



Notes from the Field

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Summer in a Ponderosa Pine Forest

~ Christopher Ross, Crop and Soil Science Department

At this fall's orientation breakfast I found myself sharing my summer field experiences with fellow incoming students. Then someone had the brilliant idea for me to write an article about my summer research for the Ecology newsletter. So here it is. After I finished my undergraduate education last year, I spent 6 months working as a field assistant on a carbon cycling & climate change project in Manitoba, Canada. I found that I really enjoyed both the fieldwork and learning about ecosystem-level carbon budgets. So when I found a graduate assistantship announcement, posted by Dr. Jason Kaye, for a project looking at carbon cycling in ponderosa pine forests near Flagstaff, AZ, I jumped at the opportunity to combine my love of traveling with learning about an ecosystem I'd never seen before.

So I loaded up my car in early May and spent six days driving across the country. When I arrived in Flagstaff, I met up with Dr. Kaye, our research technician Sara Eckert, and some professors from Northern Arizona University, who were co-PIs on the project. We started working on two projects for the summer. The first was an existing eddy covariance tower project, for which I provided some



A ponderosa pine forest near Flagstaff, AZ. Photo by: Christopher Ross.

ground-based measurements of root and herbaceous growth. My thesis developed out of the second project – creating a chronosequence of wildfire and thinning sites to look at how these disturbances affect the carbon and nitrogen cycling of a ponderosa pine forest.



Remnants of a wildfire that burned a section of the ponderosa pine forest in 2000. Photo: Christopher Ross

Before European settlement, these forests experienced low-intensity surface fires every 3 to 15 years. These fires resulted in a relatively open forest canopy and a grassy understory. A century of fire suppression, however, has created an extremely dense forest with a high fuel load, resulting in fires that are massive (i.e., stand-replacing wildfires). Using maps of wildfires over the past 50 years, I spent the summer exploring the forest trying to find good sites for a carbon budget study. In the end, I identified roughly 18 wildfires over the past 60 years and 9 thinning sites over the past 15 years. Thinning sites were the result of loggers removing many of the smaller trees to reduce tree density and promote a healthier forest. I collected some preliminary data and soil samples, which I am currently analyzing here in the lab. Next May, I'm going back to Arizona to perform the carbon budget analysis and to collect data that I may use in a modeling project to show how nutrient cycling changes over time as a forest recovers from a wildfire.

Overall, I had a great experience this summer. In addition to designing my own project and working without supervision to collect my data, I really enjoyed learning about the ponderosa pine forest ecosystem, hiking through the forest, and seeing lots of elk and other wildlife. On weekends, I went on birding walks with the local Audubon Society and explored northern Arizona, including many National and State Parks. One of the highlights of my trip was seeing condors while on a hike in the Grand Canyon. When I was finished with data collection in August, I packed up my car again and took the scenic route on my return to Pennsylvania. I picked up my girlfriend in California and spent two weeks driving across the country, camping in Glacier and Voyageurs National Parks, among many others, before finishing a road trip of over 7000 miles and 22 states. So now, when I'm stuck spending hours in the lab, taking soil respiration measurements from 40 little jars, I just think back to the feeling of hiking through a ponderosa pine forest and watching a burned area start to regenerate. It reminds me why I like Ecology so much.

A Note from Our Chair

~ David Mortensen, Professor of Weed Ecology and Chair of the Ecology IGDP

Over the past 3.5 years we set out to further grow the Ecology learning environment at PSU. During that time, we institutionalized the theme-centric spring seminar series, more than doubled graduate student stipend support, graduate students organized a national conference and implemented professional development seminars, post-doctoral scientists have taken an active role in the program, we've graduated some 25 graduate students and added 12 new faculty, and this fall added our largest cohort of new graduate students. The Program is indeed alive and well. It is now time for me to finish out my four-year term in May. From the beginning, I saw my role as Chair as an opportunity to grow the Program and then hand it off to the next inspired chair. That time has come. My term as Chair ends in May 2007, at which time I will end my service in this role. My time in the position has been incredibly rewarding and enjoyable. Of course I will remain an active core faculty member with 4 of 5 of my graduate students in the Program and my post-doc a recent graduate. It is an exciting time for the program, as it more fully integrates with the Huck Institute, pursues external funding through training grants, and enhances the quality of the graduate student experience.

