

**Our World-Underwater Scholarship Society**

**Dr. Lee H. Somers American Academy of Underwater Sciences (AAUS)  
Scientific Diving Internship Final Report**



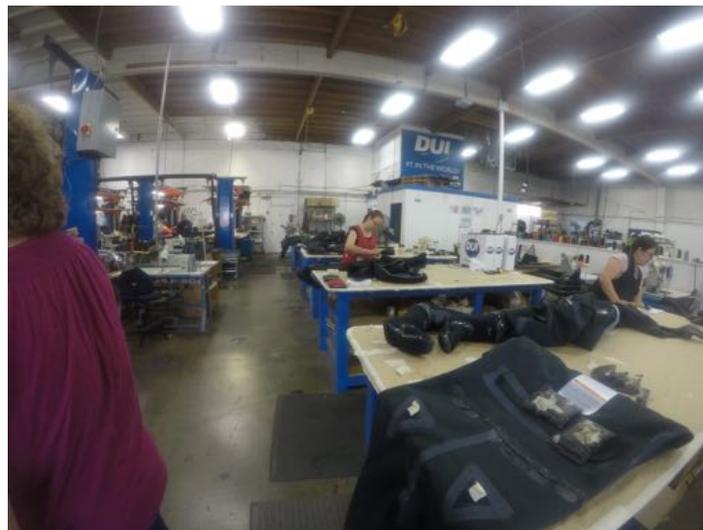
**Hosted by:  
Scripps Institution of Oceanography**

**National Oceanic and Atmospheric Administration's Gray's Reef National  
Marine Sanctuary**



**Presented by: Erika Sawicki  
Summer 2017**

The beginning of my internship could best be described as a roller coaster ride. After many weeks of ups and downs during which my host site changed several times, I was assigned to the scientific diver course at Scripps Institution of Oceanography in San Diego. When I arrived in San Diego, I first met Faith Ortins from Diving Unlimited International (DUI) dry suit factory who I stayed with until the keys arrived for Sally Wahrmann's condo in Carlsbad, California. Sally, a member of the Women's Diver Hall of Fame, has logged over 60 dives on the Andrea Doria wreck using only air. She was extremely generous for letting me stay at her beautiful condo and for the use of her car as well.



**Diving Unlimited International (DUI) drysuit factory.**

Due to this slight change in plans, the uncertainties I had experienced were overshadowed by the surprise of being able to tour the DUI dry suit factory. I learned about the history of dry suits and how they are made. This was not part of my original internship plans, but I am very thankful I was able to take advantage of this opportunity to learn more about the evolution of diving gear. Through my internship experience, I learned to take advantage of each of these additional opportunities. These opportunities can lead to much bigger, life changing chances.

After I completed my scientific diving training at Scripps, my next destination was with the National Oceanic and Atmospheric Administration's (NOAA) Gray's Reef National Marine Sanctuary (GRNMS) in Savannah, Georgia. I had to wait until the end of July to start so I headed home. As it turns out, I spent each week during the month of July in a different state. After a week at home in Massachusetts, I headed to Oklahoma for a week to visit friends. From Oklahoma, I flew to Rhode Island for a family vacation before heading to Georgia to close out the month.

This experience has taught me how to live in the moment. I often had no idea what would be happening next, but each situation eventually figured itself out. I learned to enjoy each moment and experience and not worry about the future or what is next. I definitely did not expect some of the twists and turns that I encountered such as host site changes, last minute uncertainties, a hurricane evacuation, and multiple one-way plane tickets. You just need to be prepared for anything and be ready to DIVE into any new situation.

## **Activities**

### **Part One: Scripps Institution of Oceanography**



**Securing the end cover on a pipe with bolts and washers while blindfolded.**

My internship began with the scientific diver course at Scripps Institution of Oceanography in La Jolla, California. I was really excited and eager to experience a new region of the country, as I had never been to California or the West Coast before. The purpose of this course is to "...train and support the university's scientists, students, and technicians in the use of underwater techniques and technology necessary to safely conduct their research in underwater environments" (Scripps Institution of Oceanography). The course includes five major different components; 1.) Physics and Physiology of Diving, Decompression Theory and Dive Planning, Equipment and Environmental Considerations, Hazardous Marine Life, and Scripps Scientific Diving Program and Policy, 2.) Diving Emergency First Aid (CPR, First Aid, Oxygen Administration, and field neurological examination) training, 3.) Dive Rescue and Swimming Evaluation, 4.) Written Scripps Scientific Diver examination, and 5.) 12+ supervised open water dives (Scripps Institution of Oceanography).

