be heading down to Guatemala again for the third archaeological field season at Motul de San Jose, and hopes to invite several Williams undergraduates to accompany her. She will remain in Guatemala until December 2000, analyzing the archaeological material excavated in these 3 field seasons.

Drawing by Clare Walker Leslie

Seeking Visiting Professor of International Environmental Justice

The Center for Environmental Studies at Williams College is seeking applications and nominations for the Class of 1946 Visiting Professor of International Environmental Issues for the spring 2001 semester. We desire to recruit a distinguished scholar or an experienced practitioner in the fields of philosophy, religion, political science, anthropology, economics, or other humanities or social science fields to teach a 12 1/2-week course dealing with international environmental justice issues. This course will be designed with the input of the Class of 1946 Visiting Professor and will serve as part of our environmental studies curriculum. Such a course might well include international environmental justice issues that also involve the U.S.

In addition, the Class of 1946 Visiting Professor would participate in the intellectual life of the College by giving several public lectures, being available to give guest lectures in courses in various departments, and informal interactions with students and faculty during the semester.

Applications will be considered starting on 1 January 2000 and continue to be reviewed until the position is filled. Williams College is an Equal Opportunity / Affirmative Action Employer.

Information about the Center for Environmental Studies is available at: http://www.Williams.edu/CES/

Send nominations or curriculum vitae with list of references to:

Professor Henry W. Art
Director, Center for Environmental Studies
Williams College
Box 632
Williamstown, MA 01267

Hopkins Forest Festival

HMF News: Forest Festival

As fate would have it, we had a "classic fall day" for the Hopkins Forest Fall Festival this past September. This annual event—which attracted approximately 200 visitors from the area— included some scientific stations this year in addition to the traditional "harvest" related activities. Agreeable late September temperatures, fiddle and flute sounds from "Rude Cider," and piles of delectable cookies from Log Lunch chefs helped add a festive air to the day.

One of the most popular events this year was the climb up the canopy walkway, built in 1991 for research on canopy dynamics in temperate forest systems. Indeed, some people waited up to two hours for a trip up the 75 foot ladder and a rather foliage-obstructed view of greater Williamstown. Other events included hand hewing, apple butter and cider-making, visits to the sugar house, Buxton Garden, weather station, garlic mustard plots and more. Thanks to all who made the festival a success!

- Drew Jones

Dick Babcock demonstrates beam-hewing at the HMF Fall Festival

Summer Activities

The Center for Environmental Studies provided funding for 23 students to pursue internships, research, and creative endeavors during the summer of 1999. At the end of the summer each student wrote a short description of the activities made possible by this funding. Many of these reports are published here, with the rest to be printed in the Spring 2000 issue of *Field Notes*.

David Joyce '00

This summer, I used my research grant from the *W.Conant Brewer Fund* to explore the Chesapeake Bay oyster situation. Under the direction of Jim Carlton, Professor of Biology and Director of the Williams-Mystic Maritime Studies Program, I focused on the issue of non-native oyster introduction as a potential solution to declining oyster populations in the Chesapeake Bay. As oysters are important economic and ecological units, population declines of the native oyster (*Crassostrea virginica*) due to both disease and overfishing have had vast implications. Dock landings have sharply decreased during the past century, and many argue part of the deterioration of water quality is due to the decline of oysters and their ecological function as filter-feeders.

Beginning in the late 1980s and early 1990s, considerable discussion commenced among researchers and policy makers regarding the potential for non-native oyster introduction. The species that has received the most attention, *Crassostrea gigas*, is the foundation of the west-coast oyster industry and has been introduced throughout the world. Recently, another potential species was identified: *Crassostrea ariakensis*. Little is known about *C. ariakensis*; however, research in Virginia suggests this species has potential to thrive in the Chesapeake Bay.

The majority of my research this summer centered on obtaining an understanding of the scientific, political, and historical issues that relate to the situation in the Chesapeake Bay. The beginning of the summer included literature review, and travel to Coos Bay, Oregon. In Oregon I examined the west coast industry (which is largely hatchery based) and took a graduate course at the Oregon Institute of Marine Biology entitled "Biological Invasions in Marine Environments." In late August, I traveled to Maryland and Virginia to discuss the current situation and implications of non-native introduction with researchers at the Virginia Institute of Marine Science, the Horn Point Laboratory (Univ. of Maryland), and the Maryland Department of Natural Resources. The wide array of beliefs and opinions serve to make this a passionate issue. My summer research is foundation for my senior thesis in Environmental Studies at Williams College and I am grateful for the opportunity to explore this intriguing and complex topic.

Allison Robbins '01

My CES summer internship, funded by the *Bernard M. Schuyler Memorial Fund* led me to a small non-profit in Simsbury, Connecticut called the Farmington River Watershed Association (FRWA). FRWA works to encourage the restoration and conservation of the natural resources of the Farmington River Watershed. As the FRWA is a very small organization, my internship involved all kinds of tasks necessary to the operation of a non-profit. I did everything from painting filing cabinets to writing advocacy letters. A large portion of my work there involved various research projects for the bi-annual newsletter, as well as for various projects and investigations into watershed towns. My most exciting few days were spent doing research for and writing a letter to the local board of Finance opposing a proposed project in the watershed area. This allowed me not only to learn more about the watershed, but also gave me a chance to do hands-on work with a small portion of the advocacy work that FRWA participates in.

Although I spent a good amount of time on research, my original job involved reorganizing the FRWA library and distributing the Farmington River Guide, a book published by FRWA. As a result of this aspect of my internship I learned far more about book distribution and fundraising than I ever imagined

I would, spending time on the phone trying to sell the book, as well as running around to bookstores to personally deliver and market them.

I sadly ended my time at FRWA in August, leaving behind a re-organized library, multiple completed projects, and a book well on its way to success as a huge fundraiser for the organization. I also left with 3 new friends (all 3 of the employees at FRWA), vast amounts of knowledge about the region in which I live, and a much better understanding of the pains and pleasures of working in the world of conservation non-profits.

