

# Water Quality Internship in Monteverde, Costa Rica

Helen Boniface

Supervisor: Dr. Thomas Shahady

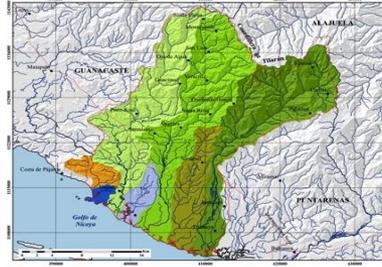
During the fall semester of 2015 Dr. Shahady gave me the opportunity to study abroad in San Luis, Monteverde, Costa Rica. While completing 15 credit hours, I also helped collect and analyze data for the water quality research project he runs centered out of the University of Georgia, Costa Rica research facility.



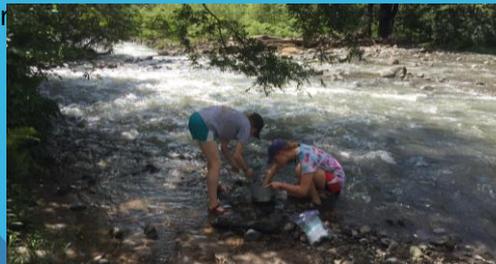
I was looking for a study abroad program where I could, primarily, get a lot of field and lab experience for my degree (Environmental Science), and also be able to improve my conversational Spanish in an authentic setting. The experience I gained during those 3 months was leaps and bounds more than anything I could've had sitting in the classroom for a semester.

I was able to see a lot of this beautiful country during my visit, but the water quality research specifically focuses on the Bell Bird biological corridor, located in the central valley of Costa Rica. Other researchers and volunteers that I was able to live and work with during my time at UGACR assisted with data collection. We evaluated 18 different sites along 3 different

rivers in the Guacimal watershed, which eventually



We measured certain parameters on-site (i.e. temperature, dissolved oxygen, conductivity, pH) but most of the research I did was done in the lab. Water samples and aquatic insect samples were collected from each site and taken back to the laboratory of UGACR, where I spent much of my time. With the collected water samples, tests were done to analyze biological oxygen demand, bacteria, total suspended solids and nutrient content. The insects that were collected at each site were identified, counted and then used to generate a biological monitoring working party (BMWP) score. This scoring process measures the water health of a specific stream by looking at what families of benthic macroinvertebrates are represented there.



The main purpose of this research is to monitor the health of local rivers along the biological corridor and to observe any changes that are affecting the watershed, to ensure that local communities are getting access to clean, ample water. There is a huge lack in enforcement of Costa Rican water laws and regulations, and conservationists fear that with so much unpermitted water use, the unique freshwater ecosystems of the country are in danger and water sources for agricultural and human



With Dr. Shahady I was given the chance to talk to people living within the corridor who are making efforts to change the water laws and regulations for the country using the information this project provides. Talking to them seemed to justify the importance of the work I had been doing during my 3 months in Monteverde. Their passion about this project has made me want to continue working on improving the Bell Bird biological corridor.