This past Friday [10-13-2006], the Ecology Program Committee met to discuss the process by which a new Chair will be identified. The exact procedure has not been defined but this much we do know. Candidates for the position will be identified by late December, interviews of those on the shortlist will take place in January and the Chair elect will assume that role in April, overlapping with

me in my final two months in the position. If you would like more information about the position please feel free to contact me or members of the Ecology Program Committee, who will conduct the search. Members of the Ecology Program Committee include: Ottar Bjornstad, Dave Eissenstat, Jim Marden, Consuelo de Moraes, Ken Taminga, Jim Finlay and Glenna Malcom.

In closing, I look forward to working with you in the exciting programs planned for this academic year.

Over the Mountain

~ Anna Starovoytov, Crop and Soil Science Department

It all began with a casual mention of a fun relay race at Dave Mortensen's Ecology Orientation Breakfast. Before I realized it, I was on a mission to find seven other people crazy enough to take on the Tussey Mountain 50 mile Relay Race. After a few promotional announcements a team evolved. The team consisted of five Ecology students and one Integrative Biosciences major. We dubbed ourselves "The Green Party." The race day arrived quickly, and although few of us had time to properly train, everyone brought along their enthusiasm. By stuffing into one vehicle to caravan between relay transition zones we transformed from eight near-strangers into a chatty group sharing CD's, bananas, and horror stories about our sections of the course. Although we were all thoroughly exhausted by the time we neared the finish line, everyone seemed to share a feeling of accomplishment. Most of us had never run such long distances before, and to our own surprise we did rather well! When the results were posted a few weeks later we not only beat the time of last year's Ecology team, but placed third in our category, with an overall time of 6 hrs and 46 mins! So the moral of the story is this: though 50 miles may sound extreme, especially to someone without much training, you can have a good time so long as you have eight optimistic people with whom to share the experience.



The team: Top (right to left): Anna Starovoytov, Erin Fallon, Jonathan La Mantia, & Maggie Mueller. Bottom (right to left): Andrew Wilson, Marc Goebel, & Kevin Mueller. Cheerleaders: Siena Goebel & Elle Mueller. Absent: Nick Polato

Upcoming Meetings in Our Area



4th Annual Mid-Atlantic Chapter of the ESA

Host: York College, Pennsylvania

Dates: March 17-18, 2007

Plenary Speaker: Gary Alt, former Pennsylvania Game Commission biologist

Field Trip: Exploration of the Gettysburg National Military Park, lead by Zach Bolitho

Registration fee:

Students - \$25

Post-Docs/Faculty/Professionals - \$45

Abstract & Registration deadline: February 2, 2007

<http://www.esa.org/midatlantic/>



27th Annual Midwest Ecology & Evolution Conference

Host: Kent State University, Ohio

Dates: March 9-11, 2007

Plenary Speaker: Dr. Robert T. Paine, Professor *emeritus* of Zoology at the University of Washington

Registration fee:

Until January 18th, 2007 - \$40

Until February 19th, 2007 - \$50

Abstract & Registration Deadline: February 19th, 2007

<http://www.midwesteec.org/index.html>

Happy Thanksgiving



Upcoming Events

Colloquium Thursdays @ 12:30 in 12 Life Sciences

Fall Seminar Mondays @ 1:25 in 118 ASI

EGSO Meeting was held Wednesday, November 14th @ 5:30, in 401G Life Sciences Building

Nominations are being taken for all EGSO positions until Tuesday November 21st @ 5:00 Submissions will be accepted by Jill Crompt: jmc544@psu.edu

Mini Symposium Thursday, November 30th, from 4 pm to 7 pm, in 301D Life Sciences Building

Search for Assistant Professor of Ecology in the Department of Biology (100 Althouse @ 4 pm)

-Louie Yang, Thursday, November 16th

The ecology of resource pulses: Periodical cicadas and beyond!

-Marc Cadotte, Tuesday November 21st

Understanding species coexistence: the competition-colonization tradeoff and patterns of diversity at multiple scales

-Brad Taylor, Thursday December 7th

Title: TBA

-Tomás Carlo, Tuesday December 12th

Title: TBA

-Tracy Langkilde, Thursday December 14th

Title: TBA

Please send talk comments to Katriona Shea: k-shea@psu.edu

We are always looking for news and stories! Please send ideas and submissions for the next newsletter to JB Moon at: jbm162@psu.edu