Julianna Connolly '01

This summer, a grant from the *CES Student Research Fund* allowed me to work as a research assistant in a trace metals lab at the Harvard School of Public Health in Boston. I worked with Dr. James Shine, a chemical oceanographer in the environmental science and engineering department. His research is funded by the Environmental Protection Agency through the National Institute of Environmental Health Sciences for research concerning Superfund sites. He conducts most of his research in the New Bedford Harbor Superfund site in New Bedford, MA, which is highly contaminated with both heavy metals and PCBs.

Prof. Shine is investigating the partitioning of heavy metals in marine sediments. Currently, the EPA regulates only water concentrations of heavy metals. Looking at water concentrations does not represent the total hazard that might be associated with these metals because they are more likely to be found in sediments than suspended in the water column. Metals are heavy and carry a charge when dissolved in water, so there is a greater probability for them to be found at the bottom of the water column in the sediment where they have an affinity for sediment particles. Recognizing that heavy metals are more likely to be found in sediments that in water, the question arises of why the EPA regulates only water when sediment concentrations may pose a greater threat to marine life and human health? The answer to this question is that no one has developed a standard method for measuring metals concentrations in sediments for two reasons: these concentrations are more difficult to measure than water concentrations; and even if concentrations can be measured, it is hard to know how much of that metal is actually available to the biota and how much is bound up in sediment particles.

Dr Shine is trying to develop a standard method to determine the availability of heavy metals in contaminated marine sediments. One method that has already been suggested to the EPA is referred to as AVS-SEM: Acid Volatile Sulfide and Simultaneously Extracted Metals. This method recognizes the importance of sulfur in binding metals in marine sediments and suggests comparing sediment sulfur levels with sediment metal concentrations to determine the relative safety of a sediment. The theory behind this method is that if there is more sulfur than metal in a sediment then all the metal will be bound to the sulfur and there will be no threat of toxicity. If metal levels exceed sulfur levels some metals will not be bound and will be available to the biota and toxicity will occur. The problem with this method is that the theory behind it does not always hold true. While toxicity is not observed when sulfur concentrations are greater than metal concentrations, the opposite is not always true. Metal levels greater than sulfur levels does not always result in toxicity, suggesting that something else is participating in the binding of heavy metals in marine sediments.

This is where my work this summer came in. I did some AVS-SEM analysis to determine the sulfur binding capacity for New Bedford Harbor sediments, but most of my time was spent on a titration that would determine the binding capacity of organic carbon in these same sediments. I worked on determining the binding capacity of organic carbon for copper, and current and future studies will work on determining the ability of organic carbon to bind other metals such as zinc. Ultimately, these titration studies will help to explain the role that organic carbon plays in binding heavy metals in marine sediments. Once this mechanism is understood, a comparison of heavy metal concentrations to both sulfur and organic carbon levels in sediments should provide a way of predicting the toxicity of certain metals concentrations in marine sediments. Once we are able to predict toxicity, then setting the appropriate regulations and policy should come from there.

I really appreciate the opportunity of working in this lab that my grant from CES made possible. As

a chemistry major and an environmental studies concentrator at Williams, the work I did this summer really allowed me to tie together a lot of my academic interests here at school. This experience also offered me a greater understanding of the difficulties that arise in trying to relate policy and science and, therefore, the importance of having accurate and thorough science in order to create good policy.

Hilary Williams '01

Funded by the *George H. Dorion '51 Family Fund*, I spent the second half of the summer working on a creative project combining the disciplines of my art studio major and my environmental studies concentration. Returning to my hometown of Yarmouth, Maine, I strove to see coastal Maine with a new awareness. I used the media of writing, drawing, watercolor painting, and oil painting to revisit environments that are so familiar to me. I worked primarily in my hometown and at a friend's summer home in Deer Isle. I revisited particular beaches and blueberry fields that I remembered from childhood, bringing new insights to these places and to my relationships to them. I gained an appreciation for the struggles inherent in working as a self-motivated artist, and I came to realize what characterizes Maine for me. My explorations into the notion of place and homeplace have heightened my awareness of the complexities of our relationships to our environments and have made me infinitely more observant of my surroundings.

Vi Hua '01

Funded by a grant from the *Thomas C. Black '80 Fund* I spent the past summer in the heart of Pittsburgh, PA working with Carnegie Mellon University's Nine Mile Run Greenway Project. Our group is interested in a 360-acre tract of slag-filled valley bisected by an urban stream flowing from a major park in Pittsburgh to the Monongahela River—Nine Mile Run (NMR). This area may become a significant example of how a post-industrial brownfield property's open space can be used to enhance the quality of life in an urban culture.

The NMR Greenway Project has concentrated on creating public awareness of the issues surrounding the problems and possibilities of NMR, believing that urban development, public space, ecology, and sustainability are complex issues that need informed public discourse and input before brownfield development should occur. To that end, the NMR Greenway Project has hosted many tours of NMR, hosted a community dialogue workshop, and created a multimedia exhibit at Pittsburgh's Wood Street Gallery. Finally, the NMR Greenway Project hosted a community workshop in July that highlighted the existing conditions of NMR and formulated future goals of the project. The workshop was a success with over 50 citizens participating over the three days.

I worked with several other research assistants on these projects. I was involved in inviting community members to the workshop as well as creating the layout of newsletters that went out to our member base informing them of our progress and plans. I assisted in giving tours of NMR and compiling the questionnaires filled out after each tour. I also worked with the other team members to put together the Wood Street Gallery exhibit

I also chose to research my own project. My summer long project included research into the economic viability of creating urban parks in cities with struggling economies as well as economically-booming cities. This research led me to look at urban parks such as Central Park, NYC; the Fairmount Park system, Philadelphia; and Olmstead Park, St. Louis. I concluded that the creation of urban parks is a sound, long-term investment, leading to increased health and wealth of communities. Though initial costs are a concern, the fees that parks can charge as well as the businesses that these parks attract can easily provide for maintenance fees and pay off the building costs as well as, over time, produce a profit for the city. I am hopeful that this information will contribute to the determination of how NMR will eventually be used.

