



Students in Professor Candie Wilderman's Aquatics class examine their haul after trawling oyster beds near Smith Island, MD on a Chesapeake Bay Foundation Environmental Education Program.

# THE ENVIRONMENTAL CONNECTION

ENVIRONMENTAL STUDIES  
ALUMNI NEWSLETTER

2014

ENVIRONMENTAL STUDIES DEPARTMENT

DICKINSON COLLEGE

## In This Issue

### [A Note from the Chair](#)

Professor Greg Howard reflects on his year as department chair as he prepares to pass the reins to Professor Tom Arnold from Biology.

### [Introducing, Professor Bedi](#)

The Environmental Studies Department is happy to welcome Dr. Heather Bedi as our new environmental sociologist!

### [Kristin Strock's First Year](#)

Breaking the ice and making a splash—Professor Strock has been keeping busy with student field trips and new research.

### [PERColation: The First Student Sustainability Symposium](#)

This year, Dickinson hosted the first ever Pennsylvania Environmental Resources Consortium (PERC) Student Sustainability Symposium. With over 100 attendees from 22 campuses, the symposium provided opportunities student collaborations and networking.

### [Rose Walters Prize: Lisa Jackson](#)

Dickinson hosted former EPA-administrator Lisa Jackson as the recipient of this year's Sam Rose '58 and Julie Walters Prize for Global Environmental Activism.

### [Ash Nichols: Annual Report](#)

A new book and a new spin on an ES introductory course—read more from Professor Nichols.

### [In Anticipation: James Balog](#)

In anticipation of the September visit by James Balog, recipient of the 2014 Rose Walters Prize, CSE would like to invite alums to participate in the college's *One College, One Community* initiative.

### [A Tribute to Michael Heiman](#)

As Professor Michael Heiman heads into retirement, Professor Candie Wilderman offers this heart-warming testament to his remarkable 25 years of teaching. Farewell, Michael! You will be missed!

### [Dr. Catherine O'Reilly & the Water Seminar](#)

Read about the Clarke Forum Faculty Seminar on Water and the department-invited speaker, Dr. Catherine O'Reilly.

### [An Update from Michael Heiman](#)

Following a spring sabbatical, five parties, and an office cleanout, Professor Michael Heiman has officially entered retirement.

### [Reflections from the GIS Lab](#)

The Dickinson GIS Program continues to grow! Learn more about their technologies, travels, and talents.

### [An Update from Candie Wilderman](#)

As she transitions into retirement, Candie has been working on analyzing data from ALLARM's shale gas monitoring program and preparing for her last course offering.

### [An Update from ALLARM](#)

ALLARM gives an update on their numerous activities, as well as, highlights from this past year.

### [College Cultivation](#)

From a new CSA model to FARMDATA collection to a wood-fired pizza oven, the farm is cultivating crops, campus culture, educational experiences.

### [An Update from Michael Beevers](#)


Professor Beevers' family welcomed a new addition as he continued work on his book and engaged students in nature.

### [The Eco-E Path Mosaic](#)

Learn more about last spring's Eco-E Path Mosaic, focused on sustainable entrepreneurship.

### [Alumni Updates](#)

Check out what your fellow alums have been up to outside of Dickinson!

This is an interactive newsletter. You can use [links](#) to navigate around the newsletter and to [other websites](#). You can also click on the  buttons to watch videos!

# A Note from the Chair

by Professor Greg Howard, Chair

The Environmental Studies department is on fire! And I'm not just talking about the fire alarms that went off in Kaufman every time the new greenhouse got warm, all summer long. No, it's been a remarkable—and remarkably busy—year in the department. I returned to Dickinson in August 2013 after taking a year to work at the US EPA with the support of a fellowship from the American Association for the Advancement of Science. I jumped back in last August as department chair, following up the great work that Ash Nichols (English, and now jointly appointed to Environmental Studies as well!) had accomplished during the 2012-13 year.

Just as I was returning from my year at EPA, we were joined by new colleague, Professor Kristin Strock, a paleoclimatologist and limnologist ([more about Kristin Strock here](#)). Professor Strock has already had a remarkably busy first year, with travel to China and Greenland this summer, teaching ENST 131 this fall, and now coordinating Dickinson's participation in the Eco-League, a group comprised of a handful of sustainability-oriented colleges who are making more opportunities for students to study in different areas of the US.

The 2013-14 year started off with a bang as we brought two environmental heroes to campus. Lisa Jackson, who led the EPA under President Obama from 2009 to 2013, received the 2013 Rose Walters Prize for Environmental Activism from Dickinson, and came to campus for a few days of classes and talks. Ms. Jackson was a fearless leader of EPA and a strong promoter of environmental justice. It was inspiring for students and faculty to have the opportunity to talk with one of the nation's top environmental leaders ([more about Lisa Jackson here](#)). Only a couple weeks after she left, the Environmental Studies department hosted the College's annual Priestley Award, bringing NASA climate expert Jim Hansen to campus for a well-attended talk and visits to a number of departmental classes. Jim's inspiring career reminds us that scientists can also be dedicated advocates for change and progress.

Perhaps our biggest success this year was the hire of Professor Heather Bedi ([more about Heather Bedi here](#)). Heather is a geographer and social scientist holding a PhD in Geography from Cambridge, and has also taught at Bucknell and the Free University of Berlin. Her dissertation research examined social movements in India, and her experience with extractive industries in that country has close parallels with the impacts of similar industries—notably fracking—on communities here in Pennsylvania. Heather's expertise will greatly expand our department's social science offerings, and I'm sure that her work on activism and "fracktivism" will resonate with students across campus.



This year also witnessed the last class taught by our now Emeritus Professor Michael Heiman, who took his Policy class for one last field trip to the sewage plant and the donut factory (hopefully not in the same day). During the spring semester we hosted a small retirement party for Michael, attended by friends, faculty, and a number of alumni who travelled a significant distance to be with us in honoring the work of a great teacher, scholar, and friend ([more about Michael here](#) and [here](#)). Department founder Candie Wilderman will be teaching one more course, *March to Extinction: The Impact of Climate Change on Biodiversity*, in the spring of 2015, after which we'll have to host one more bittersweet retirement party, so please start planning a trip to Carlisle. (And since I know you'll ask, yes, we are hoping to establish a Wilderman-Heiman Fund to support student research—stay tuned!)

For the moment, then, the department has grown to a remarkable six full-time faculty (Wilderman, Pedersen, Howard, Beevers, Strock, Bedi), although we'll be back to five after Candie's retirement this spring. Even with all this new talent, we are hard-pressed to keep up with the growth in the number of majors, as the College continues to receive plaudits for its focus on sustainability rankings (Dickinson was #3 in the [Sierra Club's 2014 Cool Schools ranking](#)). In 2014 we graduated an astonishing 41 majors. Between the Center for Sustainability Education, ALLARM, and the College Farm, our students have endless opportunities for co-curricular study. Our majors are often found working in the Biodiesel shop, or brewing coffee at the Peddler, or helping with bike repair at the Handlebar. Research, too, continues to be a focus for the department; in 2013-14 we had seven majors pursue year-long senior independent research projects, and we have a similar number this year as well. And just as this newsletter was being assembled, we learned that rising junior Rachael Sclafani—a double major in Environmental Science and Biology—was one of two Dickinsonians awarded a prestigious Greater Research Opportunities from EPA. ([more about Rachael's EPA-GRO Fellowship here](#)). With only about 40 fellowships given a year, this is a tremendous honor.

**1** Professor Howard teaches his students about the underground mine fire that has been burning in Centralia, PA for more than 50 years.

It's been quite a year, and for me it was a real joy to return from my cubicle at the EPA, to get back to the classroom, and even to get my hands dirty once in a while. In the first day of my Environmental Health lab, we surreptitiously cut small foam biopsies from of a number of chairs around the building, sending them to a colleague at Duke, who identified some interesting flame retardants in them—including one we hadn't seen used in chairs before. The class also went to the Farmer's Market and solicited soil samples from local gardeners, testing them for lead using the Earth Science department's X-ray fluorescence spectrometer. (There are a couple folks on campus who'd better not be eating carrots from their gardens!) With Professor Strock's class sampling local lakes and Professor Bedi's classes already involved in local fracking issues, the department continues to engage in the community-based study that has always been one of its greatest strengths.

I end this update with one more personnel change. After a thrilling but sometimes overwhelming year as chair, I've passed the reins over to Professor Tom Arnold of Biology. Tom brings a new depth of expertise in departmental administration, and is well suited help lead us through the current transition period. This step will ensure strong leadership for the near future, while providing me (and my junior colleagues) the breathing room to navigate the tenure process. Tom's ecological expertise is also a welcome addition to the department, and we hope this move will help build bridges between Environmental Studies, the Biology department, and the other sciences. We are thrilled to have Tom on board, and we all look forward to the bright future of the department as it continues to grow and take root!

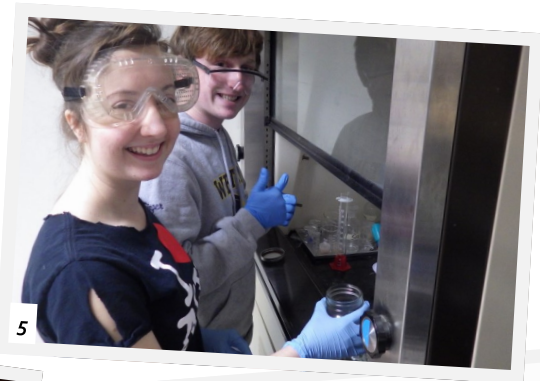
[Return to In This Issue](#)



2



4



5



3



6



7



8

2&3 Professor Howard's Introduction to Environmental Science class explores Centralia, PA. 4 Profs. Howard and Beevers at Michael Heiman's retirement party. 5&6 Prof. Howard's class learns to convert waste vegetable oil to usable biodiesel. 7 Prof. Howard introduces Dr. James Hansen at the Priestley Award Lecture. 8 Prof. Howard's class visits the Cumberland County landfill.

# Introducing, Professor Heather Plumridge Bedi

Assistant Professor, Department of Environmental Studies

The Dickinson College Environmental Studies Department is happy to welcome Professor Heather Plumridge Bedi as our new tenure-track assistant professor. Heather specializes in environmental sociology and will be teaching two new electives this fall—Environmental Activism and Environment and Society.

Heather P. Bedi received her PhD in Geography from the University of Cambridge, where she was a Cambridge Political Economy Society Scholar. She holds a BA in Environmental Studies and in Diplomacy and World Affairs from Occidental College and an MSc from the School of Natural Resources and Environment at the University of Michigan. Prior to her doctoral studies, Heather worked for environmental non-governmental organizations in India. As an Assistant Program Director at Global Greengrants Fund in Boulder, she supported environmental and social justice grant-making with activists in India, Russia, Eastern Europe, the Pacific Islands, and Latin America.



Grounded in political ecology and development, her current research examines how mining, land, and industrialization projects and policies are experienced and contested in South Asia and the United States. She has published on Special Economic Zones and land-use protest, the fallacies of mining environmental impact assessments, and the human rights and agricultural implications of resource extraction. As an UKIERI Visiting Fellow in Mumbai in 2014, she researched the judicialization of environmental claims in India. Heather will return to India during winter break to monitor air pollution in a community next to Asia's largest coal mine.

An advocate of place based learning and teaching, Heather's nascent research examines energy activism through the lens of hydraulic fracturing (fracking) in Pennsylvania. New research seeks to understand how hydraulic fracturing is experienced by affected communities, and how opposition is framed by a range of environmental activists. Across places, her research projects focus on the community and ecosystem implications of energy procurement, and how individuals, communities, or movements shape activism in response to coal (India) or natural gas (Pennsylvania) extraction. In future field seasons, she hopes to work alongside Dickinson students on these issues.

