

Ecology and Marine Biology have been long standing interests of mine since adolescence, and I was overjoyed to be able to participate in my very first internship during my time at San Diego State University as a part of CMIL MURP. During my two months as part of this program, in the summer between my third and fourth year, I have gained experience that will be valuable to me for decades to come. I've made connections with great people who share my interests and passions.

I was part of a team with a fellow undergraduate intern, Yuki, and we both worked under the tutelage of PHD Ecology Student Xavius Boone. We worked together to set up Baited Remote Underwater Video Stations (BRUVS) in order to track fish populations.

We set up GoPro cameras attached to bait in order to draw fish near the camera at 3 different lagoons (San Dieguito, San Elijo, and Los Penasquitos) and 4 different stations in those lagoons. During deployment of the cameras, we monitored and noted the water quality including its visibility, salinity, dissolved oxygen, temperature, and depth.



The GoPro cameras were allowed to run until the batteries died, which was about 3 hours after deployment. We then watch the videos back and count, identify, and log any and all fish that we see in the videos. Xavius has been monitoring and recording fish populations at these 3 lagoons since February in order to study how temperature and water quality at different points in the year affect fish numbers and abundance.



During our time in CMIL Lab, we also learned how to use R Studio in order to properly display the results we obtained in graph form through coding scripts. This way we can more clearly communicate our findings to a larger audience, which came in handy when preparing our poster for the meet and greet presentation at the end of August, which acted as a final test of what we learned over the summer.

Over the course of conducting this research, I learned how certain fish species are more susceptible to population change when faced with changes in water quality and temperature. I also learned the theory of Thermal Optimums, in which fish species use habitats such as estuaries as a nursery when temperatures are more optimal for growth of juveniles. In the summer months we saw the highest abundance of fish when compared to Xavius's early spring videos.

Every Monday, the Program leaders Lily and Alyssa held workshop zoom meetings discussing career paths that this program can be utilized for. It was in these workshops that I learned the concept of an Elevator Pitch. Myself and other interns practiced giving a short introduction to a professor/researcher/doctor expressing interest in joining their programs while giving an introduction of ourselves and areas of interest.

I am grateful to have been part of the CMIL MURP Program. I have learned much about the world of marine biology and gained valuable irreplaceable experience working in a marine lab. I thank my mentor, Xavius B as well as my fellow intern for making this program unforgettable, exciting, and extremely rewarding. I also thank those who helped organize and host this internship, Lily and Alyssa for allowing me to experience this program.