Jessica Leibler '01

This summer I learned how picking weeds can be symbolic of cleaning up an entire neighborhood; how planting flowers can revitalize and rejuvenate a community; how the strength of the elderly is unparalleled; how kids are impatient gardeners but like to get dirty; and how flowers and vegetables can help people look beyond the drugs, violence and crime and see incredible beauty and spirit in the same neighborhood.

Thanks to funding from the *Thomas C. Black*

'80 Fund, I spent the summer working at the Aspen Farms Community Garden in West Philadelphia. Alongside Hayward Ford, a "master gardener", phenomenal individual, and president of Aspen Farms, I helped to maintain the common areas in the garden. Aspen Farms, located in the inner-city neighborhood of Mill Creek, extends for 3/4 of a city block and consists of 40 individual garden plots tended by community members, most of whom are senior citizens who grew up on farms in the South. I spent much time weeding, planting, mulching, and watering (when the severe drought in Philadelphia allowed), devoting most of my time to two decorative ponds, 12 flower beds, the wisteria and rosebush laced center aisle, and to my own garden plot.

As I worked, I spoke with and learned from the expert gardeners who surrounded me and lovingly welcomed me into their garden community, despite the fact that I was the only white person, the only native northerner, and the only one under the age of 65. Many of the gardeners spent whole days at the garden, escaping the heat by sitting in the gazebo, alternating gardening with talking with friends and drinking iced tea. Within the first few weeks of my work at the garden, I decided to create an oral history project with the gardeners in an attempt to capture some of the experience, observations and wisdom of what I saw as a fading generation. For the remainder of the summer, I interviewed on tape as many gardeners as would talk to me, asking them about their childhoods, their involvement with Aspen Farms, and their opinions on the changing neighborhood dynamics.

In addition to working with the gardeners, I organized a three week summer program for middle school children at a local summer school. Every morning I would attempt to teach my group of about 8 kids about the natural history of their neighborhood, basic ecology and botany, and the fundamentals of gardening. The students planted their own garden plot (which Hayward and I risked arrest to water every day despite drought restrictions!) and learned to differentiate between types of trees and flowers. We also spent a great deal of time talking with the children about what a garden does for a community, and what relationship Aspen Farms had to their community.

My experience at Aspen Farms was one of the richest of my life, and I plan to return to Philadelphia next summer to help Hayward create an adult education program based on natural history and ecology for the senior citizens of the community.

Cordelia Ransom '00

Is global warming a reversible trend, influenced by anthropogenic behavior, or a natural inevitable phase in the Earth's life cycle? Climate change has been a hot topic for the past decade and continues to demand much attention from both the scientific community and the media. Coral reefs are excellent indicators of climate change due to the specific environmental conditions that they require for success. Recently, coral reefs have been exhibiting such a dramatic decline in health and abundance that 1997 was designated the "International Year of the Reef".

However, climate change may not be the only culprit in coral reef demise. Human behavior (pollution, disturbance, over fishing) also appears to be playing a large role. These two general causes of reef mortality appear to overlap and are not easily distinguishable. Thus, climate change evidenced in coral reefs is a relevant, yet complex issue.

With funding from the *George H. Dorion '51 Family Fund*, I spent the month of August researching current causes of coral mortality in order to get a better understanding of the effects of climate change on carbonates. I hope to tie in my findings to my thesis on Pleistocene coral reefs from Baja California Sur, Mexico. The reefs central to my thesis were deposited during the last Interglacial when sea level was around 6 m higher than the present. I hope to combine the information that I found through literature searches this summer with my fossil reef data in order to comment on the usefulness of coral reefs as climate indicators and the applicability of fossil reefs as predictive models for current climate change.

Heather Brutz '02

This summer I organized a performance art piece with the support of CES grant funded by the *Thomas C. Black '80 Fund*. My main focus was on costume design. All of the costumes were made from discarded materials which otherwise would have been thrown away. For the final performance we danced in front of Jacobs Field, the Cleveland baseball stadium, right before a home game in order to reach an audi-

ence of people who might not otherwise choose to watch an environmental performance art piece. Hopefully people saw the beautiful costumes made out of recycled materials and got our message that we throw away so many things that still have use and beauty. Most of our audience of passers-by seemed to enjoy the piece. We ended the performance by walking across a long bridge over the Cuyahoga River at sunset. Many cars slowed down and honked at us as they passed by. I assume that it was out of appreciation. All of the performers felt that the performance was a success.

I encouraged anyone who was interested to join my piece either by performing in one of my costumes or in a costume of their own making. I put up flyers asking for people to join in before the performance. My original hope was that I would get people from the general community to join. I wanted the process of making the performance art piece to be part of spreading its message. I had hoped that people would join the performance out of curiosity or an interest in performance art, and through the course of making a costume out of trash gain an appreciation for the potential use of thrown away items. However, very few people from the general community joined the performance. Most of the people who joined were people I knew from performance art circles or were friends of friends. However, I do think that some of the artists who joined were people who, while they might have a great love for performance art, were not necessarily very environmentally conscious. I have hope that some of them may have learned something from my performance, but it is difficult to tell.

Matt Wessler '01

With support from a CES creative endeavors grant funded by the *John H. Ohly '33 Memorial Fund*, I spent the summer in Squamish, British Columbia. Squamish is a small town of about 12,000 people. Throughout its history it has relied on logging as it main source of income and survival. The geography of the town has played a large role in this fact. Squamish is located at the edge of a sound, just below the interior forests of British Columbia. All logs that were cut in the interior were trucked to Squamish where they were processed and then floated or barged out, down the sound, and over to Vancouver or to Japan.

Unfortunately, over the past four years, Squamish's economy has almost disintegrated as logging operations have been severely cut back. For Squamish, this has had disastrous effects as most of the town is now unemployed and almost all the factories have shut down. In order to survive, Squamish had to find a different source of income and new means of subsistence. This new form of economy is also reliant on geography - it is recreation and tourism.

