

Pennsylvania State University – Statement of Purpose

When I tell others of my two undergraduate majors, I am often met with surprise, but pursuing both Ecology & Evolutionary Biology and Theatre Arts has been pivotal in shaping the way I think about, question, and appreciate the world. These diverse experiences have instilled foremost a sense of dedication and curiosity, and I am eager to ask and pursue new and interesting questions about ecology through independent research during my graduate studies and beyond. In addition to learning new techniques in fieldwork, labwork, data analysis and modeling in graduate school, I also look forward to the stimulating environment of faculty and peers. After obtaining a PhD, I intend to pursue a career in ecological research, focusing on the ideas of population and community structure and their implications for diversity. This includes the mechanisms and behaviors contributing to structures as well as how this structure is altered over time, space, with the introduction of invasives and/or shifting species ranges due to global change. I currently expect to pursue a post-doctorate and continue in academia, though during my graduate studies I also hope to be exposed to and explore other opportunities to contribute as an ecologist.

As a student in a Department of Energy-funded summer undergraduate research program (GCEP SURE), I had the opportunity to explore these mechanisms while collaborating with two doctoral students in the field. I was not only introduced to field methods of studying dominance and thermal tradeoffs of foraging habits of woodland ants but also to the joys and woes of adapting and rethinking a research project. We explored a variety of methods to best answer our research questions, and this process of formulating and rethinking projects was quite valuable, perhaps more so than the fieldwork itself. Additionally, one of the two courses I took at the University of Michigan Biological Station (UMBS), Field Mammalogy, was centered around student-designed and executed research projects. Research included projects on bat roosting habits, interspecific aggression of sciurids, and shifts of ranges and community composition of *Peromyscus* in northern Michigan. Due to these projects as well as theatrical productions, I am accustomed to being thoroughly involved in all aspects of the research (or production) process and have developed a commitment to seeing a project through to its conclusion. I thus strive to understand the full scope of my research and look forward to the entire research process.

Though the Biological Station placed great emphasis on ecological fieldwork, it also instilled the importance of concise and deliberate scientific writing. Two years after completing the Field Mammalogy class, I was invited to return as a teaching assistant for the course. In teaching and evaluating students' work, I have become familiar with what is effective in scientific writing as well as the importance of a solid foundation in literature, a quality lost in many student papers. To complement my field based experiences, I have performed tasks critical to a variety of research projects, such as making casts and documenting microwear of teeth, prepping samples for isotope analysis, managing a database of mammalian faunas, and creating maps and performing spatial analysis in ArcGIS while working as a research assistant with Professor Catherine Badgley (UM Museum of Paleontology). I have also modeled populations in R and analyzed data with SPSS during upper level courses in ecology.

Because of experiences in class, theatre, and as a teaching assistant, I am also accustomed to working with and leading a variety of people. I am eager to work independently on my own research during graduate school and am confident in my abilities to do so. Through directing and stage managing theatre, where I was responsible for a large portion of artistic and logistical aspects of a show, I have acquired skills in patience, time management, organization, and discipline to complete and produce quality work while under physical, emotional, and temporal

demands. Therefore, I believe I can withstand the rigors of a PhD program and am looking forward to applying these skills in an ecological context.

The Pennsylvania State University graduate program in Ecology would provide an environment capable of nurturing my ecological interests in the implications of population and community structure. My diverse experiences and unique skill set have prepared me to be an engaged graduate student and successful researcher, and I am eager to fulfill this role in the near future.