The National Oceanic and Atmospheric Administration (NOAA) is a government agency that studies different aspects of the environment in order to keep the public aware of the world around them. NOAA acts as a mediator between everyday citizens and the world by doing research that protects both of them. This agency studies climate, weather, and the marine ecosystems to create a better understanding of how our world is changing. Further, they study different techniques of harvesting marine resources in order to find which ways are more sustainable and healthier for the environment. NOAA is also involved with conservation of marine ecosystems and restoration of damaged ones.

As an intern at the National Oceanic and Atmospheric Administration, I was responsible for contributing to a number of experiments going on at the Milford laboratory. The experiment I was the most involved with was an environmental DNA project looking at biodiversity of marine animals (specifically fish) at three different sites in Long Island Sound: an oyster cage farm, a reef bottom site, and a shell bottom site. Once a week, I went on the boat where we visited the 3 sites and collected water using a Niskin bottle. After returning to the lab, I would filter water and freeze the filter samples. This is an ongoing research project and samples will continue to be taken through September.

Another project that I was heavily involved with looked at fish biodiversity at the same sites as the eDNA samples. Two sets of twelve traps were set at each site and baited with smashed clams. At the start of each week, traps were baited and set, and the salinity, dissolved oxygen, and temperature was taken at each site. Each morning, we returned to the sites, measured salinity, dissolved oxygen, and temperature and then pulled the traps. We would record the different animals we found, as well as their size; common finds included spider

crabs, black sea bass, black-fingered mud crabs, bergall, scup and oyster toad fish. This experiment is also continuing through September.

A third project that I was involved with looked at the effects of ocean acidification on the development of juvenile sea scallops. The experiment was completed in September of 2015. I looked at 60 samples and did live and dead counts of the scallops using a Zeiss Observer microscope. Although it was a time-consuming and tedious process, it paid off when I was able to go to the Woods Hole Oceanic Institute (WHOI) in Woods Hole, MA, to show my data to my supervisor and a fellow scientist who worked on the project. Another researcher at WHOI looked at abnormalities to see the effects of ocean acidification on juvenile sea scallop development.

I have learned many different skills by interning with NOAA. As a Sewanee intern I had the opportunity to be involved with many different projects. Other NOAA affiliated summer interns were assigned to one project that they completed by themselves. I loved that I had the opportunity to work on a variety of experiments; it enhanced my time management skills. Some tasks involved going out on the boat and using my hands while others required me to stay inside and use a microscope. I learned that this variety is common among research scientists. At any given time, a scientist can be working on 3-5 projects, whether it is brainstorming a new one, carrying out another or finishing a report. They are also constantly learning by working with other scientists and attending different research seminars around the country.

I learned a lot not just from completing the internship, but through the process of creating it as well. It took a lot of time and patience to get a hold of the NOAA office while I was abroad, but I was consistent when I tried contacting them. When I did not receive a reply to my

first two emails, I did not give up. This attribute, I came to find out, was one of the reasons why they accepted me as a summer intern. They admired my polite persistence in getting in contact with them as well as my willingness to take on whatever project they needed help with. Once I began my internship, I had to learn the different sampling, measuring and counting techniques used in each of the projects I was involved with. My time management skills as well as my organizational skills have certainly improved over the last two months because of the three research projects I was working on.

In terms of my career goals, this internship has solidified that marine biology is the career path for me (which is ironic considering I go to school in Tennessee). After participating in an ACE internship last summer at Mustang Island Conference Center, my interest for the ocean was sparked. I got involved volunteering with a marine rehab center as well as a local blue crab research project. When I decided to go abroad, I kept in mind my desire to do marine work. In Australia, I volunteered at my University's research aquarium as well as a local sea turtle rehab center. By creating this internship at NOAA, and with funding from Sewanee, I was able to further pursue my interest in marine work through the summer. I have always enjoyed investigating and discovering new things, which is why I wanted to create an internship that involved research. With the associations and experience that I have made working at NOAA, I know I will be starting my senior year more confident than ever, as I feel more assured in the career path I want to pursue. I have been busy looking at marine careers around the country as well as PhD programs in marine biology.