I spent my time in Squamish documenting and analyzing the transition from logging to tourism. I interviewed residents, took photographs, and researched the town's history and level of commitment toward development. It was an amazing summer, due to the beauty of the area and the fascinating circumstances of the town's survival. While Squamish has not yet completed the move from logging to tourism, the process is ongoing. Within the next five to ten years I expect that the new tourism-based economy will be sustainable, although I feel that logging will never be completely phased out. Squamish is an interesting place, both in geography and culture, thus it was a wonderful place to spend a summer.

Kathleen Reardon '00

Supported by a grant of the *Satterthwaite/ Goethal/Hirsche Internship Fund* I spent the summer as a habitat restoration intern at Save the Bay in Providence, RI (Narragansett Bay). As a non-profit environmental advocacy group, Save the Bay (STB) is more often seen in political circles than scientific circles, but it has expanded its involvement in monitoring, data collection, and habitat restoration projects. I focused most of my attention on the "Adopt an Eelgrass Meadow" (AAEM) program, salinity monitoring in a salt marsh, and applications of STB's volunteer salt marsh evaluations.

As a submerged aquatic vegetation important as habitat for many marine fish and invertebrates, eelgrass (Zostera marina) once covered the bottom of most shallow waters in Narragansett Bay. Due to a decrease in water quality and decimation by eelgrass wasting disease, the beds now cover less than 100 acres of the Bay. For the AAEM program, STB hopes to monitor the growth, health, and survivorship

of eelgrass. It was my job to create a protocol for volunteer SCUBA divers and snorkelers to assess the eelgrass bed health, to determine the priority of potential sites, and to contact the volunteers. I also went out to some eelgrass beds with volunteers.

For the past few years, STB has collected volunteer evaluations of the many small salt marshes around Narragansett Bay for restoration potential. These evaluations include a survey of the species, buffers, tidal restrictions, surrounding land use, and discharges. To begin a restoration project, these characteristics must be understood. I organized then translated the text of the evaluations to an applicable form of an aerial photo image with labels of key characteristics.

In addition to this general task for many marshes, the habitat restoration group focused its field work on a few marshes. Last winter, STB restored a tidal creek to a restricted pond in a marsh to slow down invasive species (Phragmites) encroachment. STB continues to monitor the salinity of the groundwater in the marsh with salinity wells. I took over this salinity monitoring and set up a volunteer system. I also worked on measuring the yearly vertical and lateral Phragmites growth. In two of the marshes, I performed a tidal survey to determine tidal restrictions and usefulness of restoration.

When I was not mucking around in the marsh fighting with Phragmites, playing phone tag with volunteers, or attempting to assess epiphyte growth on eelgrass through murky water, I was involved in many other projects. I went on site visits to potential restoration projects, went out on the Bay to help with a juvenile fish survey, helped with community outreach programs, and attended rallies protesting the construction of a proposed containership terminal. Overall, I had an incredibly diverse experience encountering a huge scope of perspectives in the marine environmental advocacy field.

Julia Cianfarini '01

I spent the summer at the Environmental Protection Agency in Washington, DC, working for Robert Heiss, a Williams College alum. This internship was made possible by a grant from the *John H. Ohly '33 Memorial Fund*. I worked in the Office of Compliance, and my department was concerned primarily with monitoring the import and export of hazardous wastes. The internship involved studying various American companies' reports on how much international trade they undertake. I was resposible for compiling all available data and presenting it for a study of which companies were abiding by or ignoring EPA regulations of hazardous waste trade. I learned to scout for discrepancies in reports and how much borderline-illegal activity some companies will attempt to hide from the EPA. Much of my time was spent learning about international trading laws and tracking systems for hazardous waste transportation. This internship allowed me to see the technical and legal aspects of environmental protection, as I was working with many environmental lawyers.

A visitor to the HMF Fall Festival ascends the ladder to the canopy walkway

In addition, the EPA runs a lecture series for its summer interns and law clerks. Twice a week we were invited to luncheons to listen to various speakers discuss different aspects of EPA's work. These ranged from lawyers to field researchers and provided us with a solid base of knowledge about all of the possible fields related to EPA. The program leaders also set up a mock trial to provide the law clerks a forum to practice trying a hazardous waste violation case. I learned a great deal about the career paths available after college for students with a background in environmental studies and am thankful for the opportunity to explore this field outside of the classroom.

Emily Gillmar '00

I love architecture, and I want to be an architect someday. One of the reasons architecture interests me so much is that it is everywhere, and it shapes the way humans experience the world. But buildings also have a huge impact on the environment. In the past few decades, people have started to work to find ways to make our buildings environmentally sensitive and responsible, with various types of technologies such as solar hot water and photovoltaic panels. Architects can play a key role in using these technologies, from the beginning of a building project. They can make buildings that work with nature rather than against it. I found all these ideas very interesting so, with support from the *Thomas C. Black '80 Fund*, I spent my summer at home in Hawaii working with architects and people who deal with these issues on a daily basis. Hawaii is experiencing problems with overdevelopment, but it also has great natural resources and a climate that makes it possible to have buildings that are open and responsive to the environment.

One project I worked on this summer was through a group made up of architects, some green, one who was more worried about the money side of things, government-agency types, and a woman from the American Lung Association (who was interested in air quality). They were working on a grant to write a handbook on energy efficiency and comfort that was aimed at designers and builders, hoping that this would help developers to incorporate at least a few environmentally sensitive features into their houses. I helped with research and writing for this project, but spent most of my time helping out at the office of one of the architects, who was working on projects that ranged from putting photovoltaic panels on the Waikiki post office to home renovations to a naturally-ventilated artist's studio, and seeing the compromises and issues they had to deal with on a daily basis.

Last semester, I took a tutorial on architectural theory, and at one point the professor started talking about how there is no idealism in architecture anymore, that architecture is no longer seen as a positive force in society. I'd like to think these dedicated green architects in Hawaii and all over the world prove my professor wrong, that through being environmentally responsible, architects can lead us in new directions. One of the best things I realized through this grant was that environmentalism doesn't have to be limited to people's stereotypes about recycling or scientists, that it can be part of unexpected disciplines like architecture.