The swimming evaluation is a large component of the first half of the course with both a confined and open water component; since good swimmers can help save themselves. In confined water, each candidate must: 1.) Swim underwater without fins for a distance of 25 yards without surfacing; 2.) Swim 400 yards in less than 12 minutes without swim aids; 3.) Tread water for 10 minutes, or 2 minutes without the use of hands, without swim aids; and 4.) Without the use of swim aids, transport a person of equal size a distance of 25 yards in the water. While in open water, each person must swim to the end of the Scripps Pier (~1,000') and back, including a successful surface dive to the bottom (~18'-20') (Scripps Institution of Oceanography).



**(Left photo) Scripps Scientific Diver course class photo. (Right photo) Myself, Erika Sawicki, pictured underwater while completing a coral survey poor visibility.**

Once we began our open water dives, each day/dive was focused on a different skill. We practiced skills such as open water navigation, search and recovery patterns, low visibility conditions, night dives, rescues, surveys, boat diving, kelp diving, etc. Every night, we would have homework on the skill for the following day, which helped prepare us prior to getting in the water. After our dives in the morning, we would head to the classroom to go over the course material.

I was in California from June 13<sup>th</sup> through July 1<sup>st</sup>, with the course starting on the 16<sup>th</sup> and ending on the 30<sup>th</sup>. Christian McDonald, the Diving Safety Officer at Scripps was the key person who made a huge impact on my internship experience. I met Christian at the annual OWUSS event in New York City. He was able to secure a spot for me in the Scientific Diver course. Without receiving the American Academy of Underwater Sciences (AAUS) certification, my internship would not have been possible. While Scripps was the institution who hosted me, Faith Ortins and Sally Wahrman were very generous by not only offering me housing but also the use of their car. Another person I am grateful to is Rich Walsh, the Assistant Diving Safety Officer/Diving Locker Supervisor, who helped run the Scientific Diver Course and let me stay at his house the day of the night dive.

## Part two: Gray's Reef National Marine Sanctuary



**Receiver system and marine life (Pieces of receiver system not pictured: receiver and buoys) at Gray's Reef National Marine Sanctuary.**

NOAA's Gray's Reef National Marine Sanctuary (GRNMS) in Savannah, Georgia hosted the second half of my internship. This host location actually fell together very serendipitously. Jenna Walker, the internship coordinator, received an email from LTJG Marybeth Head, NOAA Corps officer, asking if she knew anyone who would be interested in a diving internship with Gray's Reef. This happened to be at the exact time OWUSS was looking for a placement option for me. I began the second half of my internship on July 25<sup>th</sup>; there was a short break between the two halves of my internship. When I left for Georgia, I was unsure of how long I would be staying due to budget limitations. Thankfully, my budget was increased and I was able to stay until September 29<sup>th</sup>.

LTJG Marybeth Head was an extremely influential person while I was working at Gray's Reef. Marybeth helped me with everything from paperwork, doctor's appointments, housing, and daily internship duties. She went above and beyond to make my experience in Georgia exceptional. Marybeth set up housing accommodations at Skidaway Institute of Oceanography; the house was only a 10-minute walk or a short bike ride to the Gray's Reef Office.

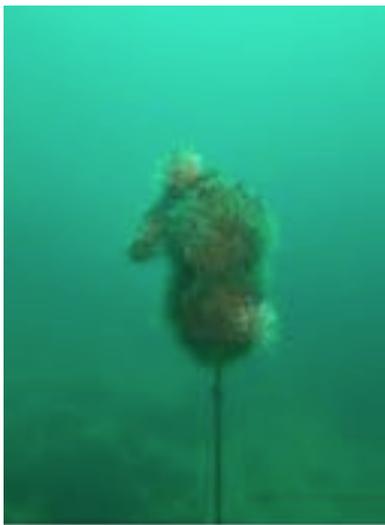
This summer not only was I able to receive the AAUS certification, I was also able to fulfill the requirements to become a NOAA diver. After completion of the appropriate paperwork and doctor's appointments, we went to Hunter Army Airfield Base so I could complete the swim test and confined water checkout dives. I found the NOAA swim test to be more difficult than the AAUS swimming evaluation. Once I passed both of these components, my completed evaluation paperwork was sent to NOAA diving headquarters in Seattle, Washington for final approval.



