



# Notes from the Field

September 2007

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**Ecology Program Fall Picnic.** Sunset Park, State College. Friday 5<sup>th</sup> October from 4pm.  
 We will provide BBQ food and soft drinks - please bring a side dish or dessert to share.  
 There'll be a volleyball rematch between students and faculty. HOPE TO SEE YOU THERE!

## Building a Learning Community for Himalayan Sustainability

~ Sameer Honwad, Instructional Systems Program

The Himalayan region is a globally significant bioregion under serious threat. The region is considered a biodiversity hotspot and supports a wide variety of ecosystems, including broad-leaved and coniferous forests, bamboo groves, savannahs, meadows, prairies, freshwater wetlands, and alpine scrub and tree communities. These ecosystems house numerous threatened, endemic species. In this region, altitude changes quickly over a relatively small area. These changes largely determine the distribution of vegetation – from humid tropical forests in the foothills to frozen deserts at the highest elevations.



**The Himalayas, a mountain range in Asia that separates the Indian subcontinent from the Tibetan Plateau**

Ecological conservation in the Himalayan region has been a growing concern over the last few decades. In particular, during the past few years environmental degradation has reached noticeable levels. Rising population levels (e.g., northern India) and growing tourism (e.g., Nepal)

has resulted in unsustainable resource use and environmental impacts on the local ecosystems. More specifically, farmers are pushed by the demands of their growing families to increase their livestock populations. These livestock, in turn, clear large areas of forested land on the mountainous slopes. The forests are also being cut down to support growing tourism-related activities such as backpacking, hiking and mountaineering. Taken together, there is a growing need to facilitate the acquisition, dissemination and utilization of ecological knowledge to ensure sustainability.

Preventing further degradation of this region will require a transformation in the way we, the global community, views and interacts with our natural resources. Such a transformation is not likely to occur as the result of taking courses in ecological sciences alone. Facets of the problem are largely due to socio-economic forces and as educators we need to approach the problem in a manner that respects indigenous knowledge and culture. We need to find creative ways to link ideas from sciences, such as ecology, with different worldviews and value systems about development and livelihood, potentially requiring significant conceptual change.

Since 2004, Dr. Kenneth Tamminga (Department of Landscape Architecture), Dr. Christopher Hoadley, Department of Learning & Performance Systems) and I have been working on a project that is designed to study how technology can support collaborative learning about environmental issues in the Himalayas. Our aim is to forge a strong connection between community-based empowerment and learning, and developing sustainable practices to prevent further ecological damage in the Himalayas.

Using computer technology we will link communities in remote mountain villages of several Himalayan nations. Our approach is designed to empower the community by creating an inquiry-based environmental education intervention for the students in the Himalayan bioregion. Students will learn from their peers in other countries about the ways they manage their shared Himalayan environment. Curriculum will be developed by both outside scientists and local village elders. Communities will use this technology to create learning environments that enhance educational practices and empower local groups to share sustainable living practices and foster cross-cultural communication.



**Students of the Himalayan bioregion learning about their environment**

Here, technology supports learning through connecting otherwise isolated people facing villages of Nepal at 10,000 ft, which are far more similar to villages in India at 10,000 ft than they are to urban centers that are geographically closer. Students in these villages share similar mountain ecosystem, but face different cultural, political, and religious pressures.

Overall, our approach will not only empower the community to use technology within their cultural context, but will also facilitate sustainable living practices through an environmental education curriculum based on understanding the local environment in a global context.

**Edited by JB Moon and Andy Wilson.  
Please send submissions and ideas for the next Notes from the field to Andy Wilson:  
amw328@psu.edu**

## Welcome Dr. Jedediah Brodie

Dr. Jedediah Brodie will be joining Eric Post's research group in the fall of 2008. He shares his diverse background and interests with us:

I grew up in California and received my bachelor's degree from UC Santa Cruz. After finishing, I spent two years studying carnivorous plants and tropical tree propagation in Malaysian Borneo. Later, I worked for the US National Park Service in Sequoia and Kings Canyon, California, and Denali, Alaska. My PhD work at the University of Montana took me back to the old-world tropics, where I assessed the cascading effects of wildlife poaching in Thailand on the demography of a tree species that depends on gibbons, muntjac deer, and sambar deer for seed dispersal. This project was supported with an EPA STAR fellowship and NSF doctoral dissertation improvement grant. While in graduate school I also worked on a variety of side projects including: wolf-elk-aspen interactions in Yellowstone, grizzly bear demography in Banff, post-tsunami conservation in Sri Lanka, and black rhinoceros conservation in Namibia.