Caren Mintz '01

I learned to drive a motorboat and became a good crabber. I scraped roadkill off the causeway at 2 AM and dressed like the Gorton's fisherman. I rode on the back edge of a pick-up truck and pushed a boat through waist high marsh mud. But, officially, I was doing a research internship on the Diamondback Terrapin Conservation project at the Wetlands Institute in Southern New Jersey. Thanks to the generosity of the *A.W. Mellon Fund* at CES I had an interesting summer that gave me a great taste of what I could do with the intersection of my biology and environmental studies interests.

As a research intern I was immersed in the three-pronged mission of the Institute: conservation, research, and education relating to the coastal wetlands ecosystems. My work focused on the diamondback terrapin whose habitat—especially nesting areas—has been destroyed with the development of the Jersey shore. These turtles now face two main dangers: getting run over while trying to lay their eggs on high ground and drowning in crab traps placed in their aquatic home. To help mitigate the roadkill problem, we drove "turtle patrols" of local roads, helping live females across and salvaging what eggs we could from roadkilled mothers. Over the 48-day nesting season we found 552 dead female terrapins and salvaged around 400 eggs (~200 of which will become releasable hatchlings).

Our research concentrated on two experiments conducted in the creeks of the salt marsh. We completed the third year of a long-term mark-release-recapture population study utilizing microchips to "mark" terrapins caught in traps. Also, we investigated the crab retention rates of crab traps fitted with two different sizes of by-catch reduction devices (terrapin excluders) versus those without. It was

Children and adults learned to make apple cider in the antique cider press at the HMF Fall Festival

believed that traps with excluders retained more crabs. If this hypothesis could be proven, commercial crabbers would be more likely to comply with the law requiring the use of excluders. Unfortunately, this summer we found no statistically significant difference in retention rates.

In addition to the above activities, I was heavily involved with public education about the turtles. It was particularly important and rewarding to share my new knowledge with the public so that they too could be aware and help. I attended local seafood and turtle festivals showing off newly hatched terrapins along with Myrtle, the traveling turtle, who survived being hit by a car. I taught a class to interested children at the summer nature camp, and explained our work to adults at a fundraising cocktail gala (this is a non-profit institution). Plus, I often got to explain what I was doing to curious tourists and visitors to the Institute—which included a handful of Williams alumni.

High points of the summer were our releases of head-started turtles (orphans from the previous summer's roadkills) with school children ranging from the local kindergartners to troubled teenage boys from an alternative high school. I just culminated my internship work by presenting the research associated with our roadkill conservation efforts at the conference on Ecology and Conservation of Turtles of the Mid-Atlantic Region, in Maryland.

Class of 1960 Scholars Program

The Center for Environmental Studies has been granted funds from a gift of the Class of 1960 to bring distinguished speakers from the environmental disciplines to Williamstown. Twenty students from various departments have been selected by CES to be Class of 1960 Scholars, and will have the opportunity to interact with the visiting speakers on a personal level.

The first guest speaker through this program was Cynthia Lloyd, Director of Social Science Research at the Policy Research Division of the Population Council in New York and the Class of 1946 Visiting Scholar in International Environmental Issues here at Williams.

On November 1, Prof. Lloyd presented a public lecture on "The spread of primary schooling in sub-Saharan Africa: Implications for Fertility Change". In addition to the students chosen as scholars, the audience included many faculty members and students from the Center for Development Economics.

Following the talk, the student-scholars participated in a small group discussion with Prof. Lloyd. This format providing them with the opportunity to discuss the content of the lecture and their background reading directly with Prof. Lloyd. The evening concluded with a dinner at the Faculty club attended by Prof. Lloyd, the Class of 1960 Scholars, and several faculty members.

In the spring semester, CES will bring two more speakers to campus as part of the 1960 Scholars Program. Invitations have gone out to several prominent scholars and we hope to have their talks scheduled soon. We also hope to have our funding for this program renewed for the 2000-2001 academic year.

Renewable Energy: A Community Conversation

On the evening of Wednesday, October 13, Williams College hosted a county-wide forum entitled *Renewable Energy: Choices for Our Environment*. The program was organized by the Massachusetts Technology Collaborative, in part as a response to the controversy over a proposed 10-turbine, 7.5 megawatt wind farm on top of nearby Brodie Mountain. The forum was sponsored by a wide range of local and regional groups including the Berkshire Regional Planning Commission, the Center for Ecological Technology, the Hoosic River Watershed Association, the Williamstown Rural Lands Foundation, the Center for Environmental Studies, and several others.

The evening began with a reception at which many of the sponsoring organizations provided information about renewable energy as well as hands-on demonstrations of available technology. Following the reception, a near capacity crowd—over two-hundred people including residents from all over Berkshire County—moved into the Brooks Rogers Recital Hall for the formal program.

Hank Art, director of CES, welcomed the crowd and introduced Peter Berle, the evening's moderator. Mr. Berle, an environmental lawyer, former president of the National Audubon Society, and host of WAMC's *The Environment Show* began by stating that it is now a widely accepted opinion that the use of renewable energy is a good idea; the questions are "how?" and "when?" He then introduced the first speaker of the evening, Joe Alviani, Executive Director of the Massachusetts Technology Collaborative.

Mr. Alviani described the United States as "a nation overrun with SUVs", and with gas and electricity prices so low that it is hard to get people's attention on this issue. People do not always make the connection between their daily activities and the oil and coal burning plants that produce their electricity. The local effects of acid rain, caused in part by the burning of fossil fuels, include the acidification of the rivers, lakes, and streams of the Berkshire region, and increasing stress on forests leaving them vulnerable to insect infestations. In addition, ozone reaches dangerous levels in the summer months. Alviani says that "these are the environmental consequences of a regulated monopolistic utilities system that did not need to offer consumers much choice."

With the restructuring of the electric utility industry in Massachusetts, there should be greener choices available. The local demand for clean energy is growing faster than the overall growth in demand for energy, but people are often unfamiliar with the options.