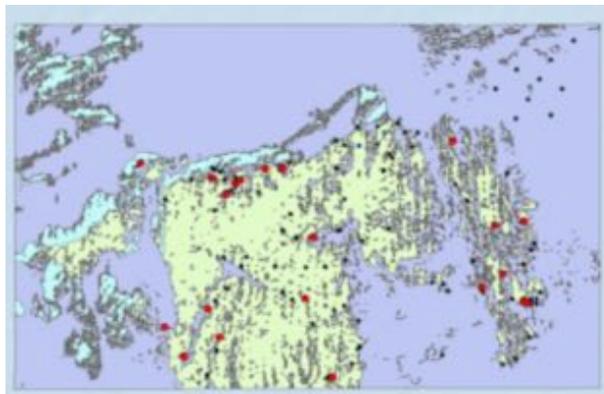
**Paperwork stating that I have fulfilled the requirements and am an official NOAA diver!**

Once an official NOAA diver, I became a member of the Gray's Reef National Marine Sanctuary (GRNMS) Dive Team. Other members of the dive team include LTJG Marybeth Head, Boat Captain Todd Recicar, and Kim Roberson, Research Coordinator. Each time there were dive operations, I was in the water. GRNMS is approximately 20 miles off the coast of Savannah and it is about a two-hour boat ride. I spent the majority of my time at GRNMS working on the assessment, retrieval, and replacement of acoustic receivers project. The receivers are used to record tagged animals when they are within range. The first part of the

project was to assess the condition of the receiver arrays. There are five different pieces of the array; the bail, buoys, rope, anchor and receiver. I was mainly in charge of filling out the data sheet, while my dive partner would take pictures of each piece of equipment for future reference. These pictures were used to determine which arrays needed the most immediate attention. For example, if the receiver was not properly attached to the rope, it was labeled ‘needs immediate attention’ due to the higher probability that we could lose the receiver. After our assessment, some receivers were immediately removed and brought back to the office for download, while others were left to continue recording.



**(Left photo) Buoys of the receiver system covered in growth and in need of cleaning. (Right photo) Practicing my scooter skills in the Hunter Army Airfield Base.**



**An ArcGIS map I created showing lionfish sightings in Gray's Reef National Marine Sanctuary.**

I also learned the many other aspects of diving operations such as tank fills, gathering necessary gear, cleaning the boat, getting data sheets ready, float plans, etc. It is not all about be



in the water! It is important to stay on top of equipment maintenance so that there is less chance that things will break in the field. One of my biggest accomplishments while working with GRNMS was learning how to create ArcGIS (Geographic Information System) maps. While in the office, I focused a lot of my time learning how to create different GIS maps. I learned how to lay xy coordinates on a map. By the end of my

internship, GRNMS staff claimed me to be “the resident expert of ArcGIS in the office.”



**Pictures from my tour of the NOAA ships. (Left photo) The bridge. (Right photo) Myself, Erika Sawicki, standing in front of the R/V Thomas Jefferson.**

While in Georgia, I was able to travel to Charleston, South Carolina on September 6<sup>th</sup> to tour two of the NOAA Corps ships, the Thomas Jefferson and Nancy Foster. Two of the NOAA ships were in port, waiting for word on hurricane preparation plans. I met with a NOAA Corp officer who gave me a tour of the ships. Each ship has a different main capability, with the Thomas Jefferson specializing in oceanic benthic mapping. The Nancy Foster is more diverse in

its capabilities. The Foster travels around to different locations, such as GRNMS and other marine sanctuaries, to complete various research. Usually each summer, GRNMS will receive a two-week slot where the Nancy Foster works within its sanctuary.



**(Left photo) Myself, Erika Sawicki, standing in front of Gray's Reef National Marine Sanctuary's office boarded up for Hurricane prep. (Right photo) Marybeth's chickens are part of the evacuation plan.**

To follow suit in my internship adventure, my roller coaster ride was rocked again when



Hurricane Irma (September 8<sup>th</sup>) headed in our direction. Due to uncertainty and the high category strength of the hurricane, mandatory evacuations were put in place. Marybeth, Erin, and I headed to Fort Benning in Columbus Georgia to ride out the storm (September 8<sup>th</sup>-12<sup>th</sup>). Marybeth's friend hosted us during our five-day stay. We were able to explore the area including The National Infantry Museum and the Animal Safari. The Animal Safari was very different than any other zoo I have been too before. You are able to drive your car into the park and the animals come right up to

your vehicle. They will literally stick their heads into your car if the windows are down! The National Infantry Museum contained history about the different wars and the various military infantry divisions, such as the 10<sup>th</sup> Mountain Division. It includes over 240 years of American History that honors the courage and sacrifice of many soldiers who lost their lives. Coincidentally, my grandfather was part of the 10<sup>th</sup> Mountain Division.