When not teaching, researching, or engaging in environmental activism, Heather enjoys dance, soccer, photography, skiing, and spending time with her family.

[Return to In This Issue](#)

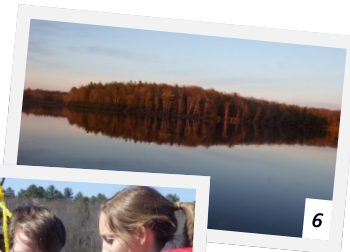
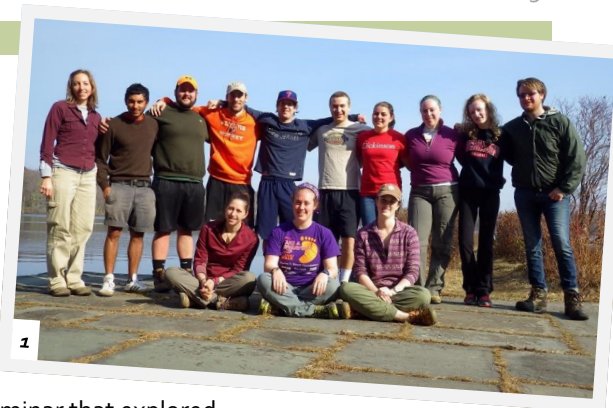


# Kristin Strock's First Year

by Professor Kristin Strock

Let me start by saying thank you to Greg, Ash, Candie, Michael H., Michael B., Deb, Emily, and all of the amazing environmental studies/science students for such a warm welcome to the Department this year! I couldn't have asked for a better first year at Dickinson.

This spring I taught two classes, Limnology, as an elective course, and a senior seminar that explored how conservation science is changing as a result of global climate change. Both classes were busy with student projects that explored a range of topics, from nutrient management at the farm to conserving pollinators in New Zealand. Despite a long winter this year, the students in limnology were able to visit several local reservoirs and even made a weekend trip out to Lake Lacawac in the Poconos.



This winter's freezing temperatures even gave us the opportunity to go out on the ice to sample Laurel Lake in Pine Grove Furnace State Park, [read more on "Breaking the Ice."](#) I was impressed and inspired by the enthusiasm the students of this Department have for getting out in the field and getting their hands dirty to learn all they can and to make a difference.



This year has also been busy with ongoing research. I was able to make a trip out to Isle Royale National Park this fall to collect fossils contained in lake sediments, [read more on that from the Climate Change Institute here](#), and will head to Greenland this summer to do some similar work. In the meantime, my colleagues and I published [an article in Environmental Science & Technology](#) that outlines how lakes are recovering from acid rain in the northeastern U.S.

My husband, Kurt, and dog, Marco, are enjoying life in Carlisle. Marco especially enjoys being within walking distance of Leo's Ice Cream!

I'm looking forward to the year ahead – and am excited to welcome [Heather Bedi](#), our new faculty member, to the Department. I've enjoyed getting to know the Environmental Studies/Science students this year and would love to meet more Alums, so feel free to stop by and say hello when you're visiting campus.

Best, Kristin Strock

[Return to In This Issue](#)

**1** Professor Kristin Strock (top left) and Academic Technician, Emily Thorpe (bottom right) pose with Limnology students on the Lake Lacawac field trip **2** Students collect a sediment core on Lacawac **3** Christine Burns '14 examines plankton collected from Lacawac **4** Limnology students practice their newt catching skills **5** Professor Strock and students collect a sediment core from Lacawac **6** Evening reflections at Lake Lacawac **7 & 8** Professor Strock and students collect water samples from an iced-over Laurel Lake **9** Kristin's dog Marco, a regular at Leo's Ice Cream and Kaufman Hall!



# PERColation: The First Student Sustainability Symposium

by Justin McCarty, Environmental Studies & Economics, Class of 2015

Most readers will not have heard of the Pennsylvania Environmental Resource Consortium (PERC) before reading this article, but afterwards, I will show the importance of the organization in the transition to a sustainable future for our society. PERC is a member-based conglomeration of institutions of higher education across the state of Pennsylvania. Founded as a way for faculty and staff from like-minded institutions to share knowledge and collaborate on projects, PERC is growing into a much more powerful agent of change in a world that is in need of catalysts and problem-solvers.

Part of this growth is due to the fact that students are starting to get more involved as a result of several roundtable discussions that occurred simultaneously during the annual PERC meeting in October of 2013. This meeting included presentations, poster sessions, and panel discussions that included faculty, staff, and students from PERC's member institutions. The end of this meeting culminated with the aforementioned roundtable discussions, which all shared one common theme – more participation from students. And not just the participation that requires presenting at and attending more meetings, but rather a student-led initiative to let us showcase our work and collaborate on a scale not seen in the state before. The PERC executive team met over the next several weeks and it was decided that this student conference would be held.

Come mid-March, the first ever PERC Student Sustainability Symposium was held at Dickinson. An all-day event that held presentations on a wide array of subjects including student beekeeping, a student trip to the United Nations Framework Convention on Climate Change, student gardening groups, and community outreach to monitor PA's stream network and protect from hydraulic fracturing. This symposium had something for everyone and that is completely due to the diversity of student minds that were in the room. Coming from Dickinson, Lycoming College, several Penn State campuses, Messiah College, Chatham University, and many more, students finally had a place to collaborate and showcase their hard work.



**1** Andrew McGowan, 2016, gives a presentation about ALLARM's Stormwater Education Program. **2** Elizabeth de la Reguera presents on her senior research, "The Nitrogen Footprint of Dickinson College."



Justin McCarty '15 swaps ideas with student leaders from colleges across Pennsylvania during the 2014 PERC Student Sustainability Symposium. Photo by Carl Socolow '77.

Not only were there presentations and posters from the students, but there were also several roundtable discussions that allowed for students to share about projects they have devoted incredible amounts of time and energy to seeing succeed. Gina Mucciolo, a graduate student at Chatham University, led a discussion on the challenges, successes, and opportunities of interdisciplinary collaboration in solving sustainability related problems.



That was the overall point – to encourage collaboration to more effectively solve the problems that are staring us down as the planet heats up. The symposium ended with one final group session to discuss what was going to happen with this group next. When organizing this symposium, the PERC team wanted to make sure that something more than just the typical information sharing and networking happened. There needed to be a tangible result.

So as a group of students, faculty, administrators, and staff from all over the state, we sat down and figured out what that would be. This resulted in the PERColator being created. The PERColator is a budding Facebook group that is set up to allow collaboration on sustainability projects across the state. It has been used to share best practices in starting campus gardens, securing reliable chemical supplies for biodiesel production, and as the academic year ramps up will hopefully be used to share news and events at PERC schools across the state, as well as, prepare for next year's symposium.

This type of collaboration is unprecedented in the campus environment. Singular campuses do not provide the variability in ideas and projects that I saw during the symposium, and these ideas must be shared. The power collaboration can have on problem solving is well-known – the new solutions that are brought to the table by fresh eyes, the innovations that bring progress. We will need fresh eyes and innovations constantly in the coming decades. The planet has changed and is forcing upon our species a new set of rules, but I believe that the students of PERC are a fantastic example of the bright problem solvers that we need.

[Return to In This Issue](#)

FOR MORE INFORMATION ON PERC:



[PERC Student Sustainability Symposium Highlights](#)

[PERC Student Sustainability Symposium Recap](#)

[For Students, by Students](#)

# The Rose-Walters Prize for Environmental Activism: Lisa Jackson

by Professor Ashton Nichols (with generous input from Dickinson web reports)

The Rose-Walters Prize for Environmental Activism at Dickinson College continues to provide remarkable opportunities for Dickinson students, faculty, and staff to interact with the most important environmental activists currently at work. After Bill McKibben's widely praised inaugural visit, the College benefitted greatly from the second year's award-winner, Lisa Jackson's--Barack Obama's administrator of the Environmental Protection Agency--arrival on campus. First, Jackson received her award at Commencement exercises on May 19 of 2013, and then she returned to campus in September for her two-day residency.

Jackson led the EPA in the Obama administration from 2009 to 2013, where she focused on core issues of protecting air and water quality, preventing exposure to toxic contamination, and reducing greenhouse gases. The first African-American to hold the post, Jackson also focused on vulnerable groups including children, the elderly and low-income communities that are particularly susceptible to environmental and health threats.

She was named one of *Newsweek's* Most Important People in 2010. She was also featured on *Time* magazine's 2010 and 2011 lists of the 100 Most Influential People in the World and listed in *Essence* magazine's 40 Women Who Have Influenced the World. Jackson was also profiled in *Oprah's O* magazine for her work to protect the nation's air, water and land from pollution that threatens human health.

The annual Rose-Walters prize of \$100,000 includes a residency and a public lecture delivered by the recipient. The prize was given in 2012 by alumnus Sam Rose, class of 1958, and his wife, Julie Walters, to focus attention on the need

to reduce the impact of human beings on the planet, in the face of rising population predictions for this century. As

longtime supporters of the Natural Resource Defense Council (NRDC), Rose and Walters endowed the prize to honor NRDC co-founder John H. Adams and his 40 years of dedication and service to environmental causes.

Jackson returned to Carlisle on Thursday September 26 and Friday September 27 for various activities with students, faculty, and staff. Her residency included two public appearances—

a panel discussion with former U.S. representative Joseph Sestak on Friday afternoon, followed by public questions and answers—and visits with professors and students studying environmental policy, international policy, and business strategy. She toured the Center for Sustainable Living (a.k.a. The Treehouse) and Dickinson's College Farm. Later, she engaged in a roundtable discussion with student leaders James Cousins '14, Melinda Critzer '14, Ted Dressel '14, Zachary Kaiser '14, Michele Metcalf '16, William Nelligan '14,

Caryn Sennett '15, Catherine Turvey '15, Sarah Welch '15 and Rachel Williams '14.

"I fell in love with Dickinson during my first visit, and I'm very glad to be back at a college that is actively engaged in environmental issues," said Jackson. "There's transformative power in insisting that environmental issues are addressed throughout the curriculum." Later, she told students, "You've already made a good first step by coming here to a liberal-arts college, because the liberal arts focus not solely on what

Continued on Next Page...



Lisa Jackson meets with the staff of the Alliance for Aquatic Resource Monitoring (ALLARM). Pictured left to right: Shanice Grant '14, Andrew McGowan '16, Lisa Jackson, Jinnie Monismith, Julie Vastine, and Professor Candie Wilderman.



1 & 2 Professor Greg Howard, chair of the Environmental Studies Department, moderates as Lisa Jackson responds to student questions during a Q-&A session. Photos by Carl Socolow '77.

you're going to do, but on who you're going to be," she told these students. "If you're doing this right, you will carry your values with you wherever you go and whatever you do. You might be the force that comes up and brings change."

"To some extent, she's preaching to the choir here at Dickinson," said Morissa Glatman '14, an ALLARM volunteer who plans to work for a grassroots social-justice organization after graduating in May. "But as she said, there's still a lot of work to be done, and it's up to our generation to do it . . . There's no guidebook telling you how to change the world. You just need to come together and collaborate, and figure out a way."