One particularly viable option is photovoltaics. The solar energy industry is currently growing at twenty percent per year. Solar panels have been developed to be used as building materials, insulation, and art. Although the technology is widely available in the US, the use of solar panels is growing most rapidly in developing countries.

CWL

A second renewable technology that may become more widely available is the use of fuel cells that convert hydrogen to electricity. These fuel cells, already used in space exploration, are now being developed to power cars, houses, and hospitals. As well as being used as a primary energy source, fuel cells can be used to protect against power outages.

Wind turbines are the fastest growing energy source in the world, with their use increasing by thirty-five percent between 1997 and 1998. Enough wind power is currently produced to power 3.5 million suburban homes.

Other renewable energy sources that can be further developed include biomass, geothermal, hydro, and others.

Mr. Alviani closed by saying that at the Massachusetts Technology Collaborative "our first and foremost job is to raise awareness among citizens and public policy makers and to help consumers to understand better the benefits of renewable energy technology—and that is what (this forum) is all about."

The second speaker of the evening was Ann Mesnikoff, an environmental lawyer on the staff of the Sierra Club. Ms. Mesnikoff gave an overview of both the causes of climate change and the potential effects.

Coal plants, some dating back to the 1940s, '50s, and 60's, are still in use and are often exempt from the clean air act standards that regulate newer plants. Here in the Berkshires we are affected by plants located hundreds of miles away, both by direct pollution and by the effects of global warming.

While Ms. Mesnikoff stated that no individual weather event can be said to be directly caused by global warming, there are definite trends that can be seen: the world's glaciers are retreating at accelerated rates; coral reefs are dying from warmer ocean temperatures; animal and plant ranges are shifting and shrinking; heat waves are becoming more commonplace; and malaria and other diseases are spreading to previously unaffected regions. Thinking off all of these events together, one can begin to form a picture of what global warming means.

Longer term changes that are projected include a rise in sea level that will threaten low lying areas including many small island nations. Agricultural production will be affected worldwide. Impacts will be seen both on the environment and on our health.

The main cause of global warming is the release of the "greenhouse gasses" produced from utilities, transportation, and industry. Carbon dioxide emissions from cars and light trucks in the United States exceed total CO_2 emissions in all of Great Britain.

Ms. Mesnikoff suggests that, in addition to new energy efficiency standards, we need to look towards solar and wind power as a means to "wean" ourselves away from our excessive use of fossil fuels. "The benefits of these kinds of choices are not only cleaner air today, but reducing the threat of global warming for our children."

Christopher Flavin (Williams '77), Senior Vice President and Director of Research at the Worldwatch Institute, was the next speaker. Mr. Flavin discussed the role of the market in driving technological developments and driving down costs. He sees a goal of increasing the total efficiency of the electric power system from its current 30% to 80-90%.

The challenge to the necessary industrial transition comes, he says, from the labor unions and the industries themselves. "While it's tempting to resist change, to protect those coal mining jobs until the 11th hour, to fight against things like the Kyoto Protocol, to fight against a sensible policy change on the part of state legislatures and the national Congress . . . I think in the end there is a tremendous 'first movers' advantage for those countries and those regions and those localities that decide to go first and be successful in the new industries, to create the jobs and to move forward."

Although many of these technologies were invented in the US, the center of the renewable energy industry today is in the European Union. Although the countries of the EU are poorly positioned relative to the US in terms of their natural resource base, according to Flavin these countries have had a "very strong, very far sighted public policy over the last decade: They have utterly dominated these exploding renewable energy markets that have opened up in the 1990s."

Flavin concludes that it is vital for us as individuals to express our opinions to legislators. We need to come together as communities to work at the local level

The final speaker of the evening was James Udall, Director of the Community Office for Resource Efficiency in Colorado. Mr. Udall told us that in the state of Colorado, there are now 16,000 homes buying wind power instead of coal power for a price of only $0.095 per kwh—lower than the price we pay for electricity in Massachusetts. By deregulating electricity markets, power decisions are moved "from the board room to family living rooms".

The average American, says Udall, drives the distance from the Earth to the moon every twenty years. He describes the trip to the gas station as "the great American ritual". This behavior, at least with the current systems of energy production, is not sustainable. "One hundred years ago Massachusetts was running on wood, water, and human and animal muscle. A hundred years from now you've got to be back on renewables. And the question—the challenge really—is how are you going to get there and when are you going to start that journey?"

In Germany, many cities are now paying people up to $1.00 per kwh for all of the power that they can produce with their own photovoltaic systems. This is the single most successful PV incentive program in the world. Austria and Switzerland have similar programs. If this can be accomplished in Europe, why not in the United States?

Scientists say that we need to cut carbon dioxide emissions by 60%. Udall wondered if this was possible or if the pessimistic view that such efforts would bankrupt us is true. So he decided to cut the emissions generated his use of energy at home by 60%. The improvements he made on his house—including a solar hot water heater, an energy efficient refrigerator, and a PV system—cost $15,000, but he expects it to save 125,000 pounds of coal from being burned over the next twenty years, leading to a savings of 250,000 pounds of carbon dioxide from being released into the atmosphere. These are changes that can be made by individuals across the country, and as the demand for energy efficient and renewable technologies increases, the costs of purchasing and installing such technologies will become more competitive.

Udall ended by saying "the good news is that if we embrace this challenge honestly and with some enthusiasm and wisdom and leadership, we end up on the planet of plenty . . . our kids and our grandchildren end up in a world where energy is literally inexhaustible".

The evening concluded with a "community conversation" in which audience members were encouraged to voice their opinions and to ask questions of the speakers and of the panel. The panel was made up of representatives from local organizations: Nancy Nylen of the Center for Ecological Technology, Alan Nogee of the Union of Concerned Scientists, and Averill Cook of Catamount Corp.

Based on the success of this forum, discussions are now underway to plan a series of meetings across Berkshire County focused on renewable energy technologies. Education of the public is the first step of many that can be made locally to meet the challenges outlined by the Renewable Energy Forum.

