

Cary's young bloods

By Carola Lott

For the past 23 years the Cary Institute of Ecosystem Studies has invited a select number of talented students from all over the country to participate in their 12 week summer internship program. Working with a mentor, the interns craft a project, carry out research, analyze data, and present their findings. Last week we asked three of the interns – Ana Elisa Perez, Sara Gabrielson and Scott Kelsey – to talk about their experience.

Perez, a university senior in Puerto Rico, has been at IES on a SEEDS fellowship sponsored by the Ecological society of America

to help college students “make the connection between the ecological community and the local community.” Her mentor - Alan Berkowitz, head of the Ecosystem Literacy Initiative at IES - has been working to develop a way of understanding the ecosystems we depend upon that people can use in their every day lives. Perez has always been active in a number of advocacy programs at home. Many of these projects were scientifically oriented, but her work at IES has

increased her interest in the politics of ecology - the way people use ecology and science in their decision making. For example, when studying a river, it's as important to research how people think about it and how they're influenced by as it is to research the ecology of the river. She said “there exists a gap between science and people, and my interest is to find ways to bridge that gap.”

Gabrielson and Kelsey have been part of The Research Experiences for Undergraduates [REU] program, supported by the National Science Foundation, that allows ten students to conduct three months of independent research in ecology. They have collaborated on a project studying freshwater ecology by examining the habitats of the Rusty Crayfish, an alien species that tends to take over a stream, and the native American Eel in our local waters. Although they expected to find both species occupying the same habitat, in fact they never found an instance where the both co-existed.

Although the intern programs at IES are designed to emphasize the community nature of scientific enterprise, Gabrielson and Kelsey are the only interns who have worked together on a project. Although their collaboration has been rewarding, it has also been something of a challenge.

For one thing, the Gabrielson and Kelsey come from quite different backgrounds. Kelsey, a junior at Kent State University studying biology, grew up in Willoughby, Ohio, a suburban community 20 minutes east of Cleveland where his contact with the natural world was limited to television. “I always had a curiosity about nature,” he said “although I never actually encountered it until I got older.”

He credits his high school biology teacher with inspiring him to focus on ecology and the interactions between different organisms. He said “everything is connected in a way, and I like that kind of puzzle.”

Gabrielson on the other hand grew up in the country in North Carolina where she spent much of the time exploring the woods and streams that formed her back yard. She found high school science boring, and it was not until she came to Vassar, where she is a junior majoring in environmental studies, that she discovered “a whole new world that is phenomenal.”

Both Gabrielson and Kelsey divided their research each according to their interest. Kelsey focused on the insect larva while Gabrielson has been studying the organic matter in a

riparian habitat. Although they have each come at it from different directions, together they have created a full picture of what you find in a freshwater stream.

Kelsey said he has liked being given the freedom to choose “one's own project and plan it out.” No matter whether it is ultimately successful or not, he said, “either way you are going to learn from it—which is one of the best growing experiences you will get.” In addition, he said he has learned how the scientific process works and the way to go about creating a project.

Gabrielson said one of the best parts of her internship has been the chance to live in a stimulating environment among people with similar interests who enjoy discussing projects and “who are interested in asking questions, discovering what makes a good question and how we go about answering it.” This has convinced her that science is not, as many people believe, coming up with all the answers, but rather asking questions.

As for the duo's thoughts about the future of the



Cary intern, Ana Elisa Perez, gets animated about the environment. Photo courtesy of Ana Elisa Perez.

planet, Scott is the more pessimistic.

“I feel like we've screwed a lot of stuff up and if we wanted to fix it we would have done so by now.”

Where he is lives in an urban/suburban environment where people have no experience of nature, he said. For example, they feel maybe we should invest in clean energy but they don't know much more than that. The oil spill in the gulf they blame on the government for having failed to regulate BP. They don't see it as being driven by our demand for cheap oil.

He said that “we say it's easy to do the right thing, but for other people it's not easy and sometimes they don't even know what the right thing is.”

Kelsey gives the example of the Cayuga River, which kept bursting into flames as he was growing up.

“You'd think they would have fixed that after the first time it happened but instead it took four times until the entire Cleveland area was publically ridiculed by the rest of the nation. Now are we going to do that to our whole country?”

Gabrielson is somewhat more optimistic and thinks we will learn to adapt and will also learn to change our ways when our well-being is at risk. “This country is driven by comfort, and when that is threatened, we will start doing things.”

Gabrielson echoed Perez in thinking we need to focus on the way we communicate and how we can bridge the divide between science and the general public. “It's really difficult, but for me the important point is the connection between those two worlds and the connection between our consumerism and the effects that it has.”

As for the catastrophe in the gulf, Gabrielson thinks the responsibility for the spill rests on every single person in the US and in fact on everyone who uses oil all over the world. If we could invest in clean energy, even though it may cost more in the long run, we would be better off.

Perez has already taken on the responsibility for working to protect Puerto Rico's 3,000 acre Northeast Ecological Corridor, home to more than 50 rare, threatened, and endangered native species, and one of the most important U.S. nesting grounds for the critically endangered Leatherback Turtle.

In 2008 the Corridor was designated as a nature reserve, but in October 2009, Governor Fortuño removed the designation in order to allow large-scale development in the area, including more than 4,500 residential and tourist units and four golf courses. Stopping that development is an uphill battle, but thanks to the efforts of people like Perez, public support for the reserve's protection is growing.

Join the Cary Institute on Friday, August 13 for their 23rd Annual REU Symposium, where undergraduate students will present the results of their summer research projects. The event will be held in their auditorium, at 2801 Sharon Turnpike (Route 44) in Millbrook, N.Y. For more information, call (845) 677-7600 x326 or e-mail zolnikp@caryinstitute.org.