

STATEMENT OF PURPOSE

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Introduction

The past four years at Western Washington University have had a massive impact on my career and research goals. When I came into WWU I knew I wanted to study "the oceans", but not much else. Each year at Western, and each class I took helped me narrow down my interests and create a solid career plan. Specifically, I'm interested in using methods in evolutionary biology and genetics to understand organismal adaptations and applying that understanding to ecological problems. In particular, I want to understand the role that developmental plasticity and genetics play in adaptations, and how they can be used to predict the response of organisms/communities to global environmental change. The poles are of particular interest as not only the epicenter for global climate change, but as they have emerged relatively recently, adaptations to these ecosystems are newer and potentially more resilient to change. Understanding the adaptations of organisms and predicting their response to climate change will allow for intelligent methods for conservation and policy recommendations.

Research Experience

Project #1 In my freshman year, I assisted Geoffrey Mayhew with his thesis in the Miner lab, examining phenotypic plasticity in the hatch timing of Eastern Pacific Nudibranchs. Work was performed both in-lab and in the field, where specimens were collected. The project involved obtaining the eggs (laid in bundles called egg masses) from the nudibranchs, placing them in specifically designed tanks, and testing their hatching time when exposed to chemical or physical queues. While working in the lab I learned techniques for distilling and filtering seawater, collecting egg masses quickly and delicately, as well as obtaining specimens in the field. While this research did involve looking at plasticity, it wasn't until later that I realized I could connect this concept to my own interests.

Project #2 In my Sophomore year of college, I became interested in performing research on climate change. Of course, I had known climate change was an important issue, however until then I had not considered explicitly studying biology with an emphasis on climatic change. It was also in this year that, while watching seminars given by researchers presented by Western's biology department, that I became interested in ecology and genetics. Specifically, a talk by Dr. Emily Grason on the genetics and ecology of the invasive green crab, Her work with Washington Sea Grant showed that the crab had formed genetically distinct metapopulations in Washington State. This made me interested in the ecology of invasive species, and how climate change could facilitate the process.

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Education

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Teaching Experience

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Concluding Remarks

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