

This summer was a whirlwind of activity and learning. We spent much of the summer focused on shorebird monitoring, the oyster restoration, and water sampling.

We walked the barrier beach of Edgartown Great Pond, looking for piping plovers and their nests. When we found these endangered birds, we put symbolic fencing made of twine around their nests to prevent human interference with the birds. We went out every other day (weather permitting) to monitor these birds as their nests grew. With the help of BiodiversityWorks we employed crow management techniques to decrease crow population on the beach, and metal fencing around one nest to further protect it from depredation.

I learned a lot about the Pond ecosystem through the shorebird monitoring program. I learned about the plight of beach nesting shorebirds, as well as the general erosion of barrier beaches. Through observing the birds I was able to better understand how pond health would impact these birds and their well-being.

To help improve the health of the pond, we also aided the Martha's Vineyard Shellfish Group in their oyster restoration on the Pond. We aided in all steps of the process, beginning in the hatchery and finishing in the pond. We began by washing young seed oysters at the hatchery on Chappaquiddick in the mornings. These oysters were eventually transferred to the Pond, where they were placed in oyster cages and allowed to grow. To better capture oyster larvae from the natural oysters in the pond, we attached wire bags full of scallop shells to the cages which gives oysters a hard substrate to cling on to. We later cut these bags open and released the oysters, completing the process.

The oyster restoration has a huge impact on pond health. I learned that an oyster can filter 40 gallons of water per day, removing excess nutrients from the pond. This removal of nutrients can be very beneficial for the Pond, a fact I learned as a part of this internship.

Water sampling was performed twice a week, with the handheld CTD used at all 10 stations twice a week and the photometer used at 5 stations per day. We tested the water for turbidity, salinity, depth, temperature, total nitrogen, phosphate, ammonia, nitrate, and silica. This was done out of the Bristol Skiff that was donated this year.

As a part of sampling, I learned much about eutrophication and other health issues that face the Pond. Development around the pond has resulted in the leaching of nitrogen from septic systems into the pond. I learned about the varying salinity through the pond, and saw how nutrient levels can vary from cove to cove.

This internship taught me more than science, however. It taught me how to communicate with coworkers, organize events, and present to other people. I learned a lot through this internship, and I thank you for the opportunity.

~~~*Sam Hartman 2016*~~~