Before becoming EPA's Administrator, Jackson served as chief

of staff to New Jersey Gov. Jon S. Corzine and commissioner of the state's Department of Environmental Protection (DEP). Prior to joining the New Jersey DEP, she worked for 16 years as an employee of the EPA. Jackson is a summa cum laude graduate of Tulane University and earned a master's degree in chemical engineering from Princeton University. She was born in Pennsylvania and grew up in New Orleans. The 2014 Rose-Walters visitor will be James Balog, award-winning geographer and environmental photographer, who has become famous for his remarkable photographs and videos of melting and vanishing glaciers. ([Read more about James Balog](#)).

[Return to In This Issue](#)

## Ash Nichols: An Annual Report

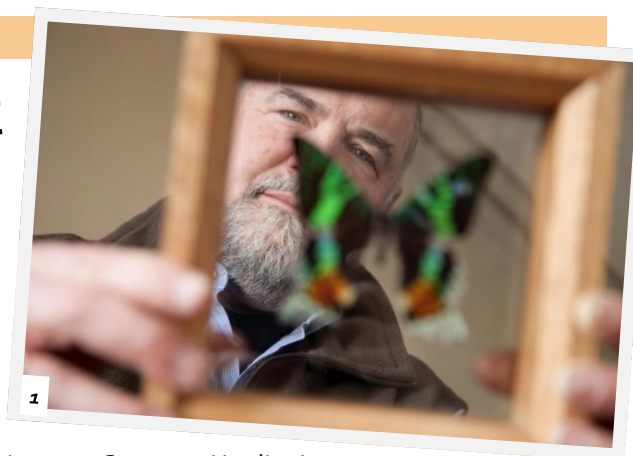
by Professor Ashton Nichols

Professor Nichols has been busy teaching, writing, and travelling to a variety of colleges and elsewhere to read from and speak about his most recent book, *Beyond Romantic Ecocriticism: Toward Urbanatural Roosting*. He has lectured at the University of Virginia, at a drama conference in Baltimore, and to the MFA Program at Chatham University in Pittsburgh (Rachel Carson's alma mater).

This fall, he will be headed to The Hill School in Pottstown, PA --a boarding school that regularly sends students to Dickinson --for a stint as their Writer-in-Residence. Previous recipients of this award include author Tobias Wolff and film-maker Oliver Stone, both Hill School alumni. He will also be lecturing at the Brandywine Museum at Chadds Ford in Wyeth Country in southeastern Pennsylvania. He will be speaking on the idea of nature in the American Transcendentalists and their links to American art; the lecture will be linked to a Brandywine exhibit, *Exalted Nature: The Real and Fantastic World of Charles Burchfield*.

His scholarship has also continued with an essay entitled "Fostered by Fear: Affect and Environment in Romantic Nature Writing" that will be appearing in a collection of essays *Affect and Ecology in the Nineteenth Century*, to be edited by Lisa Ottum and Seth Reno and published by the University Press of New England. He is also at work on an essay for an ecocritical volume on Victorian writers, currently titled *Victorian Writers and the Environment* to be published by Ashgate Press. He has also completed a review essay for *Nineteenth-Century Literature* at UCLA on *Thoreauvian Modernities: Transatlantic Conversations on an American Icon*, edited by François Specq, Laura Dassow Walls, and Michel Granger.

Finally, Professor Nichols's teaching has included a new version of the traditional ENST 111 course, "Environment, Culture and Values." He has taken his introductory literature course on "Thoreau and American Nature Writing" and adapted it for cross-listing with this required environmental humanities course by adding numerous environmental



masterpieces: Garrett Harding's "Tragedy of the Commons," Cesar Chavez's toxic pesticides speech, Robert Bullard's "Environmental Justice for All," and many more.

This fall he will also be teaching "Writing About the Natural World," an English 212 course that focuses on student's skills as writers of expository prose, in this case, by emphasizing the tradition of nature writing and the ability of Dickinson students to enter into this genre with their own work. This course will be adapted from the versions he offered to students who travelled with him and Professor Key to the Galapagos and also the class that he taught in last year's Natural History Mosaic with Professors Key, and Wingert.

[Return to In This Issue](#)

### FOR MORE ABOUT ASHTON NICHOLS:

[It's a Nonhuman World  
\(We Just Live Here\)](#)



[Faculty Minute: Ash Nichols](#)

**1** Professor Ashton Nichols' nature writing class allows students to explore the natural world and their place in it. Photo by Carl Socolow '77.

**2** In his new book "*Beyond Romantic Ecocriticism: Toward Urbanatural Roosting*," Ashton Nichols documents the transition away from the view of "nature" as separate from humans towards the Romantic "nature" being linked among all living things.





# James Balog: 2014 Rose-Walters Prize Winner

by Lindsey Lyons, Assistant Director, CSE

The Center for Sustainability Education (CSE) is excited to host author, scientist and award-winning photographer [James Balog](#), for his on-campus residency as the recipient of The Sam Rose '58 and Julie Walters Prize at Dickinson College for Global Environmental Activism. James received the \$100,000 prize, created to focus attention on the need to reduce the impact of human lives on the planet, particularly given the rising population predictions for this century, at Commencement on Sunday, May 18, 2014.

Balog will visit Dickinson September 21-24, 2014 and participate in class discussions around soils, landscape photography, climate change and environmental activism. He will meet with small groups of students including Center for Sustainability Education interns, ALLARM student staff, art students, residents of The Treehouse, College Farm workers, and student leaders. Roundtable lunch discussions with students and faculty will allow Balog to share his experiences in founding the [Extreme Ice Survey \(EIS\)](#) and [Earth Vision Trust](#), which have been at the forefront of merging art and science and giving a "visual voice" to the planet's changing ecosystems.

Additionally, the Waidner-Spahr Library at Dickinson will host *ICE: Portraits of Vanishing Glaciers, Photographs by James Balog* exhibit from mid-September to mid-December 2014. The exhibit will include 15 large photographs, EIS time lapse video, informational panels, interactive station and book display. Balog is the author of eight books, including *ICE: Portraits of Vanishing Glaciers*, *Tree: A New Vision of the American Forest* and *Survivors: A New Vision of Endangered Wildlife*, the last of which was hailed as a major conceptual breakthrough in environmental photography.

## FOR MORE ABOUT JAMES BALOG:

### [The Visual Voice of the Planet](#)



[2014 Rose-Walters Prize Winner: James Balog](#)



[James Balog's Advice for College Graduates](#)



## Our Special Message to Alumni:

This year CSE is working to support and celebrate our distinctive community and our shared commitment to life-long liberal-arts learning. President Nancy Roseman is launching a new initiative in the 2014-15 academic year. Each semester, **One College One Community** will bring together alumni, parents, faculty and current students to consider a common theme and connect through a series of stimulating events on campus and around the world.

This fall, One College One Community kicks off with conversations around Balog's *Chasing Ice* documentary. CSE will support the following alumni engaging opportunities:

**Homecoming & Family Weekend, Sept. 19-21:** *Chasing Ice* discussion and viewing party at the Carlisle Theatre (Saturday, Sept. 20, 7:30 pm) and guided tours of Balog's photography exhibit throughout the weekend.

**Livestream and interactive discussion, Tuesday, Sept. 23, 7:00 pm EST:** Join us for an interactive discussion during the livestream of Balog's public lecture. Watch for information about our online educational resource page that will have discussion questions, resource links, books, and contact information.

**Regional events, discussions with faculty and students and watch parties:** Atlanta, Baltimore, Boston, Chicago, Los Angeles, New York City, Philadelphia, Washington, D.C.

Interested in hosting a watch party for the lecture or *Chasing Ice* in your area? Contact Liz Glynn Toth '06, director of alumni relations, at [tothe@dickinson.edu](mailto:tothe@dickinson.edu).

For more information about [One College One Community](#) visit the website.

## Center for Sustainability Education

CSE is always looking for ways to interact with alumni. From committee service to job and internship placement and promotion to program/project support and consultation, alumni can help us. Like [CSE on Facebook](#), or follow us on [Twitter](#) to stay connected to [sustainability@dickinson.edu](mailto:sustainability@dickinson.edu).

[Return to In This Issue](#)

**1** James Balog's on-campus residency with be September 22nd—23rd, 2014.

**2** James Balog received the third Rose-Walters Prize for Environmental Activism at the 2014 commencement ceremony.

Photo by Carl Socolow '77.

# A Tribute to Michael Heiman

by Professor Candie Wilderman

I am delighted to share with you some of my reflections in celebration of Professor Michael Heiman's distinguished career, 25 years of which were spent here at Dickinson College, shaping the minds and hearts of thousands of students. Michael is known to alumni as a teacher of extraordinary depth and insight, with a commitment to rigor and training in critical thinking. As a geographer, he has shown us all what it means to think globally, to question conventional wisdom, to envision alternative solutions, and to be interdisciplinary in our approach to problem-solving.

Michael has a reputation for his great sense of humor (including the off-color edge), his appreciation for music (especially the kind of music with blue in its name), his enthusiasm for comradery, his kindness and generosity, his fast talking, his extensive comments on student papers, and his compassion for students of all learning styles.

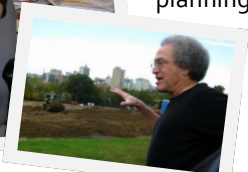
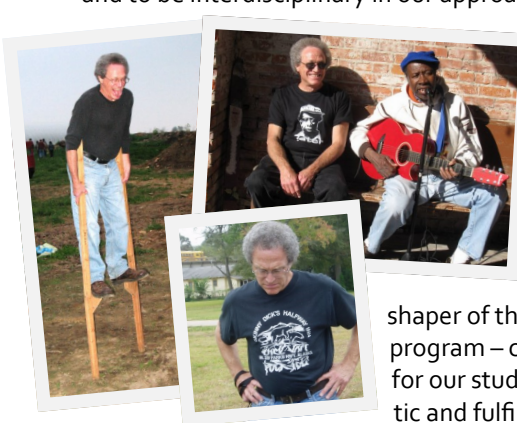
For 25 years, Michael has been the primary shaper of the Environmental Studies side of our curricular program – carefully constructing experiences in and outside of the classroom for our students that (in their own testimonies) have helped them find their calling and shape a realistic and fulfilling professional future.

His method of introducing alternative perspectives on contentious issues has been to invite community actors from all perspectives to interact and have conversations with students, who have been adequately prepared to engage meaningfully in these experiences. He is an expert in training students to respectfully communicate with all community stakeholders – industrial and corporate leaders, union members, agency representatives, environmental advocates and concerned residents. Students often go on to do further research and internships with these connections that Michael has nurtured over the years.

In the 1990s, when data on toxic releases from industries became publically available, Michael initiated a classroom project that had students auditing their hometowns for toxic releases – a project that eventually became the largest program of its kind in the country and that grew into training the public to access this still critical information.

During his many years as chair of our department, Michael guided the program through periods of growth and change. He always took his academic advising duties very seriously, shaping department policy through his careful decisions; he was also the primary advisor for graduate school in our program for many years. As a scholar, Michael has contributed to an astounding diversity of fields – publishing important papers and books on land use planning, environmental justice, community-based participatory research, hydrogen fuel policy, carbon trading, and most recently, a critical look at educating for sustainability. I don't believe he has ever missed an annual AAG conference, where his presentation is often the buzz of the event. But as Michael would tell it, there are all kinds of buzzes to be had at geographers' conferences.

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After Michael and I worked together for a few years, we began to have this fantasy about taking students to southern Louisiana, where we could combine our interests in aquatic sciences and toxic contamination within the context of severely impacted communities. Many years later, we were invited to submit a proposal to the Luce Foundation for curricular innovation in Environmental Studies. With one unsuccessful proposal behind us and rather stuck for ideas, Christina Van Buskirk and Cheryl Kremer told us to just imagine what we might really love to do – and thus the Luce Semester (more formally known as the Watershed-based Integrated Field Semester) was born. We were able to offer the program for 4 years involving over 80 students.

