

US EPA ARCHIVE DOCUMENT

GRO Summer Internship Final Report
Nutrient Criteria for the Coasts of New England
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I spent the past summer working with the Environmental Protection Agency (EPA) in their Region 1 Headquarters in Boston, MA. The advisors for my project were Matt Liebman and Mel Coté. I worked in the Ocean and Coastal Protection Unit of the Office of Environmental Protection. The main project that I worked on during my time with the EPA was on nutrient criteria for the coasts of New England. Nutrient criteria are used by states to limit the amount of nutrients that are released in their waters though setting approved levels.

My internship project fit into the work and the mission of the Ocean and Coastal Protection Unit because I was helping research current coastal nutrient criteria in each of the coastal New England states, which helped my advisor, Matt Liebman, with his research and will help the unit eventually develop numeric coastal nutrient criteria. It is important to develop numeric criteria for coastal waters, because while there have been some numeric criteria developed for fresh water bodies, no numeric criteria have been developed for coastal waters yet.

I worked on several other projects during my time at the EPA, one of which was helping prepare for and execute a survey aboard the OSV BOLD. The BOLD is a sea-going EPA research vessel. I helped organize and create signage for an open house for the BOLD, and I also participated on a week-long survey with my advisor, Matt Liebman. The survey was taken along the Gulf of Maine. I also created a map using GIS that we used during the survey; it mapped all the points at which we were hoping to take samples. We took samples using a CTD (conductivity, temperature, and depth) which took 3 samples, one each at the top, middle, and bottom of the water column. We then took chlorophyll samples from the water collected using a filtration apparatus. We sent out both the water samples and chlorophyll samples to be tested at the end of the survey, and unfortunately, I finished my internship before we could find out the results. I was able to compare some of our raw data with the data observed from some of our points, which were already being monitored by a program in Maine.

The main challenges I faced during the summer had to do with the “hard” science aspect of the internship. I am an environmental studies major in school with a primary focus in policy. I haven’t taken many hard science courses and I sometimes felt my advisor was asking me to do tasks for which I lacked the hard science background to complete. However, this internship has also improved my hard science skills and my advisor has taught me many new and useful things.

This internship has also allowed me to hone some of the skills that I already have. I have basic proficiency in GIS, but in working on the map for the survey I was able to increase my skills and knowledge in the GIS field. I was also given several opportunities to broaden my field work experiences this summer. Besides going out on the BOLD, I was able to assist with an EPA dive operation, and track nutrients found at one beach in Massachusetts back to their sources.

I really enjoyed my time at the EPA this summer. I learned a lot both from my advisors and my co-workers, about the inner workings of the EPA as well as new ways of looking at environmental problems. I had thought about potentially wanting to work for the EPA after graduation, but after this summer, I think that working at the EPA would be a great fit for me, since I truly enjoyed my time with the ocean and coastal protection unit and the Region 1 headquarters.

I would tell next year's GRO interns to never turn down a chance to do something new, be it doing field work or going to a meeting on site. At the EPA there are so many opportunities to learn about something outside of your area of expertise, that you shouldn't waste any of them!