I am interested in a variety of conservation issues. In particular I am interested in the anthropogenic disruption of species interactions, promoting sustainable hunting in tropical forests, and the effects of climate change on natural communities. For my postdoctoral research I will focus on how climate change affects the population dynamics of northern hemisphere ungulates using meta-analysis of time-series. I will also do field work in Yellowstone to assess how global warming, through reducing snow levels, affects the winter distribution and foraging ecology of elk and the impact of their browsing on aspen and willow. This work is funded by a David H. Smith Conservation Research Fellowship, run through the Society for Conservation Biology and the Cedar Tree Foundation.



## Welcome to the new Ecology students

There can be no doubt that the IGDP in Ecology is in great health, as exemplified by the fact that we have no less than ten new graduate students enrolled this semester. Introducing....

**Tom Bentley** Tom Bentley is currently rotating through the labs of Jim Marden and Mark Mescher. His research interests include behavioral ecology, insect physiology, and plant-insect interactions. He grew up around Downingtown, PA and got his BA in biology from the University of Delaware. He is interested in nature, photography, and other fun things.



**Quanying Du** is a PhD student in Dave Eissenstat's Lab. Her research interests include controls and constraints on root turnover rate, mostly how elevated nitrogen level affects root longevity. She gained her BS in Science at Peking University, China. She is interested in soccer and singing. [qzd104@psu.edu](mailto:qzd104@psu.edu)



**Franklin Egan** is a Masters student in Dave Mortensen's lab, interested in weed ecology and functions of biodiversity in agricultural systems. He is a native of Philadelphia and a graduate of Cornell University in Ecology and Evolutionary Biology. Interests include plants, insects, cooking, and gardening. [jfe121@psu.edu](mailto:jfe121@psu.edu)



**Naomi Gebo** is a PhD student with Robert Brooks in the Cooperative Wetlands Center. Her research interests include landscape management and restoration of freshwater wetland resources. She is from New York and received a BS in Natural Resources from Cornell University. Interests include hiking, entomology and writing. [nag146@psu.edu](mailto:nag146@psu.edu)



**Cara Hotchkin** is a PhD student in Susan Parks' lab. Research interests include behavioral ecology and bioacoustics of marine mammals. She is from Anchorage, Alaska, and earned bachelors degrees in marine biology and marine & coastal management & policy from the University of Rhode Island. Interests include reading, knitting, cross-country skiing, hiking, and the ocean. [cfh121@psu.edu](mailto:cfh121@psu.edu)



**Sarah Johnson** is working on her PhD in Dr. Marc Abrams' lab. Her research focuses on the impacts of climate change on propagation and spread of invasive plant species. Sarah is from Northwest Ohio, where she earned a Bachelor of Science in Restoration Ecology at Defiance College. Interests include the outdoors and athletics, particularly running, biking and backpacking. [sei454@psu.edu](mailto:sei454@psu.edu)



**Luke McCormack** is pursuing his PhD in Dave Eissenstat's Ecology and Woody Plant Physiology Lab. His research interests include plant root ecology, physiology, and global change biology. Luke received his BS from the College of Charleston where he studied Biology and environmental science. Interests include music, mushroom foraging, climbing, and the policy of energy production and use. [mlm572@psu.edu](mailto:mlm572@psu.edu)



**Gennie Romanello** graduated from Elon University in May 2007 and has a degree in environmental studies and biology. Her research interests include wetland conservation and plant ecology and she is in Andy Cole's lab. She is originally from North Carolina (where you can get good sweet tea and the best bbq). Gennie is a foodie and enjoys cooking but she also likes to read, take wilderness adventures, and listen to music. [gar162@psu.edu](mailto:gar162@psu.edu)



**Andrew Scanlan** is working on his Masters in Hunter Carrick's Limnology lab. He is researching diatoms in streams as indicator species for environmental variables. He received his BS in Biology with a concentration in marine from Saint Francis University, Loretto, PA. He is from Ebensburg, PA. He is interested include soccer, the piano, hiking, camping, scuba diving, and the great outdoors in general. [ams744@psu.edu](mailto:ams744@psu.edu)



**Collin Shephard** is a Masters student working with Kim Steiner and Marc McDill in the School of Forest Resources. She is interested in integrating ecology with economics to evaluate public land management within forested ecosystems. She is from central New York State and received a BS in Environmental Forestry & Biology from the SUNY College of Environmental Science & Forestry in Syracuse, NY. Interests include traveling, photography, lumberjack sports, and spending time with family. [cms541@psu.edu](mailto:cms541@psu.edu)



### Thank you JB!

This is the last *Notes from the Field* edited by JB Moon, the graduate student service assistant for the IGDP in Ecology for the past academic year. JB's dedication to the program has been remarkable, she is also the current president of the Ecology Graduate Student Organization, so will continue to be heavily involved in program events. The spring 2007 seminar series on climate change in particular was an outstanding success, largely due to JB's success in enticing great speakers and ensuring that they had a smooth, fun and productive trip to Penn State.

I'm sure everyone in the program will join me in thanking JB for her hard work. *Andy Wilson*