For better or for worse, it involved travelling over 5,000 miles in vans with students doing a study of resource-dependent and chemically impacted communities from the Chesapeake Bay to the Louisiana Bayous – a version of our long-time fantasy. Hurricane Katrina tragically hit New Orleans on the first day of the first Luce semester resulting in one of greatest unnatural disasters ever to occur in the US and frankly, the richest learning and teaching opportunity of our lives. Michael provided the context for making sense of these events as they unfolded over the 4 years of the program.

Before we began our co-teaching of the Luce semester, I wondered if Michael would be comfortable getting down and dirty during the field sciences portion of the curriculum. After all, he's a city boy from New York, he's a critical theorist, he's of German ancestry. I quickly learned that such fears were grossly misplaced, as Michael dove into the field studies in a way I can only describe as total abandon.

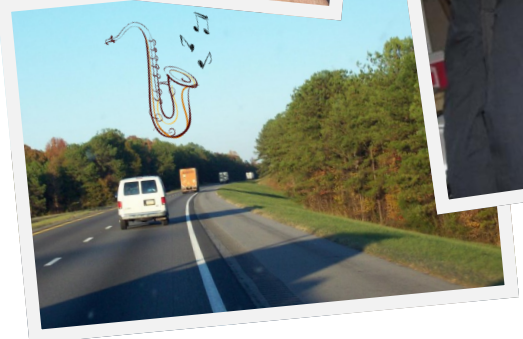


One of the highlights of the Luce experience was Michael's enthusiastic sharing of his love and extensive knowledge of Blues music. As we traveled to Louisiana, one of the most memorable events was an overnight stop at Clarksdale, Mississippi, the home of the Blues.

To prepare for this experience, Michael had each student report on a blues musician of their choice, complete with demo music in the van as we traveled towards Mississippi.

And then there was the experiential component. These assignments were part of his larger effort to build an understanding that this is a landscape of people, -- that environmental issues can neither be understood nor solved without a deep appreciation of the cultural context. — I guess that's geography, right?

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On a personal note, for 25 years, Michael and I have shared the challenges of running a small but vibrant department. Often when an issue comes to the table, Michael and I do not agree. So we discuss – and at the end of the discussion we still don't agree, because he has convinced me of his perspective and I have convinced him of mine. This phenomenon has always indicated to me that we work well together – with open minds, and a willingness to listen and a commitment to bend. Newcomers to the department however think that we are fighting – but eventually realize it is more like – well – dancing!



I am so grateful to have had such a wonderful colleague with such clear vision and commitment to integrity and collaboration.

To close this tribute, let me share with you a piece that Liz Martin Perera '98 (who now leads the national Sierra Club Initiative on environmental health and climate change) sent to us when she heard about Michael's retirement. It's called:

**"From Love Canal to Fresh Kill...A Tribute to the Hard Hat King."**

*A large white Dickinson Van flies down a high security road around Love Canal. A man in tight jeans, black t-shirt and a hard hat jumps out – It's him, the Hard Hat King...*

*With a smile larger than life, the King pops out of the driver's seat and proceeds to march right over to the off-limits sign – he's a citizen after all, he has a right to see and know what's behind the sign.*

*He urges his students to hurry out of the van before we get busted even though it is our right to be there of course. Pimply-faced, timid kids jump out with hard hats feeling empowered by the King.*

*We walk over to what looks to be an old drum as the King rattles off a string of chemical compounds and carcinogens lurking below that have been finding their way into the bodies of the children who used to play nearby in the 70s.*

*He speaks of the atrocities of the spills, the cover up, the cancers that showed up in the entire community revealing a cancer hotspot and the student's blood begins to boil as their minds begin to expand and the veil lifts.*

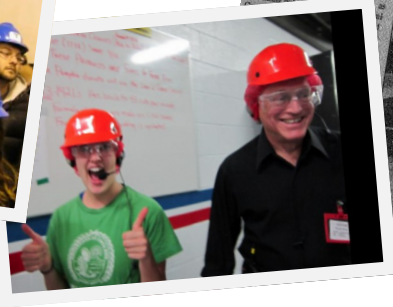
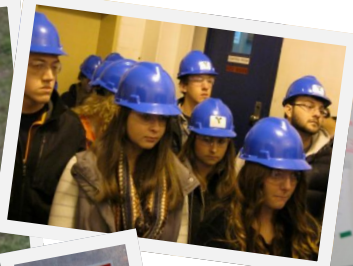
*He explains the incredible injustice, how the poor had no choice but to stay as their housing values fell while they watched their children go through chemo and there was simply no one for them to turn to. "But wait!" we say, "what happened to those people, where was the justice?"*

*He explains there was no justice and no one has ever paid more dearly than the residents of Love Canal. Then he smiles again and says "Ok, now you know."*

*He speaks of environmental racism and justice, risk assessment, and the democratization of science but our hearts have learned a deeper lesson and our lives have been changed forever.*

*There is no way to count how many hearts and lives Professor Heiman changed in his tenure at Dickinson College but every class he taught was a life-changing experience. The legacy he leaves is incredible.*

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Michael, we wish you and Paula all the best in this new chapter of your lives – we expect you will stay closely connected to Jonathan and Eric and your more extended family, travel to who knows where, listen to a lot of music, drink some good beer, maintain your scholarly activity, and have a balanced and fulfilling life.

So – Professor Heiman – teacher, scholar, colleague, and friend extraordinaire – you will be missed – we try not to imagine how much. Congratulations!

[View Mike Heiman's retirement scrapbook.](#)

[Return to In This Issue](#)



## Dr. Catherine O'Reilly & the Water Seminar

by Professor Kristin Strock

**Global Consequences of Current Lake Warming**

**Catherine O'Reilly**  
Illinois State University

**Tuesday, February 11, 2014**  
**Stern Center, Great Room, 7 p.m.**

Photo provided by Catherine O'Reilly

Through the Clarke Forum Faculty Seminar on Water, Dr. Strock invited Dr. Catherine O'Reilly to visit campus this past spring. Catherine O'Reilly is an assistant professor in the Department of Geography-Geology at Illinois State University. Her research focuses on nutrient cycles and freshwater biogeochemistry, with an interest in human impacts and climate change. Much of her initial work focused on Lake Tanganyika, East Africa, where her research was among the first to show ecosystem-scale impacts of current climate change. Dr. O'Reilly is involved in the Global Lake Ecological Observatory Network (GLEON) and the Global Lake Temperature Collaboration (GLTC). She has been the recipient of several National Science Foundation awards and given scientific presentations around the world. Dr. O'Reilly has a B.A. from Carleton College and a Ph.D. from the University of Arizona. As part of the 2007 Intergovernmental Panel on Climate Change, Dr. O'Reilly shares the Nobel Peace Prize with Al Gore and 2000 other scientists.

In addition to her [public lecture](#), she met with ES students, staff, and faculty to discuss some of the issues that scientists face when communicating the effects of climate change to the public.

Other Water Seminar speakers included James Salzman, Duke University professor and author of *Drinking Water: A History*; Steven Solomon, author of *Water: The Epic Struggle for Wealth, Power, and Civilization*, and Carl Bruch, senior attorney at the Environmental Law Institute. You can view their lectures on the [Clarke Forum website](#).

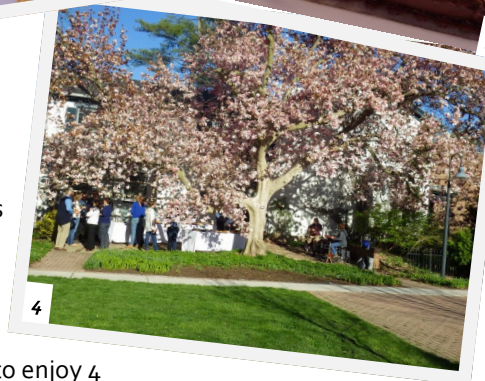
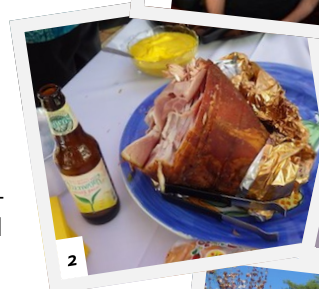
[Return to In This Issue](#)

# An Update from the Itinerant Geographer

by Professor Michael Heiman

This summer I finally moved from phased to full retirement. The department has made this inevitable transition as easy as possible, even arranging a good home for my overgrown office plant and a small transition office at the other end of Kaufman where I can write up my sabbatical work. I am particularly excited that a bona fide geographer, [Dr. Heather Bedi](#) (Ph.D. Cambridge UK), is moving into my old office and I can leave behind 40 years of accumulated geographic journals, texts, and maps for an appreciative audience.

So far I survived 5 retirement recognitions/parties including Candie's revealing PowerPoint display before the entire assembly of faculty and college administrators, President Roseman's reception for all retiring college staff, another slide show at the annual department picnic, a 7-hour happy "hour" with Washington, DC alumni arranged by Liz (Martin) Perera ('98), and an intimate reception with my favorite honey-baked (non-kosher) ham and double chocolate cake under the blooming magnolia tree on Alumni Commons--arranged by Deb, Emily, and Julie. A special thanks goes to Marianna Doherty, our bass and fiddle-playing IT support staff here in Kaufman who arranged and performed in the blues duo that accompanied us on that beautiful spring day.



In April, during an academic sabbatical prior to my terminal one, I traveled to Copenhagen to give a paper on education for sustainability in the most bike-friendly city I have ever seen. This was followed by visits to Bremen (another contender for the urban sustainability crown), Amsterdam (home to over 300 "coffee shops"--there were only 2 when I was last there in 1969); and Bruges. Here Paula and I managed to enjoy 4

of the 5 must-try Belgian treats (chocolate, beer, waffles, and "fries"--the locals claim that the French attached their name to a Belgian invention). I skipped the mussels, but made up for that with Belgian crab sandwiches.

Cleaning out my office I came across hundreds of pictures and slides from our time together, notably on field trips to Chester, PA; Love Canal (including evening forays across the Rainbow Bridge to Canada); and during the years Candie and I spent with you studying environmental (mis)management in coastal Louisiana with side trips to the birthplace of the blues in Clarksdale, MS and with coal activists in Southwest PA and West Virginia. These have been the most rewarding experiences of my time at Dickinson, working

with inspired students in environmentally impacted communities and seeing your passion evolve toward meaningful academic and professional engagement.

Keep in touch. As the old Motel 6 advertisement goes, "we'll leave the light on for you." At my end this entails committing to figuring out Facebook, though I am determined not to become addicted as are too many of my retired colleagues!

All the best--Mike Heiman

[Return to In This Issue](#)

**1** Mike Heiman with Washington, D.C.-based alums—including Brendan Young '11, Liz Martin-Perera '98, Kerri Oddenino '10, Christiana Briddell '01—at a happy hour arranged by Perera. **2** It wouldn't be a proper Mike Heiman retirement party without a honey-baked ham—it's tradition that Mike bring one to ES holiday parties. **3** Mike's favorite double chocolate cake. **4** Guests enjoying a beautiful spring afternoon under the blooming magnolia tree at Mike Heiman's retirement party. **5** President Nancy Roseman presents Michael Heiman with a certificate of appreciation for his years-of-service. **6** Candie Wilderman looks on as Mike reads from a scrapbook of pictures and memories gathered from alums. **7** Justin Weaver '94 and Mike enjoy the musical stylings of Marianna Doherty and Rocky Rothrock, members of local blues band Acoustic Stew, seen in photo **8**

# Reflections from the GIS Lab

by Jim Ciarrocca, GIS Specialist

Greetings from the GIS Lab; I hope all is well in your part of the world, wherever that may be. Here on the Dickinson campus, summer brings a welcome respite from the rigors of the academic schedule, as well as an opportunity to reflect on the assorted achievements and challenges from the previous year.