Student Organizations

The Purple Druids

The Purple Druids have had an exciting fall, with a renewed level of energy, commitment, and activity. We started off the fall working with other environmental groups in Berkshire County on Greylock Glen. A proposal has been in the works for many years to develop this area on the east side of Mt. Greylock; we were petitioning this fall to prevent the addition of 300 vacation homes to the proposal. In mid-October, a group of eleven Druids traveled to Philadelphia for Econference 2000, a nationwide conference of student environmental activists. The conference featured workshops, keynote speakers such as Ralph Nader, Michael Moore, and

Lois Gibbs, and a march and demonstration through Philadelphia. Over 3000 activists attended, organizing to work on a variety of issues and projects in the coming year.

Back on campus, we continued work on several new projects. We are looking into pesticide use on campus, and trying to get dining services to switch to Free Trade coffee. We are also looking into starting a Community Bikes program on campus, which would place communal bikes around campus for anyone to use. Perhaps our biggest project this fall has been looking into issues of socially responsible investing, in relation to the college endowment. We asked the college this fall to release the portfolio, and publicized it on campus; we have been making contacts with other groups on campus; and we are now trying to initiate a dialogue with trustees about how our investments might become more responsible. This campaign is occurring simultaneously on many college campuses. The final goals of this campaign could include divestment from corporations acting irresponsibly with regard to social or environmental issues, implementation of a social screen for new investments, or initiation of an alternative endowment that would be invested responsibly to which alumni could donate. As a first step, we hope the trustees will commit to regularly submitting the portfolio to an independent consulting firm; such a firm might analyze the corporations in the portfolio for social responsibility. We hope the college will also release the portfolio regularly, and make available the results of any such audit. We will be looking for the support of students, professors, and alumni forthis campaign, so if you have suggestions or want to support socially responsible investing, please contact the Druids.

We look forward to increased activism and awareness on campus in the coming year as we continue many of these projects, and also look forward to a celebration of Earth Day 2000!

Composters

Composting at Williams has expanded even further this year! In addition to collecting kitchen waste, we are now collecting plate scrapings in all the dining halls. Students scrape their plates into designated compost bins in the tray deposit area. During the fall semester we collected an average of 1000 pounds of food daily, and nearly forty percent of this waste was comprised of plate scrapings. This spring we plan to launch an educational campaign to reduce food waste left on plates.

Forest Garden

You might have wondered what that wild space was in front of CES. None other than the Forest Garden! After taming the thriving summer growth, forest gardeners used the fall to organize the beds and harvest the fruits of their labor. Tomatoes, a variety of squashes, beans, cabbage, carrots, onions, fresh herbs and the ever-popular raspberries were among some of the earthly pleasures harvested for all to enjoy. A salad for log lunch, herbs for a dinner in CES, a colorful space like no other on campus, and happy people digging in the dirt are all to be found in and around the garden. Join us in the spring, and partake in the fun and cultivation of yummy organic food!

Alumni Corner

Alumni Notes

Peter Green '78 is working as Forest Advisor to Oregon Governor John Kitzhaber. "Most of my work focuses on federal forest issues, although we're involved in salmon protection, forest practices issues, and state forestlands." Peter has worked in the Governor's office for over four years, and worked in the State Legislature for ten years prior to that. You can find him at <Peter.Green@ODE-EX1.ODE.STATE.OR.US>.

Syma Ebbin '83 recently completed her PhD at Yale University in the Dept. of Forestry and Environmental

Studies (Dec. 1998). "I've been looking for a tenure track teaching position, but in the meantime I'm adjunct teaching at a local college - an introductory course in environmental studies. I also wrote a grant which is enabling me to work with the Connecticut Fund for the Environment on open space preservation issues and another grant to get GIS software and training for the project. I also just had a baby boy in September - Elias Waterman Kane, entered the world on Sept. 7 at 8 lbs 15 oz to join his parents and 2 year old brother Aaron". Syma can be contacted at <syma.ebbin@yale.edu>.

David Yaskulka '84 is still working at the New Jersey Conservation Foundation, where he is Director of Communications. "Things remain thrilling here, as NJCF is at the forefront of NJ's goal of preserving one million acres of open space in the coming decade. That would bring NJ's total preserved open space (farmland, forest, parks, stream corridors, etc.) to nearly 2 million acres, or 40% of the land mass of the nation's most densely populated state. In addition to working with the media and our internet site (www.njconservation.org), I edit our award-winning magazine *New Jersey Conservation*, which I'd be happy to send to anyone who asks." David can be contacted at <DYaskulka@aol.com>.

Joan Becker Kelsch '85 writes "I am still working as an Environmental Planner for Arlington County, Virginia (just outside Washington, DC). We are working on several new projects including a watershed management plan for Arlington (a very urban area with some unique watershed issues) and a new Green Building Initiative in which we are trying to provide incentives for private developers to build more environmentally sensitive buildings. Transportation issues including airport noise and road congestion continue to be big problems in our area. It is a fun and ever-changing job!" Joan can be reached at <Jkelsc@co.arlington.va.us>.

Bethany Spalding '89 is working as a lawyer for the Alaska Public Defender Agency in Fairbanks, Alaska. She also serves on the Board of Directors for the Northern Alaska Environmental Center in Fairbanks. The NAEC is a nonprofit organization dedicating to protecting the environment in interior and arctic Alaska. "We are often looking for summer interns, so Williams students interested in spending a summer in interior Alaska working on environmental issues should feel free to contact me" at <harbo@ptialaska.net>.

Anne Platt McGinn '91 is working for Worldwatch Institute from her home office in Providence, RI, primarily on marine and environmental health issues. "Currently, we have four Ephs on the research staff of 15: **Chris Flavin '77**, **John Tuxill '90** (who's also in grad school at Yale), myself, and **Molly O'Meara '92**. Needless to say, Williams blood runs green!" Ann can be found at <amcginn@igc.org>.

