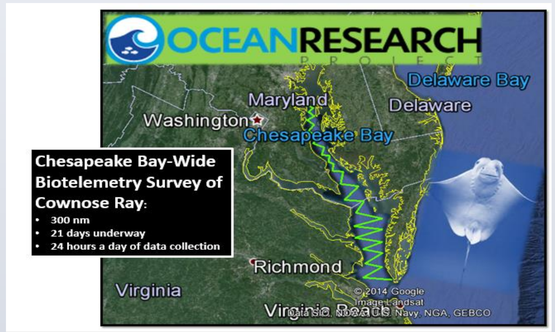
My Intern Experience

Aaron Anthony

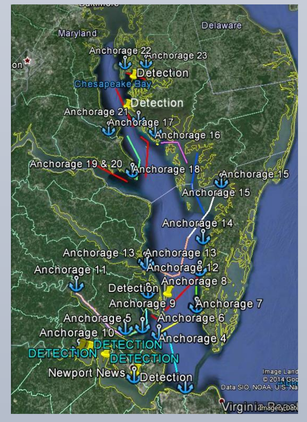
Bay-wide Biotelemetry

Ocean Research Project and Smithsonian Environmental Research Center teamed up to collect one of the largest biotelemetry surveys of the Cownose ray species by sailboat in our nation's treasure, the Chesapeake Bay. A 21+ day and 300 nautical mile survey in August 2014, Matt and Nicole surveyed the data gaps of the Chesapeake Bay searching for the tagged marine biodiversity of the bay at 2.0 knots with a Vemco Vr100 and a Vemco VR2W receiver.



My Objectives

I acted as grounds crew for Nicole and Matt who have been sailing up the Chesapeake Bay looking for tagged cow nose rays. They have been traveling with biotelemetry data using Vemco receivers (VR2W and VR100) trying to receive data from any tagged fish species swimming by. As grounds crew I would receive data from Nicole and Matt, they would send me the date of the find, time, transmitter number, and the coordinates. I would then take this data and find out the species of the fish, who tagged the fish and where the species were tagged. Then I would place the detection's on Google earth along with the paths and anchorage of Matt and Nicole.

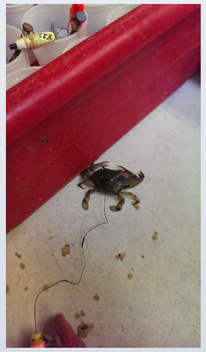


Time with SERC

I worked with the crab lab at The Smithsonian Environmental Research Center (SERC), The Crab lab has many on going projects that I was able to help out with including the benthic lab, The river herring project, Blue crab ecology, trawl survey to check migration patterns and predator-prey interactions.

Predator-prey interactions

We tethered juvenile blue crabs/mummichogs and grass shrimp we placed them near the shore line of the Rhode river and checked the bait at different time intervals to see what predator has consumed the bait over time

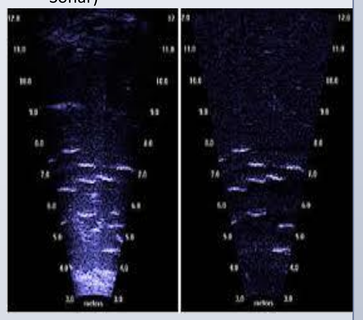


The Benthic Lab

The Smithsonian takes a sample of benthic sediment from the Chesapeake bay and identify different benthic species found in the bay. I would look at sediments out of a microscope and find

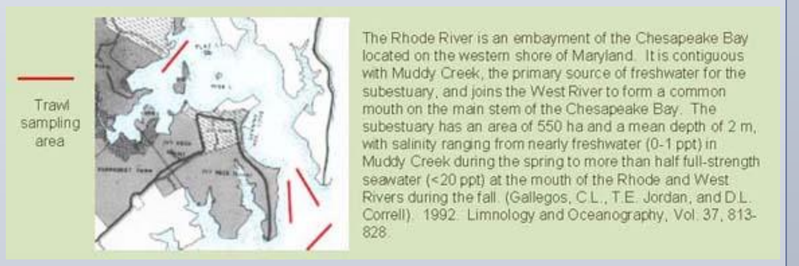
The River Herring project

River herring have been declining in the Chesapeake bay so SERC has been trying to figure out their migratory patterns and keep track of population I helped in counting river herring using a DIDSON (Dual frequency Identification Sonar)



Trawl survey

Ecology Lab are long-term, annual and seasonal changes in community structure, response of the population and individual species to environmental variables (such as temperature or salinity), and migration patterns and habitat utilization of select species. In order to collect the necessary data on these topics, the Estuarine Ecology Lab initiated a sampling method called "Trawl Surveying" on the Rhode River. I was able to join them and assist with trawling in the 4 areas on the right we recorded many different species from blue crabs to summer flounder. We measured most of them and recorded every species we obtained.



Crab tagging

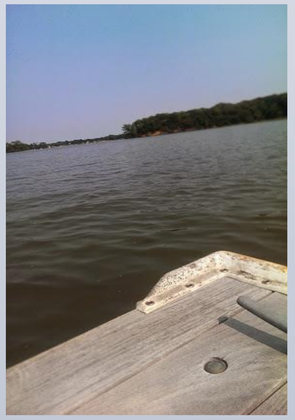
The Crab Lab has it's most well known project that has gotten them the name Crab Lab and that is crab tagging. The crab lab create a tag to place on blue crabs caught in the Chesapeake bay in different locations. Each tag has a different tag number and a contact number to the lab. The tags are used for when someone catches the tags they can call the lab, answer some questions and receive a $ reward. The lab uses this information for multiple projects of crabs migration, who catches more crabs commercial fisherman or recreational, and how far crabs have travelled after the tag.

What I learned

learned many things from my internship I learned about scientific research in general, how research is started, How scientist from multiple backgrounds and different areas collaborate together to work on a project. The time length it can take for some research. There are some research projects spanning from more than 20 years and still going on. I have also learned much about the Chesapeake Bay and the organisms that live in and around the area. I have learned a lot I didn't know about cow nose rays and blue catfish as well. Some blue catfish can get up to 85lbs and many locals confuse cow nose rays with stingrays.

Impact

I learned many new skills from my internship and has really impacted me in what I want to do in the future. I always wanted to do something with the environment but I never knew what exactly and this internship has helped me find what I wanted to do. I want to be a marine biologist or an ocean engineer I want to help the environment through my actions whether as a researcher or as an engineer I just want to make an impact on the environment and the Chesapeake bay I grew up in.



Special Thanks

Thanks to Matt and Nicole for allowing me to intern with them
Thanks to the Crab lab for allowing me to assist with them in their lab.