The good news from this office is that the [GIS program at Dickinson College](#) continues to grow. Awareness about the GIS curriculum is increasing, with more students expressing an interest in and enrolling for the GIS courses. Faculty from throughout the college are increasingly asking for support to incorporate GIS-based activities into their own courses, or to [enhance and augment their varied research interests](#). The GIS Lab was bustling with activity this past year, guided by the excellent efforts of our two hardworking interns, Amanda Vandenburg (ENST, 2014) and Michael D'Aprix (ARCH, 2014). Some varied examples of the many projects we worked on include:

- Using GIS to investigate various questions related to the prehistoric and historic human occupations of the Camp Michaux area of the South Mountain region of the Cumberland Valley (ANTH/ARCH 300, Archaeological Method and Theory, Prof Maria Bruno)
- Helping Prof Scott Boback (BIOL) to organize and analyze the numerous GPS data files he and his students have collected of turtle nest sites at the Huntsdale Fish Hatchery over the last several years
- Assisting ALLARM in determining the watershed drainage areas for well sites associated with the Marcellus shale gas drilling throughout Pennsylvania
- Exploring the spatial variation in academic performance as related to childhood obesity in Pennsylvania middle schools (INBM 300, Applied Empirical Analysis of Middle School Obesity, Prof Steve Erfle)
- Mapping the movement of the Atlantic slave trade and Africans during the mid-1700's (History 272/AFST 310, The Atlantic Slave Trade and Africans in the Making of the Atlantic World, 1450-1850, Prof Jeremy Ball)
- Inventorying the diverse collection of trees on the Dickinson College campus and creating a web-based, mobile map application for conducting real-time edits of the tree database while in the field (Mark Scott, College Arborist)



**1** GIS Lab Intern Mike D'Aprix (ARCH '14), Dickinson College Arborist Mark Scott, and GIS student Mary DiGiorgio (BIOL '14) examine the mobile mapping application for the campus tree database. **2** David Golden (ENSC '14) and GIS Lab Intern Amanda Vandenburg (ENST '14) use a total station to collect GIS data at the Farm. **3** Yes, GIS really is the best (as suggested by the Advanced GIS students).



We have also been working on a dedicated data collection project this summer that is focused on supporting the numerous academic programs and varied research initiatives undertaken at the [Dickinson College Farm](#). Our work for this summer project has been centered on three primary objectives: 1) development of a comprehensive design of a GIS database for the Farm, 2) inventory of GIS datasets that already exist for the Farm, with a goal toward incorporating them into an organized data archive, and 3), field data collection on-site in order to create an authoritative base map for the Farm that can serve as the foundation for future academic programs and research initiatives. This project was funded by a Sustainability Education Fund Grant from the Center for Sustainability Education (CSE), and was managed by GIS Lab intern Amanda Vandenburg.

The students in the [GIS courses](#) also worked hard this past year. In particular, students in the Advanced GIS course, ENST 318, undertook and completed individual research projects, in which they were required to develop a GIS application project that utilized advanced skills learned throughout the semester. Students were able to choose a project of their own for which they had an interest, and they were particularly encouraged to engage in projects that promoted collaboration with other faculty or staff within the college, or that supported service initiatives between Dickinson College and local communities. Topics selected by the students demonstrated the use of GIS for investigating and analyzing problems across a wide variety of disciplines, including environmental assessment, urban planning, historical studies, crime analysis, watershed monitoring, and landscape management.

For their final deliverable, the students each prepared a poster of a style suitable for submission to a professional conference, and then presented their work at the annual Dickinson College GIS Expo and Poster Symposium, held this year for the first time in the Rector Science Complex atrium. Judging by the many compliments I received from various members of the Dickinson community who attended, I think it's safe to say the students excelled at accomplishing their project assignments.

Students in this advanced class also spent a busy weekend honing their GPS, surveying, and field data collection skills during an off-campus workshop held at the [Pocono Environmental Education Camp](#) (PEEC), located in the [Delaware National Water Gap National Recreation Area](#).

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Of course, with any type of progress comes a certain amount of growing pains. One of the biggest challenges we faced this year was an increasing demand for GIS-based courses and services, as evidenced by the more-than-double number of requests we received for ENST 218, Intro to GIS, for the FA14 semester. Unfortunately, this means that we are not always able to accommodate every student who wishes to take one of the GIS courses. We are, however, working

hard to address this demand, and as a consequence I am pleased to report that we have approval from the Dean of the college to bring in an adjunct for the SP15 semester, who we expect will be able to teach a second offering of the Intro course.

We are also witnessing an unprecedented rate of change in the technology that drives the GIS industry, which not surprisingly makes it a challenge to keep our GIS-based classroom offerings up-to-date. I have been in this business for almost 30 years, and never before have I seen such a rapid transformation in the technology as we are undergoing now. The current push on the part of [ESRI](#), our primary GIS software vendor, is toward providing more [online data resources](#) and [web-based mapping tools](#), which mimics the trend we've seen throughout the software industry of moving applications away from the desktop and toward more cloud-based, mobile computing platforms. This of course presents as many new opportunities as it does challenges, and so we are confronting this rapid growth in technology by introducing new capabilities for online mapping into the various courses we teach, both inside the ENST department as well as in the other courses we support throughout the college.

These changes in technology reflect an evolution in the field of GIS that has been ongoing for some time, particularly as the industry continues to expand and mature. I had the wonderful opportunity to spend a week at the International [ESRI User Conference](#) in San Diego, CA in July, which is the largest such gathering of GIS practitioners and professionals in the world. What I saw during my week at this conference reflects a trend we've seen happening for some time now, which is that GIS is finally moving out of the backroom of corporate IT departments as a specialized technology niche, and into the [main operations of more businesses](#) as a "must-have" strategic asset. This reflects a fundamental shift in not only the way many industries view spatial literacy, but also in the way spatial data and GIS-based toolsets are incorporated into the problem solving process. No longer is GIS a specialized skill-set and the exclusive province of just a few highly-skilled professionals, but rather it is becoming a critical core competency and more accessible to all manner of employees, from chief executives to managers to staff employees alike.

All of this bodes well for the students who are willing to make the investment to engage with GIS during the Dickinson career, whether it be taking our GIS courses, participating in spatially-based class projects and lab exercises, or working with faculty to incorporate GIS into their research. The skills



*Students from the Advanced GIS class present their work at the 2014 Dickinson College GIS Expo and Poster Symposium in the Rector Science Complex atrium.*

they learn in doing so are among the most [sought-after technology competencies for liberal arts majors](#), and I regularly hear back from graduates of the program that their expertise with GIS has enabled them to stand out among their peers when it comes time to start the ever-important and all-consuming [competitive job search](#). This is indeed an exciting time for GIS-literate students just starting out in their respective careers, as there are so many tremendous

opportunities to embrace geography in their professional practice, whether it be in spatial analysis, web mapping, programming, database management, field data collection, citizen science, or data mining, just to name a few.

*Continued on next page...*

**1** Advanced GIS students Jack Bryan (ENSC '14), Alex Perpalaj (ERSC '14), and Elise Minichiello (ENSC '14) prepare for the day's data collection tasks at the PEEC weekend workshop. **2** Interns, students, and faculty work on projects in the GIS Lab



On a personal side-note, if you think we spend way too much time talking about GIS in Kaufman during the final project poster week, imagine hanging out with 16,000 totally dedicated GIS geeks for a week! Many of those who regularly attend the ESRI conference compare it to a religious pilgrimage, which is not hard to understand when you see the level of enthusiasm generated by the crowd. Perhaps someday we'll have to figure out a way to organize and fund a summer field trip for a [group of students to attend](#); it would certainly be well worth the effort.

In closing, I'd like to thank all the ENST faculty, staff, and students who have worked so hard to incorporate GIS into their courses and research projects. I look forward to providing you with a continued level of support into the new academic year and beyond. And please remember that postcards from wherever your travels take you (with GPS coordinates of course!) are always a welcome distraction, no matter what time of year!

As always, engage the world spatially,

Jim Ciarrocca  
GIS Specialist

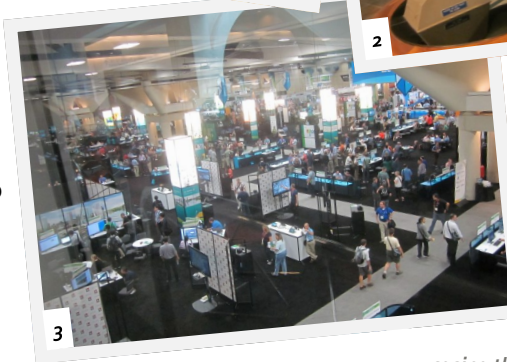
[Return to In This Issue](#)



**1** Advanced GIS students Will Kochtitzky (ERSC '16) and Leslie Milliman (ERSC '14) show off their data collection skills using GPS instruments at a weekend workshop held at the Pocono Environmental Education Camp (PEEC).



**2** Jim visits ESRI's international headquarters in Redlands, California with grandson Zachary and daughter Elizabeth. **3** View of the main exhibition floor at the ESRI International GIS Conference, San Diego, CA, showcasing the latest innovations in GIS technology of vendors from around the world



**3** View of the main exhibition floor at the ESRI International GIS Conference, San Diego, CA, showcasing the latest innovations in GIS technology of vendors from around the world

## An Update from Professor Candie Wilderman

by Professor Candie Wilderman

Hello alums! It's hard to believe another year has passed and it's time to touch base again. Thank you, Emily, for keeping us on track with our annual newsletter!

I've spent the past year teaching about 60% of my normal course load, as I move through this 3-year phased retirement. It's been quite enjoyable for me to have a lighter teaching schedule and to learn how to let others attend to departmental affairs, as new faculty take over the helm. I can't tell you how impressed I am with our new faculty team. My "replacement," [Kristin Strock](#), has brought new energy and quite a bit of charisma to our aquatic sciences offerings – students are raving about the program she is building -- which makes stepping aside virtually effortless for me! I am so grateful for her presence and her eagerness to continue our program and expand in new and exciting directions!

In addition to teaching my last section of "aquatics" this past year, I have been working with ALLARM's Assistant Director, Jinnie Monismith, compiling and analyzing the first three years of data that have been collected by volunteers in ALLARM's shale gas program. To date, [ALLARM](#) has held 61 workshops, training about 1,400 people to monitor for impacts of shale gas extraction activities. We were able to compile data from 172 sites in PA and 107 sites in NY, for a total of 4,220 observation points. For our analysis, we chose sites with at least 8 data points spread over at least 8 months of the year, and ended up with 116 sites and 3,000 observations in our final analysis set.

For these sites, we identified outliers, compiled visual assessment reports, examined stream stage and conductivity relationships, delineated watersheds and quantified relationships between mean conductivity values and watershed size, land use, geology, abandoned mine drainage and drilled well density.

