

The graduate school essay I wish I had written
(although I got in anyway :))

Diane Thomson, Ph.D.
Associate Professor at the Claremont Colleges Joint Science Department

(Note that this is tailored to a specific grad program, which is exactly how your essays should read as well. In this case, the application was to the Department of Environmental Studies at UC Santa Cruz, which has an interdisciplinary PhD program with several areas of emphasis, including conservation biology. So a lot of what I say below is specifically about why this program meets my needs- if you are applying to a more typical grad program, you may only need to say how your interests relate to those of the faculty there.)

My goal in attending graduate school is to prepare for a career in research and teaching as an applied ecologist and conservation biologist. Although I plan on ultimately working as an academic, I want to do research that addresses real-world issues faced by conservation managers and contributes to solving environmental problems. More and more scientists are recognizing that effective environmental problem-solving of this kind depends on a broad interdisciplinary perspective and training that includes not only a strong science background but a basic understanding of social and economic issues. I am applying to the Environmental Studies department specifically because your program will allow me to get outstanding training in ecological research while also taking courses in policy and economics, as well as interacting closely with graduate students and faculty in those fields.

My background has prepared me well to take on both graduate research in ecology and participate in a challenging interdisciplinary program. I earned a B.S. degree in Ecology and Evolutionary Biology at the University of Arizona with a split minor in Math/Chemistry/Physics two years ago with honors, magna cum laude. Since that time I have completed an interdisciplinary Master's of Philosophy in Environment and Development at Cambridge University. I was funded in Cambridge by a Churchill Scholarship, which is awarded to ten graduates in math and science from top research universities each year. My master's thesis explored the history of ideas about the integration of human use and conservation goals in designing natural reserves, as well as looking at patterns of recent reserve creation in developing countries. My results showed that while the idea of Integrated Conservation and Development projects is receiving increasing attention, the vast majority of reserves that have recently been founded in the developing world are still legally designated to exclude human use completely.

I was able to gain substantial research and field experience in ecology during my undergraduate years. As a sophomore, I spent a summer as a student in the field program at the Rocky Mountain Biological Lab, completing courses in Field Ecology and Restoration Ecology. As part of these courses, I carried out independent field research projects. One of these projects looked at differences in plant community structure

between ski runs and areas with a high frequency of avalanches, disturbances which have some similar characteristics in that they tend to remove woody vegetation and may maintain communities in an early successional stage. During another summer, I conducted my own independent research project in a behavioral ecology lab as part of the Undergraduate Biology Research Program at the University of Arizona, working with Dr. XXX. My project looked at behavior of male tephritid flies, which defend punctures in their host fruit used by females for oviposition in as part of male-male competition for access to mates. My experience working with Dr. XXX's lab group included interacting closely with post-docs and graduate students for a summer, gave me a great sense of what graduate school is like, and reinforced my interests in pursuing a PhD.

Although I have had a diverse set of experiences in ecology, the interests I most want to pursue in graduate school grew out of a term project I carried out during my last year at Arizona and my senior honor's thesis, working with Dr. XXX. The project was a literature review on the ecology of biological invasions, exploring how current ideas from community ecology can help explain invasions, and how some of the gaps in our understanding of community dynamics make it hard to predict when invasions will happen. I was especially struck by the lack of experimental studies which rigorously test for, and explore the mechanisms of, competitive interactions between native and invasive species, even though this is the dominant hypothesis for how introduced species negatively affect native communities. My thesis studied a specific invasive plant, xxx, which we hypothesized might outcompete native plants because of allelopathic effects on neighbors. My research tested whether root exudates of xxx suppressed germination of native seeds, although I found no effects, indicating that some other mechanism must be responsible for the success of this plant. I am especially interested in how future studies of interspecific interactions between invasive and native species can help improve our understanding and management of invasions, especially for plants and insects, which can be readily manipulated experimentally.

Dr. XXX and Dr. XXX have ongoing research in community and population ecology of plants and insects in a conservation context that is particularly relevant to my interests, and I have talked with both of them about opportunities to work in their labs. I would hope to interact closely with both if I were to be accepted. I have a strong background in math from my time as an undergraduate, and so would especially like to get involved in the recent work Dr. XXX has done on applying both population models and field methods to conservation problems, as in his study of XXX. I am also currently seeking external funding, and have applied for an NSF pre-doctoral fellowship. In sum, I believe I have the background and preparation to succeed in your program, and that this department is an excellent fit for my research interests and goals in attending graduate school.

Some general Dos and Don'ts:

DON'T: spend a lot of time talking about personal anecdotes, or even your academic performance, in terms of GPA, GRE scores, etc. If faculty are not interested in what you

say about research, they won't care, and if they are interested in what you say about research, they will simply look at your CV for the numbers. If you've got something really notable in your record, like a Fulbright or some other fellowship, it is good to mention. Otherwise, keep this brief (e.g. "I graduated with honors...").

DON'T: spend a lot of time or adjectives on talking about your passion for research, ecology, etc. in general terms. Most potential advisors will assume this is true or you wouldn't be crazy enough to apply. They want to know specifically how you will work out as a researcher, so this is more like a job application- they don't care how good you feel doing it, just whether you will get the work done.

DON'T: talk about wanting to work on a particular group of organisms. For example, don't say "I want to carry out primate research," or "I want to attend graduate school to pursue my interests in marine mammal conservation."

DO: emphasize the research questions you want to answer in graduate school and the kinds of scientific ideas you want to study. If your primary goal isn't to do research on questions rather than particular organisms, then this may be a sign that you should reconsider whether applying right now to do a research PhD is the right decision for you.

DO: tailor your application to each department (e.g. the section on interdisciplinary background above was relevant to this program, but would be distracting and unnecessary in other cases).

DO: explicitly say why you want to attend grad school at this particular school/ with this lab group. In many if not most cases, it's the faculty in the program that you want to work with who should motivate this choice, so you'll be talking mostly about why person x and person y are a great fit, not about why University of this or University of that is a great fit.

DO: emphasize your research and employment experiences.

DO: specifically mention the researchers you have worked with in the past by name.

DO: talk in detail about the projects you have worked on in the past.

DO: say something specific about advisors you would potentially work with.

DO: read the papers of potential advisors and make sure you can talk in some detail about what they do and how it relates to your interests.

DO: if you can, talk about specific projects or questions you are potentially interested in working on, giving as much detail as you can.

DO: if you can, talk with potential advisors well before the deadline and include ideas from your conversations in this essay.