Allison Handler '92 writes "I work for the Missoula City-County Office of Planning and Grants as an associate planner. For the past year and three-quarters, I have worked in the Current Planning division, which means land use regulation—zoning, subdivision, variance requests, conditional uses, signs, etc. My masters degree is in environmental studies, and I did my thesis on urban design and redevelopment. If there are CES folks out there interested in urban and rural planning (Missoula at pop. 50,000 is a small city, so "urban" here is different from Chicago, Seattle or New York), they are more than welcome to contact me. My "extracurricular" activity related to planning involves affordable housing, community land trusts, community development, noxious weeds, urban gardening and open space—folks with those interests are also welcome to get in touch at ahandler@co.missoula.mt.us".

Nadine Block '93 is still working at the Pinchot Institute in Washington, DC, researching and writing about forest conservation issues. "I recently returned from a month-long vacation to Africa, where I toured around Zimbabwe, Botswana, and Namibia with a group of friends from grad school. If anyone wants to get in touch with me, I can be reached at <neblock@pinchot.org>."

Evan Preisser '93 has entered the PhD program in Population Biology at the University of California at Davis. He is in good company: "**Brian Spitzer '97** is in his third year in Population Biology, **Dan Bolnick '96** is in his second in the same program, and I am in my first year. So, the question on everyone's mind is - will we take a fourth and go for four in a row?" You can contact Evan at <elpreisser@ucdavis.edu>.

Betsy Nicholson '95 is a recipient of the year 2000 Knuass Fellowship in Marine Policy, a Sea Grant program that places 25 graduate students from all over the country into positions in the executive and legislative branch of the federal government for one year. "I chose to work in the Coastal and Oceans Program in NOS to gain exposure to marine policy legislation as well as hands-on experience with coastal management projects all over the U.S. I look forward to spending a year in DC before returning to Duke for my final semester in 2001." Betsy can be found at <een@duke.edu>.

Steven Hufnagel '96 has worked for the Cascadia Consulting Group in Seattle for nearly three years. Most recently, he has been working on a project for King County presenting workshops to high school and middle schools students about ecosystems, biodiversity, and the impacts of our daily actions on both. When I'm not in the classroom, he is engaged in environmental education for adults (household toxics and natural lawn care), project management, and research.

In November, Steven joined the anti-WTO protest and march in Seattle (along with **Jon Stahl '95** and others). "It was a beautiful sight and a powerful alliance—tens of thousands (40,000+) of labor activists and environmentalists walking side by side with every sort of hand-made and mass-produced sign, costumes, and a giant green condom by Greenpeace that said, "Practice Safe Trade." While we succeeded in shutting the meeting down for the day and most protesters demonstrated peacefully, some rowdy anarchists started breaking store windows and sparring with the police, so the police cleared out downtown with tear gas, horses, pepper spray and rubber bullets. Tear gas is pretty harsh! However, standing in the middle of Third Avenue with not a car in sight was incredible and if the messages of the NGOs involved in the march are not overshadowed by the violence, it was all worth it." He can be found at <steven@cascadiaconsulting.com>.

Annaliese Beery '97 is living in Hawaii, teaching for a third year. "This year I started the A.P.Environmental Science course at Punahou School. We're having tons of fun, just started an organic garden, and I have dreams of setting up a speaker series ala log lunch. Reach Annaliese at <akaba@punahou.edu>.

Ben Montgomery '98 writes "I've recently moved down and under to New Zealand, where I'm studying at the Universtiy of Canterbury and researching the pollination of endemic mistletoes and other plants. I'm living with a bunch of kiwis (students, not birds) in the city of Christchurch, but I'm escaping out to the bush whenever I can. And I'm off to camp on the beach for the New Years celebrations." Reach Ben at <bmontgom@wso.williams.edu>.

Lincoln Pan '98 is studying at Harvard Law School and would love to see other ENVI alums anytime they're in Boston. Contact him at <lpan@wso.williams.edu>.

Kara Roggenkamp '99 has stayed in the area and is now working for the Berkshire Regional Planning Commission, working on Open Space Plans and other land-use projects. She can still be found occasionally in CES checking her e-mail. Kara can be reached at a <kroggenk@wso.williams.edu>.

Be sure to send in an update on your whereabouts and activities for the spring issue of *Field Notes*.

Alumni Listservers

CES manages two listservers for the benefit of our alumni. CESJOBS-L is for posting information on environmental jobs and careers. CESALUMS-L is for discussion of issues that are of interest to the subscribers. Both lists are open to all interested individuals, and all subscribers may post to the lists.

To subscribe, send a message to: listproc@williams.edu leaving the subject line blank. In the body of your e-mail write: subscribe <listname> <your name> (substituting the name of the list and your for the < > and what's between them).

To unsubscribe from a list send the message: unsubscribe <listname>

How You Can Help CES

There are several ways that we look to our alumni for help. Throughout the year we are looking for internship and employment opportunities for current students. If you know of appropriate summer or permanent positions please send them to us.

Another way you can help is to write an article for a future issue of *Field Notes*. Have you been conducting interesting research? Has your job or personal life led you to exciting regions of the world? Is there an environmental issue that you feel passionate about and want to share your opinions ? If so, please write a short article that will be read by well over one thousand CES students, alumni, and friends.

Articles, alumni notes, job listings, and any other correspondence can be sent to Rachel Louis at Rachel.Louis@Williams.edu or by snail mail toKellogg House. The CES staff can also be reached by phone at 413-597-2346.

Rude Cider entertains the crowds at the HMF Festival

Kellogg House, Williams College, Williamstown, MA 01267 http://www.williams.edu/CES

The Center for Environmental Studies

FIELD NOTES, FALL 1999

A PUBLICATION OF THE CENTER FOR ENVIRONMENTAL STUDIES

Williams College, Williamstown, MA 01267

The Williams program in environmental studies allows students to focus some of their elective courses in an integrated, interdisciplinary study of the environment—that is, the natural world both in itself and as it has been modified by human activity. The program provides students with the tools and ideas needed to engage constructively with the environmental and social issues brought about by changes in population, economic activity, and values.

Field Notes is printed on paper containing 30% post-consumer waste.