[Continued on next page...](#)



**4** Caroline Kanaskie '13, helping the God's Country Water Dogs to interpret their monitoring data. (Summer 2014).

Our findings showed that although volunteers have not identified contamination events based on water chemistry, they have reported multiple cases of pollution documented visually and related to gas extraction activities. In addition, we were able to document a strong relationship between mean conductivity and stream stage, percentage of development in the watershed, and percentage of limestone. Since most of our volunteers are collecting data in streams that do not yet have drilling, we were not able to detect a shale-gas fingerprint in the stream data, but we do now have strong baseline data with which to compare stream chemistry as future wells are drilled in the watersheds. We presented our "Phase I" analysis at the annual National Water Monitoring Conference in Cincinnati and at a conference at State College, sponsored by a National Science Foundation grant (with which we are involved). I intend to continue this research this coming year, as we move forward in intentionally targeting watersheds with baseline data prior to drilling and move towards the development of a central, user-friendly database so volunteers can input their own data. We are also intending to work with researchers at Penn State and University of Pittsburgh in expanding our monitoring protocol and monitoring high-risk streams. So as I move into my last year of phased retirement, I will focus on this work with ALLARM with the help of some grant monies, and complete my last semester of teaching this spring.

I'm looking forward to teaching my course called "March to Extinction: The Impact of Climate Change on Biodiversity" in the spring. It's a rapidly expanding and very rich topic about which many students are concerned. I enjoy teaching it because it is not my area of expertise (although definitely an area of interest) and so I get to read new literature and learn along with the students.

This year I moved out of my large "double" office and downsized to move into Vallie's former office near the ALLARM and farm offices -- joining the "women of the west wing." I love my new smaller office with lots of windows and within earshot of the ALLARM office activities. Cleaning out 40 years of old presentations, class notes, lab exercises, and research materials was ultimately cleansing, although during the process I vacillated between great joy over reconnecting with early work and existential despair! At the end of the culling process, I had filled the large recycling bins that were placed outside my office many times, and had given away hundreds of books. I was able to let go -- realizing of course that one's legacy does not lie amongst these papers and books, but rather in the minds and hearts of students. I am indeed very grateful for having had the opportunity to share in the joy of learning and discovery with so many of you over the years.

On a personal note, I had the pleasure of seeing my son, Jesse, marry his love this summer (in England -- Caroline is British) and to throw them a big party when they came to the states a few weeks later. Some of you older alums may remember the end-of-semester parties that we used to have at the Wilderman cabin in Perry County. That was the location of our affair and we were blessed with a beautiful summer day and a full-moon night with two campfires going and music into the wee hours. My granddaughters (ages 1 and 3) danced till they dropped!

Please keep in touch -- we love to hear about your doings and to keep the connections going. Warmest regards to all!!



1 Candie and her granddaughters, Eden and Naiya, checking out the macros!

[Return to In This Issue](#)

## Alliance for Aquatic Resource Monitoring Update

by Julie Vastine, Director; and Jinnie Monismith, Assistant Director of Technical Assistance

Ah it is that time of year when the fiscal year comes to a close and we have the opportunity to share with Environmental Studies and Science alumni the latest and greatest with the Alliance for Aquatic Resource Monitoring.

What a busy year it was! To start we had twelve students working for ALLARM this school year -- six environmental science/studies students, three political science students, one biology/education student, one biochemistry and molecular biology student, and one earth sciences student. In addition to the student staff were the four ALLARM directors -- Julie Vastine, Jinnie Monismith, Katie Tomsho, and Candie Wilderman.

It has been a couple of years since we did an update on the numerous ALLARM activities -- here are some highlights from the past year...

### Technical Assistance

- *Watershed Technical Assistance:* Through our state funded collaboration, Consortium for Scientific Assistance to Watersheds (C-SAW) -- now in its 13<sup>th</sup> year -- ALLARM works with five community-based watershed associations helping them to

[Continued on next page...](#)

2 ALLARMie Noah Burchard '16, chats with a Friends of Tom's Creek volunteer during a visual assessment workshop.



design and implement stream monitoring programs. One new partner, Friends of Tom's Creek, is designing a biological, turbidity, and erosion and sedimentation monitoring program to assess the potential impacts from a granite mining operation in their watershed. Another new partnership was with the National Geographic's PA Chesapeake Champions. This allowed ALLARM to branch out of community based partnerships to work with middle and high school teachers to help them integrate stream monitoring into their classroom. Through this program ALLARM had the opportunity to work with over 50 teachers in south central Pennsylvania!

- **Shale Gas Technical Assistance:** ALLARM's shale gas program continues to grow and thrive. This past year ALLARM did follow up work with all sixteen community partners and conducted workshops in New York as well as seven counties in Pennsylvania, bringing our training total to 61 workshops and 1400 people. This summer the ALLARM team had an impactful week and tour throughout the northern tier of the state. It was the first time since the inception of our program that there was monitoring interest in Bradford and Susquehanna counties (the most fracked counties in the state). ALLARM spent time meeting with different communities stakeholders listening to their stories of fracking and met a number of families in Dimock, PA whose drinking water has been contaminated by shale gas extraction. It was an eye opening experience for the team – especially staying at a stakeholder's house where we couldn't drink the water. When we asked our new monitors in these counties why they were interested in stream monitoring, I think Alex Loroto put it best: "So many people in Susquehanna County don't know what to do – they have been impacted in so many ways and ALLARM is giving people something that they can do, control, and understand for themselves by monitoring the health of their streams."



### Campus & Greater Carlisle Outreach

- **Environmental Education:** ALLARM's environmental education coordinators worked with seven schools and community partners that resulted in twelve classroom, after school, and weekend experiential learning experiences. The coordinators cited two favorite collaborations – one was with the Diakon Wilderness Center where ALLARM students created a stream monitoring experience for 25 at-risk students from across the state. By far macroinvertebrate collection and identification was the biggest hit as students competed with one another to identify and count organisms. The other favorite collaboration was with a local Girl Scout troop – the ALLARM students guided twelve Girl Scouts on a hike of the LeTort, pausing at different points to do water sampling and analysis as well as giving the Scouts time to map out different features of the watershed they hiked.
- **LeTort Stormwater Education Campaign:** ALLARM reached a new milestone this year with our collaboration with the Borough of Carlisle, where we help them meet their public education and participation requirements of their federal Multiple Separate Storm Sewer System (MS4) permit – we gave out our 125th rain barrel! ALLARM's stormwater coordinators have fun collaborating with the Cumberland County Conservation District to convert old pickle barrels to fabulous rain barrels. Our program has become so popular that for the past two workshops we have not had to advertise!



- **Stream Restoration:** ALLARM has a new collaboration with the College Farm on the college's five acre property adjacent to the Yellow Breeches where we are converting a historical cow pasture into a land-water living laboratory. The College Farm received an agro-forestry grant that has allowed ALLARM's stream restoration coordinators to design and implement a riparian buffer educational site. In the fall, ALLARM organized a planting day with 25 Dickinson students to plant 125 trees. This past summer, ALLARM students have received a crash course in invasive species management and tree maintenance. We are gearing up for another planting this fall.

In our 28<sup>th</sup> year, working with communities to address local water quality issues continues to be an evolving and exciting story for ALLARM. It is amazing how with each community and classroom collaboration there are a number of lessons learned, which has resulted in a dynamic, flexible ALLARM program. Each experience represents its own chapter with stream quality and it is exciting for ALLARM to help communities use science as a tool to understand the health of their waterways and allow their data to be yet another voice for Pennsylvania's streams.

[Return to In This Issue](#)

**1** Caroline Kanaskie '17 pauses for a picture during our Bradford County workshop. **2** Emily Kaplita '16 and Isabel Harrison '16 teach local 1<sup>st</sup> grade students about wetlands. **3** Max Egener '16, Maame Marfo '14, and Morissa Glatman '14 pose with rain barrels after a workshop. **4** Isabel Harrison '16, Adrienne Brown '16, Katie Mattern '16, Caroline Kanaskie '17, Andrew McGowan '16, Elise Minichiello '14, Kelly McIntyre '14, and Julie Vastine '03 celebrate a successful buffer day.



# College Cultivation: An Update from the Farm

by Ali Frohman, College Farm Program Coordinator

## Greetings, ES alumni, students and faculty!

2013-2014 was an exciting year on the College Farm. From welcoming a new crop of student workers to the farm and continuing successful community educational partnerships to expanding our vegetable production and evolving our CSA model, the farm has been buzzing with activity almost year-round!

## Students and Apprentices

Over the 2013-2014 academic year, the College Farm employed 18 students from many academic departments across campus. Our farm workers include some of Dickinson's most passionate leaders. Four of our 2014 graduates moved into their yurts on the farm in May to start their six month apprenticeships. Brendan Murtha '14 (Environmental Science), Emily Bowie '14 (Environmental Science), Kristiana Amberger '14 (Environmental Studies) and

Kyle Long '14 (Environmental Science) have proven themselves to be astute trail blazers and hard workers as they take on added leadership responsibilities! We also have been thrilled to work with a

talented group of five full-time summer student workers, all current Dickinson students.

## CSA

The month of May marked the start of the eighth Campus Supported Agriculture (CSA) season at the Dickinson College Farm and eleven years since the first Campus Supported Agriculture delivery was made to the HUB in 2004. Our CSA is a pre-paid vegetable subscription that spans 24 weeks or 30 weeks, from May to the end of October or early December.

Our CSA, which now serves over 140 families, transitioned to a new, exciting CSA model: the "Take What You Need" or "Free Choice" model. The new structure is meant to facilitate flexibility and maximize choices, literally allowing members to take what they need as opposed to following a prescribed

weekly CSA list or pre-sorted box.

## Expansion News

2014 also marks another year of acreage expansion. The farm program started in 2007 overseeing one acre of vegetable production ground and six acres of pasture. Since then we have expanded incrementally; four acres of vegetable production ground in 2008, six acres in 2009, seven acres in 2010 and 2011 and eight acres in 2012 and 2013 plus an additional twelve acres of pasture and a five-acre woodlot. All the while we managed non-production land like composting, residential areas, the barn yard, etc.

We are now cultivating nine acres of vegetable production ground and have expanded into a ten-acre parcel. We have begun the process of transitioning this ten-acre parcel from conventional agriculture to organic, planning to cultivate this new acreage in 2016. We currently oversee a total of 60 acres. By 2017, we will oversee approximately 87 acres!

## Lambs and Calves

Besides our student workers and apprentices who joined the farm in May, we had different types of faces to welcome to the fields: lambs and calves! We welcomed five rambunctious new calves to our herd of ten beef cattle. In a record lambing season, our ewes gave birth to seventeen healthy, fuzzy, and quite adorable lambs. This is one of our favorite times on the farm. [Check out a video of Emily Bowie bottle feeding twin lamb brothers.](#)

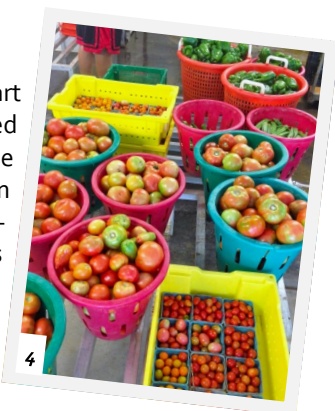
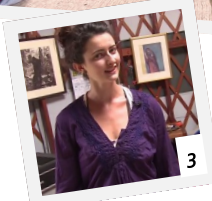
You can also check out lamb and calf photo albums on our Facebook page [here](#) and [here](#).

## Community Educational Partnerships

We collaborated with the Alliance for Aquatic Resource Monitoring and Center for Sustainability Education to host a second successful year for Camp D.I.G. (Discover, Inquire, Grow) in June, with campers in grade 4-6 enjoying two one-week sessions focusing on renewable energy, stream health, sustainable agriculture and culinary discoveries. We also welcomed the campers from Joyce Bylander's CONNECT Camp to the farm for one week. Kristiana Amberger says, "Having children running around the farm gives such a lively energy to the space."

