

Fisheries biology fascinates me because it examines one of the most intimate interactions of society with the natural world. From sustenance, to recreation, to business, the planet's fisheries hold great importance for countless cultures across the globe, even among urban populations otherwise almost completely divorced from nature. I feel that research in this arena not only offers the chance to study a huge array of unique and intriguing organisms and processes, but also the ability to improve our understanding and management of a fundamental connection with our environment.

I have engaged in numerous projects to advance the field of fisheries science and education during my summer breaks from school. One year I spent two months volunteering at the National Aquarium in Washington, D.C. preparing and maintaining exhibits of aquatic animals, as well as educating visitors (mostly K-12) about fresh- and salt-water ecosystems. This work increased my faith in the ability of live animal exhibits to stimulate interest in the natural world among urban children (and adults) who are rarely able to experience truly wild environments. Another year I worked as a member of the stream survey team for the Department of Public Works for the town of Elkhart, Indiana. Along with two other college students and a professional biologist, I surveyed fish populations in the streams and rivers of Elkhart county. The data we collected was used to estimate the biological healthiness of the watersheds, and informed municipal decisions regarding mitigation of environmental damage. We also demonstrated fisheries research techniques and exhibited local fish species to the public at town fairs and summer camps, spreading an interest in aquatic science and the local environment. As a graduate student I plan to continue participating in public education programs because even a brief introduction to wildlife and environmental science can have a huge impact on someone's perception of his or her own relationship to nature.

This past summer I worked as a biological technician for the U.S. Forest Service, conducting fish and amphibian surveys throughout the Flaming Gorge Ranger District of Ashley National Forest. Our focus was on conservation of native wildlife, so we compiled the first-ever census of amphibian populations in that area, as well as data on the distribution of the native species of cutthroat trout and the habitats that seemed favorable for its reintroduction. My partner for this fieldwork was a fellow college student who was a member of the Jemez Pueblo tribe. Because of his background as a Native American, I was exposed to a unique perspective on environmental and natural resource issues. Part of my interest in pursuing graduate study of salmon in Alaska stems from the importance that this fishery hold for many tribes of Native Alaskans, and the chance to employ students from those communities as field researchers.

Working for the Forest Service also tested my leadership skills because we were frequently assigned high school students from the Youth Conservation Corps program as field helpers. These students were enthusiastic, but they required supervision on long wilderness hikes, and management of the team and equipment often fell to me. I have experience directing the work and learning of younger students in the academic realm as well, where I have been employed as a teaching assistant and supervisor of underclassmen laboratory technicians. I feel that these experiences have had the double benefit of providing guidance to junior students and allowing me to improve my ability to effectively convey scientific information. As a graduate student I will participate in undergraduate classes as a teaching assistant so that I may continue to offer my

knowledge and encouragement to other students while improving my own communication skills.

My career goals include earning a Ph.D. and taking a position conducting research with one of the federal agencies such as the National Oceanic and Atmospheric Administration or the U.S. Geological Survey. I am deeply fascinated by the mysteries of marine biology, but I feel that the interaction of human interests with aquatic ecosystems is too important to ignore. I would like to work for an institution that investigates fundamental questions in fisheries biology, but does so with an eye on the human interests involved. I am also interested in working on scientific issues in an international setting. Fisheries science is inherently a global enterprise, and part of my interest in a research-based career is to become a member of the international scientific community. In fact, many of the experiences that have influenced my decision to pursue graduate education have occurred outside of the United States.

During my junior year of college I spent a semester studying tropical ecology in Costa Rica with the Organization for Tropical Studies. This program emphasized hands-on experience, and provided my first real opportunity to pursue independent research. I designed, conducted, analyzed, and wrote-up two independent research projects during the course of the semester, and I participated in numerous faculty-led group projects. None of the core instructors was from the United States, and my fellow students came from states across the U.S. as well as Costa Rica and Ecuador. This diversity of backgrounds produced a stimulating research atmosphere, and our common goal of scientific exploration provided the medium to allow a fruitful exchange of ideas.

A similar experience came when I travelled to France to present my senior honors thesis work to the Evolution and Ecology group at the University of Paris South. By discussing my ideas and work with a group of people whose expertise in the field was unparalleled, I was able to pass on what I had learned and sharpen my own conclusions with the help of their knowledge and unique viewpoints. What appeals to me about research is the freedom to pursue any line of study that I find compelling and significant, and the ability to integrate this work into the larger body of work produced by researchers worldwide. I see graduate school as a path towards intellectual freedom and a connection to this powerful network of contemporary exploration.

I plan to undertake graduate studies with the School of Aquatic and Fisheries Science at the University of Washington in Seattle. This school has a long history of preeminent fisheries research, and offers an array of expert investigators in such fields as molecular and quantitative genetics, life-history evolution, and modeling. By funding my research, an NSF graduate fellowship would allow me to join this distinguished group and pursue my proposed studies with the freedom to follow the most compelling leads.