### **Part three: AAUS Kevin Flanagan Travel Award**



**(Left photo) Recipients of the 2017 Kevin Flanagan Travel Award (Left: Myself, Erika Sawicki and Right: Elisabeth Maxwell). (Right photo) Myself, Erika Sawicki, at the annual awards banquet dinner.**

As the recipient of the Dr. Lee H. Somers AAUS Scientific diving internship, I received the AAUS Kevin Flanagan Travel Award. Therefore I was able to attend the AAUS Symposium this year from September 14<sup>th</sup>-18<sup>th</sup>, which was held at Thunder Bay National Marine Sanctuary in Alpena, Michigan. I also presented my internship experience from this summer. Having the opportunity to attend this conference helped me make various professional connections within the diving community. This networking opportunity proved to be very beneficial in my current position.

The conference consisted of a Bubble Breaker event on Thursday evening, followed by two full days of presentations. Presentations included information about national marine monuments, various research, scientific diving programs, uses/effects of different technology in scientific diving research, diving medical research, etc. There was a large range of information that definitely kept me intrigued. The conference ended with a banquet dinner where awards and recognitions were presented, such as the Diving Lifetime Achievement Award given to John S. Pearse. After the conference, I headed back to Georgia for the remainder of my internship.

#### **Part 4: Gray's National Marine Sanctuary Finale**



**Gray's Reef National Marine Sanctuary staff members at the 'A Fishy Affairs' Event.**

I spent the majority of my last two weeks at GRNMS working on GIS mapping. This work was to ensure that my knowledge and the maps that I created during my two months can be used for future GRNMS needs. My GIS maps were also used for the Sanctuary Advisory Council (SAC) meeting on September 22<sup>nd</sup>. The SAC is “a community-based advisory group consisting of representatives from various user groups, government agencies, and the public at large” (Gray's Reef). This meeting is a forum to help discuss the different needs of the sanctuary and to help inform and update the public and other users of the sanctuary. The SAC meeting concludes with “A Fishy Affair... Malicious but Delicious” event at The Landings Country Club. This

event helps raise awareness about invasive species, such as lionfish as well as raise funds for the foundation. The night begins with attendees having the chance to taste the four different chefs appetizers made with lionfish as well as enter into the raffles. People are allowed to vote for their favorite lionfish appetizer and later the winners are announced.



**(Left photo) Myself, Erika Sawicki, at the ‘A Fishy Affair’ Event sporting the Lionfish mask to sell raffle tickets. (Right photo) Lionfish, *Pterois volitans*, photo (PC: GRMSF).**



**Lionfish cookies from the ‘A Fishy Affair’ dinner.**

After dinner, the auction began! The auction was definitely the most entertaining part of the evening. The whole ballroom was laughing and people were bidding higher than the items

listed prices! The following week was my last week in Savannah, Georgia. I spent the remainder of my time at GRNMS working on GIS mapping. I feel a lot more confident and have learned a lot about GIS maps during my ten weeks in Georgia. GIS is a very valuable skill to know, especially with the use of technology increasing every day.

### **Final Thoughts**

This internship contributed to my professional and personal development by helping me learn how to go with the flow and roll with the punches. I now know how to adapt to new situations and have learned how to take every opportunity in life that is given to you. I have learned many valuable life skills, some as simple as what to eat for breakfast. For example, never drink orange juice before going out on a boat (the worst thing to have for breakfast before getting sea sick). I have also become much more independent, especially in new situations.

From my internship experience, I have found that the scuba diving community is very wide spread, yet also a very close-knit community. It is a very humbling experience to see how many people are willing to help out someone like me who is new to the scientific diving community. I am extremely grateful that there are supportive and helpful people to learn from and who give of themselves. They are the ones who made my internship possible. Without each piece falling together, my internship would not have been possible. It was a great opportunity to work with wonderful people who are associated with the broader scientific and scuba diving community.

This summer has truly flown by and it has led me to places I never imagined I would go. This internship has helped me to land a job as a Hydrologic Technician with the Department of Interior: United States Geological Survey (USGS) in Honolulu, Hawai'i. To jumpstart the New Year, I will be boarding a plane on January 1<sup>st</sup>, 2018 to begin this crazy journey of creating a home for myself in a place I have never visited and starting my career in the streams of Hawai'i.

You only regret the opportunities that you do not take advantage of, so here is to new places and new adventures!



**Myself, Erika Sawicki, diving at Gray's Reef National Marine Sanctuary holding my hometown's local newspaper.**

P.S. Although my job does not entail diving, my gear is packed and ready so I can explore the waters of Hawai'i.

### **Acknowledgements:**

There are so many people to thank for making this internship experience a reality!

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