*Continued on next page...*

**1, 2, 3** Farm apprentice Kristiana Amberger '14 shows how to live in a Mongolian-style yurt at the farm! **4** Tomatoes harvest in July 2014, waiting to be sorted before they go out to our CSA, farmers' market or the Dickinson Dining Hall! **5** Farm apprentice Emily Bowie '14, Ben Nathanson '15, and another worker pull weeds in the production fields.



2013-2014 also marked the second official year for our afterschool cooking and nutritional program for elementary school students at Letort Elementary School in Carlisle, "Farm Cook Eat". The program's student coordinator, Mackenzie Johnson ('16 Spanish, Policy Management) and four talented student volunteers taught a dynamic curriculum that featured plenty of hands-on activities covering sustainable agriculture basics, label-reading savvy and beginner cooking skills. The program's third year kicks off in the 2014-2015 academic year, led by Oren Richkin ('15 Environmental Studies). This marks Oren's second year as student coordinator.

### Pizza Oven

If you were on campus for alumni weekend, you may have heard about our new wood-fired pizza oven. The oven has served up a lot of pizza pies since we purchased it late last summer, including at the annual Bluegrass on the Grass Festival in July - an event that attracts well over 3000 attendees to the academic quad at Dickinson! Our farm crew set up for the festival on July 12 aiming to provide "food for foodies" - baking 250 pizzas and selling out by 6:00 PM. When asked which is a harder day of work: managing the non-stop pace of our food stand or working the farm fields, it was actually a toss-up for our students, each demanding in its own way and physically challenging.

### FARMDATA

Since 2010, Professor Tim Wahls (Computer Science) and his students have been helping the farm to develop a digital database and record collection system. The third version of this project, supported by a faculty/student research grant from the Center for Sustainability Education, is a web-based database portal called FARMDATA.

FARMDATA is a quantum leap forward from previous database

versions, and its use is finally taking hold as a standard farm practice. Students, interns, and farm staff can access FARMDATA from desktop computers and smartphones, including a rugged handheld device purchased by Computer Science for use on the farm's harvest truck. FARMDATA allows us to make immediate digital updates to farm records through the web, thereby eliminating the need for paper records and saving the work of manual data entry at the end of the season. This past summer, students Asir Saeed '16, Edwin Padilla '16, and Yutong "Mia" Shang '16 worked with Professor Wahls to produce the web interface portal for the farm. FARMDATA includes "smart" input and reporting forms that enable us to work more efficiently and accurately. In addition to planting and harvesting, FARMDATA stores records for compost application, tillage, spraying, cover crop planting and incorporation, and weed and disease scouting. Farm staff can also use FARMDATA to create and email invoices for dining hall deliveries. Interested parties are encouraged to check out the "guest" login to [FARMDATA](#). [Return to In This Issue](#)

### CHECK OUT THE LATEST FARM VIDEOS:

 [All About Student Workers](#), by Emily Bowie '14

 [How to Prune, Trellis, and Mulch Tomatoes](#), by Dickinson videographer Joe O'Neil



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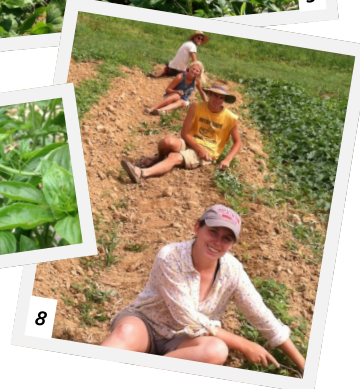
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1 Ben Nathanson '15 in the fields. 2 Joe Riley '17 and Kristiana Amberger '14 pull weeds in the production fields. 3 Kyle Long '14 harvesting cherry tomatoes in a high tunnel greenhouse. 4 Jiayi Gao '17 with a zucchini harvest. 5 & 6 Student workers harvest and pull weeds in the production fields. 7 A praying mantis on a basil plant. 8 Cindy Baur '16, David Golden '14, Emily Bowie '14, and Cody Rosenbarker from Shippensburg University work on weeding.

# An Update from Professor Michael Beevers

by Professor Michael Beevers

Greetings, I hope everybody has had a great year.

So where do I start? In December, my wife gave birth to a healthy and beautiful baby daughter, Cassidy Sierra. She is already growing fast and joins my son Crosby in our growing family. When I look back over the last 6 months, everything is a blur. I wondered, at times, whether with my sleep deprivation I made any sense to my students during class. Anyway, parenthood is truly a magical experience.

The 2013-2014 academic year was great. I taught my senior seminar, which explores the 'human place in nature'. This class helps us get to the heart of debates we encounter every day in environmental studies, and allows for critical analysis and reflection about our personal worldviews and assumptions. I suggest throughout the class that how we understand the 'human place in nature' has consequences because these perspectives are used by people to advance economic, political and social agendas. As such, our perceptions of nature shape environmental decisions, management and policy, among other things.

The weekend field trip for the class is always a highlight. We gleaned vegetables for project SHARE, went to a zoo and then spent a day at Shenandoah National Park. The class blog, which by the end of the semester totaled about 250 wonderful essays and the [final video projects](#), were quite amazing. For more information about senior seminar, visit [Our Place in Nature \(And What Does 'Nature' Really Mean?\)](#).

I also taught 'global environmental politics', which I think is extremely important for students with the drive to tackle issues that transcend national boundaries. The class detailed the cause of global environmental problems and how solutions have been conceptualized and put into practice. The class examined trends in global environmental governance, the focus on sovereign states and international organizations in designing and implementing and enforcing international agreements and the role of 'civil society' and multinational corporations. Finally the course considered major tensions and controversies in the field including: economics and trade, sustainable development and the role of knowledge and power in science. My objective with the class is to provide students in a range of disciplines with an introduction to key issues, debates and tensions that shape how we can address environmental issues that are truly global.

My scholarship has been moving forward. I am still writing and giving talks related to my work at the nexus of environment, peace and conflict. I spent a good part of the summer writing chapters for my book 'Natural Resource Governance in the Aftermath of Conflict'. I was invited to give a talk at Duke University in January and at Western Washington University in April on the topic. Both were very well attended. I also recently presented a paper on 'geoengineering', which is gaining momentum in the scientific community. In the paper, I detail how geoengineering the climate is being framed as a response to climate change. I am in the middle of writing a policy report for a Norwegian organization that examines corruption and mining in protected areas around the world. Finally, I am planning on going to Liberia and Sierra Leone in January for field work as many of my research sites (and friends) are living with an Ebola outbreak.

I am looking forward to working with the newest member of our department [Professor Heather Bedi](#) as well as the rest of the ES gang. Please stay in touch and have a joyous, peaceful and productive year.



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**1** Michael enjoys a vacation to Rehoboth Beach with wife, Karen, son, Crosby, and daughter, Cassidy.

**2** Michael's senior seminar class helps Project SHARE glean vegetables from a local farm. **3** Michael Beevers and Academic Technician, Emily Thorpe, pose with students atop Mary's Rock in Shenandoah National Park on the October senior seminar field trip.

[Return to In This Issue](#)

# The Eco-E Path Mosaic: Students Passionate about Sustainable Entrepreneurship

by Nick Bailey, International Business & Management, Class of 2016

The world in which we live is dominated by complex conflicts and challenges that have been ceaselessly augmented since World War II. These conflicts and challenges are perpetuated by issues of race and class, sexual and gender identity, big data and security, environmental degradation and population explosion. The problems facing society are like none seen before, and they multiply and evolve at a previously unimaginable rate. In recent years, politicians and business leaders from President Barack Obama to Larry Page, cofounder and CEO of Google, have called on young people to innovate and create, to find solutions for these big problems. The individuals that have been most successful in answering the entrepreneurial call are those who believe that innovation is better with flexibility and engage sustainability as a guiding principle. These principles are at the core of Dickinson, and the Eco-E Path Mosaic sought to tap deeply into their potential.

The Eco-E Path Mosaic was composed of three faculty members, three courses, seven students, and one study trip. Professor Helen Takacs, Department International Business and Management, taught "Best Practices in Business Sustainability;" Professor Emily Pawley, Department of History, taught "American Environmental History;" and, adjunct-Professor Anat Alon-Beck, Department of International Business and Management, taught "Education for Entrepreneurs." The combination of these three courses was dynamic and insightful, complimenting one another in unusual ways. Prof. Pawley's course delved into the broad host of historic environmental concerns, ranging from the destruction of the American Bison to the shift from water power to coal and oil, within the context of a "landscape approach." That is to say, every small, independent societal and environment change contributes to larger changes in the "landscape."

We later discovered this approach appears in the business world under a different name. In Prof. Takacs' course, we examined a series of case studies in business sustainability and entrepreneurship to uncover best practices, and we discovered that Prof. Pawley's "landscape approach" is also called "systems thinking," which happens to be the theoretical foundation for entrepreneurship. And, we encountered this over and over again through our case studies on corporations like [Project Frog](#), an architecture firm that designs sustainable, low-cost

schools, and the [Calera Corporation](#), a technology company that specializes in the conversion of CO<sup>2</sup>, but also through the series of guest speakers that Prof. Beck brought to class. We had the opportunity to learn about entrepreneurship from professionals who work specifically with entrepreneurs on topics ranging from intellectual property to human resources, and we also heard from real entrepreneurs.

The mosaic also had a considerable "out-of-classroom" component, from individually constructing curriculum for a proposed certificate in Sustainability and Entrepreneurship, to conducting interviews with entrepreneurial Dickinson alum, creating micro consulting ventures for the Dickinson College Farm, and the pinnacle of our mosaic, a ten day study trip to Arizona. During our time in Arizona, we saw just how wide the Dickinson network expands, connecting with previous faculty members, alumni, and parents of current students to learn about how educators and entrepreneurs are combining sustainability and business interests in the desert. Our whirlwind tour took us to Phoenix (Arizona State University), Tucson (University of Arizona), and Flagstaff (Northern Arizona University), with stops in Saguaro, Sonoma, and Grand Canyon National Parks. And while we were there, we saw the direct impacts of climate change: water depletion, high fuel prices, and distinct socio-economic segregation. But, we also encountered an environment [or a landscape] of hope, creativity, and innovation; people doing cutting-edge sustainability work in the places that they care most. Our most important discovery in Arizona is what we now refer to as "the problem-solution dynamic," where an individual finds a problem and develops a solution. It's simple, but it became the foundation for our understanding of entrepreneurship, and it is the dynamic that will answer the complex challenges of the 21<sup>st</sup> century.

[Return to In This Issue](#)

FOR MORE ON THE ECO-E PATH MOSAIC:

[Eco-E Path Mosaic Blog](#)

[A Quick Look: An Eco-E Path at Dickinson College](#)

1 Katie Soriano '15, Justin McCarty '15, and Matt Musante '14 standing in front of the Giant Sequoia Slab at the University of Arizona. 2 Mosaic students and Professor Takacs with students from ASU's Chapter of Changemakers Central, an incubator for student social entrepreneurs. 3 Mosaic students standing in "the Lung" air circulator at Biosphere 2.



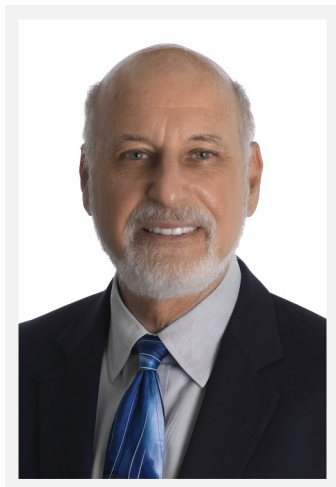
Mosaic students at Skysong Innovation Center at Arizona State University: Hope Boyer '14, Justin McCarty '15, Matt Musante '14, Katie Soriano '15, Joojo Ocran '17, Nick Bailey '16, & Serena Shiland '14.



