

The St. Catherines Island Sea Turtle Conservation Program (SCISTCP) aims to protect and conserve the populations of the species of sea turtles that come to nest on St. Catherines Island. The SCISTCP has been documenting the sea turtle activity on the island as well as implementing a conservation plan that takes into account the highly erosional nature of the island. Along with collecting important nesting data and employing successful conservation strategies, the SCISTCP also plays a major role in science education. Every summer for over twenty years, teachers of elementary through high school students come to the island through the Improving Teacher Quality Higher Education Program and work for a week as teacher interns through Georgia Southern University. This program allows the teacher interns to learn more about science education through conservation and research. The SCISTCP expands the knowledge of sea turtle nesting ecology through its mission of education, research, and conservation, and it is important in helping the Georgia Department of Natural Resources (Georgia DNR) to document the pattern of sea turtle nesting along the Georgia coast.

I was lucky enough to work with Dr. Gale Bishop, professor emeritus of Georgia Southern University and director of the SCISTCP, as he monitored the entire 17 kilometers of beaches of St. Catherines Island. Monitoring the beaches was the most important duty of the SCISTCP staff; we were able to document the changes of the beaches, the activity of the nesting turtles, and any other dynamic activity of the wildlife or marine life. Monitoring began as early as 4:30AM and could continue until well into the afternoon, depending on the tidal cycle. The interns and staff would look for turtle crawlways (the pathways of the female turtles as they crawled out of the water onto the beach to lay their eggs), and stranded or dead marine animals. In some cases, sea turtle nests were found that were not in suitable locations to be able to survive until their emergence date, which would be approximately 56 days from the date it was laid. These unsuitable nesting sites were determined based on the distance from the spring tide line, the amount of wrack (washed up plant material, detritus, and trash) that was

around the nest, or the amount of predator activity (raccoon, pig, and ghost crab tracks) that was observed around the nest site. If a nest was found in a site deemed unsuitable, the clutch of eggs was moved according to a protocol set up by Dr. Bishop, the SCISTCP, and the Georgia DNR. This process involved finding the egg chamber within the nest, gently removing the eggs, transporting them to a new, appropriate location, depositing them gently into this new location, and taking precautions when covering the eggs so that predators would not find and eat them. Stiff plastic screens over the egg chamber and wire cages on and around the egg chamber were two of the protective measures the staff and the interns took to protect the eggs from raccoons and pigs.

Not only were the interns and staff in charge of finding and relocating new nests, we also processed nests after the juvenile turtles emerged from them. Processing of a nest would occur approximately 5 days after the emergence crater was seen. An emergence crater is a mild depression that forms in the surface sand at the top of the egg chamber, and it usually denotes the displacement of newly hatched turtles out of the nest and into the ocean. Because of the dynamic nature of the beaches, the weather, and the high tides the island was experiencing this summer, it was difficult at times to determine if a nest had emerged or not by the presence of an emergence crater. If there ever was a question about a nest's emergence, we would dig a small hole into the top of the egg chamber to check the status of the eggs. Processing of a nest included digging out the entire egg chamber and counting the hatched eggshells, the un-hatched-undeveloped eggs, and any other eggs or hatched turtles still in the chamber. In emergency situations, such as predation by ghost crabs or raccoons, the nests would be processed before the 5-day wait period, but this was only for the safety of the hatchlings that may have been still in the chamber.

Along with basic monitoring of the beaches and the following of appropriate protocol with new and emerged nests, the SCISTCP interns and staff played a large role in the education and support of the teacher interns and the Teacher Quality Program. The interns and staff were in

charge of making sure the teacher interns understood our method of finding turtle nests, moving nests out of unsuitable locations, processing the emerged nests, and handling any hatchlings that we may have. We also made sure that all of the equipment and vehicles used by the program were ready for use. We worked with Dr. Bishop showing how sea turtle conservation and island ecology can be used as teaching tools for science in elementary through high school classrooms

This internship proved to me that I thoroughly enjoy fieldwork, especially if it relates to marine ecology and conservation. The past two summers, I have opted for internships and programs that take me out of doors, and this one was the most appropriate for my future plans. I developed communication skills that focused on being able to explain methods of conservation to those who may be new to conservation and research, and I also developed skills in logistics. We had to plan each day and each excursion around the tides because some of the beaches were completely impassable during certain parts of the tidal cycle. We also had to consider the weather because there was no shelter on the southernmost end of the island, which was a thirty-minute drive from any kind of safety from lightning and wind. I also learned about critical conservation techniques, such as relocating nests that were laid in unsuitable locations, and I also learned about different conservation techniques that we did not use, but that were used in other areas of the world for different species of sea turtles.

One of the most memorable experiences I had over the summer was the morning that the SCISTCP saved a stranded loggerhead sea turtle. The turtle was found on the southern-most beach where she had tried to lay a clutch of eggs. It seemed that she had nearly completed the entire process of laying her eggs except to cover the egg chamber when she was interrupted by raccoons trying to eat the new clutch. We found her approximately 100 meters from her original nest site on the backside of the beach in the marsh. She was trapped behind a stiff stand of needle rush and had no way of getting back to the beach on her own. Within an hour, we had every available staff member on the beach, cargo net in hand, carrying the 250-pound

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Summer 2012

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loggerhead sea turtle out of the marsh and back onto the beach. She was still very lively when we released her out into the ocean, and seeing how she was able to endure the whole ordeal without any problem impressed me greatly.

I knew that I had been playing a part in the conservation of sea turtles through this program, but it was not until the end of the summer after we had our first emergences that I realized what an impact this program had on the overall conservation efforts of sea turtles along the Georgia coast and on my own perception of conservation. Along the entire Georgia coast this summer, there were over 2,100 loggerhead sea turtle nests laid; at least 170 of those were on the 22 square-mile St. Catherines Island. Considering that there are about 110 eggs on average in a nest, the SCISTCP put an impressive amount of young turtles into the water. Even though less than one in 1000 of these sea turtles will make it to sexual maturity, there is a possibility that in thirty years, the number of nesting loggerhead sea turtles will have increased and they will no longer be threatened. Before this experience, I would have read this same information on a website or in a nature magazine, but it would have been forgotten. Now, I know what is involved in running a successful conservation program: hard work, a passion for the natural world, and rigorous attention to detail. Those statistics are no longer numbers on a page; they are crawlways seen at early hours of the morning, baby sea turtles pulled out of a nest where a ghost crab had begun to eat the unlucky stragglers, and eggs that were carefully counted and relocated to a different area so that they would have a better chance of survival.