# Alumni Updates

## Class of 1972

### John Englander



My book "High Tide On Main Street: Rising Sea Level and the Coming Coastal Crisis" (The Science Bookshelf 2012) has become the best selling book about rising sea level related to climate change. I now lecture and consult internationally explaining why a certain amount of sea level is now unavoidable. My briefings to business groups, attorneys, engineers, top government agencies, and communities consistently get top ratings. I trace my interest in the subject back to my paleogeology course at Dickinson.

### Warren "Ted" Heath

Retired on May 31, 2014 after 22 years of Federal service, the last 18 of which were for the Naval Air Systems Command at the The Naval Air Warfare Center, Aircraft Division at Patuxent River, MD. Served as Independent Verification and Validation Team Lead for avionics software for the Presidential Helicopters Program. Also am an In-

structor in the Masters Degree Systems Engineering program at Johns Hopkins University.

## Class of 1974

### Geoff Coe

I'm continuing to travel around the eastern U.S. making a living as a fine art bird photographer. Although I won't be coming to the Harrisburg area this year, I will be at Rehoboth Beach DE on Aug 9-10 and 16-17, and at nearby Bethany Beach on Sept. 6-7. Enjoying down time, when I can get it, with my girlfriend (I have definitely "outkicked my coverage," as the ESPN folks like to say) my two cats, and my kayak. If you're so inclined you can view my work at [www.wildimagesfla.com](http://www.wildimagesfla.com). Hope to see you at the 2015 Alumni Weekend!

## Class of 1976

### Neil Gordon

Having fun!



## Class of 1990

### Abigail Wood Pascual

I previously worked as an environmental consultant at several Phase I Sweatshops and as an environmental contractor. I've been happily working at the Maryland Department of the Environment in the Scrap Tire Unit since 1999 and I've been the Head of the unit since 2007. I'm married with three boys (Jake, Ty, Nate) and a dog (Mona Lisa) who is allergic to everything. We are kept Very Busy running all the boys to their baseball, tennis, and soccer games and we have tons of fun doing it.





# Alumni Updates

## Class of 1991

### Christine Reuss Wisnewski

Christine Reuss Wisnewski ('91), is Project Manager for Sound Science LLC, an environmental consulting firm based in Boise, ID. Christine was part of a team hired by the Bureau of Reclamation to facilitate a series of meetings of hydrologist and other technical experts from the U.S. and Mexico. These experts were charged with designing the hydrograph for the historic release of almost 34 billion gallons of water down the Colorado River that took place this past March. This release of flood waters was meant to mimic the Colorado's historical spring flood. This effort was part of Minute 319, a bi-national agreement between the two nations that made possible a release of water to the Colorado River delta for environmental purposes. As a result of this agreement, the Colorado River again met the sea for the first time in more than 50 years.

## Class of 1993

### Andy B. Judd

Since the last newsletter, my wife Jen and I have continued to work on our fixer-upper house in Chester, NJ with much "help" from our kids Robbie (6 y.o.) and Katie (2 y.o.). Although we're making some decent progress, it feels like our 5-year-plan is on a 15-year track! Other free time usually involves the kid's activities, but I still make time to volunteer with a wilderness Search and Rescue team. We also added a flock of 11 chickens to the family this year. I'm still in the Environmental Con-

sulting field with CH2M HILL for about 18 years now and do senior technical consulting and project management work. I've lost touch with most of the D'son gang, but would love to hear from everyone ([Andrew.Judd@CH2M.com](mailto:Andrew.Judd@CH2M.com)).

The photo is from a fire watch tower in the Adirondacks, NY this July 4, 2014 - note the topo map sighting table in the foreground!



## Class of 1998

### Nicole Long-McCoy



I have been a full-time stay at home Mom for 9 years. Currently working with the Susquehanna River School teaching EcoCamps at City Island, Harrisburg PA, also have been working as a reference assistant at a local library since 2006 / Starting a Master's of Arts in Teaching Science Education at Shippensburg University in a few weeks. Will complete my Master's degree and

attain public school teaching certification. Goal is to motivate and mentor kids to love science!

## Class of 2001

### Christiana Briddell

Working for the ACS Green Chemistry Institute to help chemists awaken to how they can do chemistry in environmentally sustainable ways (non toxic, less waste, biodegradable, lifecycle thinking, energy efficient, etc.)

## Class of 2002

### Megan Gerseny

Four years ago I moved from Pullman, WA to Denver, CO to reinsert myself into the scientific community. I am now a Geoscience Technician at a small oil and gas company providing support for the petroleum geologists on staff. Amazingly, I was hired partly because one of the geologists on staff and I did a REU internship together the summer of my sophomore year. You never know when those internships will pay off! I live in Boulder but love the proximity of the Flatirons and the culture of the town enough to pay the penance of the extra 2 hours of commuting each day. I recently spent a week circumnavigating via sea-kayak a volcanic island off the coast of the Baja Peninsula. Living in Colorado however, provides me limited sea-kayaking opportunities, so I have been learning whitewater kayaking instead. It is quite a rush and is providing me a good excuse to get into the mountains more often. Life in Colorado is fantastic, I highly recommend it!

# Alumni Updates

## Angela Wallis



Hello everyone! The newsletter is looking great. 2013 has been a big year, so I though I'd write in. After a quick and sometimes painful lesson in home buying in the hot Seattle market, we bought a BuiltGreen home in a sustainable development this August. We're also expecting our first child in early January - a baby girl. In August we also had the great pleasure of a visit from Jessica Howard '01 and Julie Vastine '03. In my long-time resource conservation job, I've been using Community-Based Social Marketing strategies to create environmental behavior change, and the outcomes are fabulous. Look up this field if you aren't already aware of it! It's a game-changer for sustainability.

### Class of 2004

#### Sarah Pears

Last fall, I returned to the University of Vermont to earn a Ph.D. in Natural Resources and a certificate in Ecological Economics. I do research in forest ecosystem health, specifically looking at the ecological and economic outcomes of salvage logging in Vermont following severe windstorms. I anticipate completing my degree in 2015.

## Laura Walters



Over the past ten years I have been teaching people how to design and install solar electric systems. I have recently been shifting my focus to the international arena, and this year I went to Uganda to teach some local technicians how to install small stand-alone systems that were going into remote health clinics for emergency lighting and communications where there is no electricity. Many women in these areas are not going to clinics to give birth because they need to bring their own candle to provide light during their birth, and they do not have the money to do so. Now the clinics have high quality lighting, cell phone charging to call doctors, and local people who know how to maintain the systems.

### Class of 2005

#### Peter Enderlin

Life since Dickinson has taken me to many different places and many different jobs. I've worked as a waiter, an environmental consultant, a teaching assistant/research assistant, an (finally) a teacher. I've moved from PA to Ohio to Maine, where I currently live with my wife Ellyn and our two dogs. I'm getting

ready to start my fourth year as a high school teacher after teaching in Ohio for two years and in Maine for one. Maine is a beautiful place to live with lots of nature just at my finger tips, so I am spending lots of time in the woods hiking and swatting bugs!



### Class of 2006

#### Julia Hyman Lazar

I graduated from University of Rhode Island with a PhD in Environmental Science in December of 2013, my research focused on recent changes to river systems and how that impacts nutrient dynamics and greenhouse gases. We moved to the Cleveland area for my husband's (Louis Lazar, class of '06) job and then I found employment at Goodyear working on life cycle assessment and other areas of environmental sustainability. I just started in May and I'm greatly enjoying learning about the tire industry.



# Alumni Updates

## Class of 2008

### Ashley Whiting

Hi Dickinsonians! In October 2013 I started working for Ultrachem Inc. in New Castle, Delaware as the laboratory supervisor. We are a manufacturer of synthetic lubricants for industrial use. I work in the quality control lab making sure our products meet their specifications. My experience in the lab at ALLARM has come in handy! I'm learning a lot about synthetic oil, which is created through chemical synthesis rather than refined from petroleum. If anyone is ever in Delaware, stop by for a tour of our manufacturing facility!

## Class of 2011

### Cara Applestein



I moved to Washington state last fall and am about to complete an AmeriCorps term as a Prairie Restoration Scientist for the Center for Natural Lands Management. After my AmeriCorps term, I will continue working for the same organization doing part time prescribed fires and part time science data

analysis and writing. I have taken part in my first couple of prescribed prairie fires and am starting to understand how they work. I have submitted and anticipate presenting research on methods and rates of prairie seeding at the Society for Ecological Restoration Northwest conference in October. I love the recreation opportunities of the Pacific Northwest but will start missing the East Coast again when the grey and rain descends in late fall.

### Rebecca Yahiel



Hi Dickinson ES family! I have recently moved to Baltimore from PA, where I have lived since graduating in 2011, for a new job. I now work for Earth Resources Technology (ERT), but with the Army Corps of Engineers as part of a Community Outreach Team. The Army Corps team is cleaning up a FUDS (Formerly Used Defense Site) in Washington, D.C. called Spring Valley. This site was used as a testing ground for chemical weapons and munitions during the WWI era..... I have been learning about 20 YEARS of very interesting clean-up history! I miss a lot about PA, like my little job working at farmers

markets for Keswick Creamery, the farmland, and the hiking, but Baltimore is growing on me!"

## Class of 2012

### Samuel Parker



Shortly after graduating from Dickinson, I moved to Pittsboro, NC to work for a small, community scale biodiesel producer, Piedmont Biofuels. I am a fuel maker for Piedmont and have the pleasure of making the lowest carbon, most sustainable biodiesel available in the country. As well I am working on renovating a 100 year old house with sustainability and energy efficiency in mind. When the renovations are complete I will be working on building myself a small 200 sq.ft. home and picking up an internship in my free time with a "green" contractor to learn more about sustainable and energy efficient construction practices. Pittsboro, NC is also a hot spot for small scale, organic farming which provides me with opportunity to consume and participate in local foods.

# Dickinson

## ALUMNI NEWS

Stay informed on the latest Alumni news and events at [Dickinson Alumni](#), and be sure to visit the [Environmental Studies Alumni](#) page!

Send us your update to appear in the next newsletter by filling out our [Alumni Survey](#)! You can update your contact information, include a write-up for the newsletter, and even attach a picture! The next time the newsletter comes out, your fellow ES Dickinsonians will know what you've been up to!

## JOB HUNTING OR SEEKING A CAREER CHANGE?

Check out our job blog, [ENSTopportunities](#)! This page is a resource for Environmental Studies and Science students and alums looking for job and internship opportunities, as well as information about graduate programs and upcoming conferences. It also contains information about resources such as DickinsonConnect and other environmental job lists.

Also, alums are welcome to submit positions to be added to the job blog by forwarding the position descriptions to [dickinsonenvstudies@gmail.com](mailto:dickinsonenvstudies@gmail.com).

## WE WANT YOU!

- ◆ Has your Dickinson education landed you the perfect career?
- ◆ Are you excited to tell people about projects you are currently working on?
- ◆ Are you involved in cutting edge environmental work?

If you answered "yes" to any of these questions, the ES department would love to have you back to campus to speak with our current majors.

If you would like to share your wisdom, knowledge and experiences with our students please contact [dickinsonenvstudies@gmail.com](mailto:dickinsonenvstudies@gmail.com).