

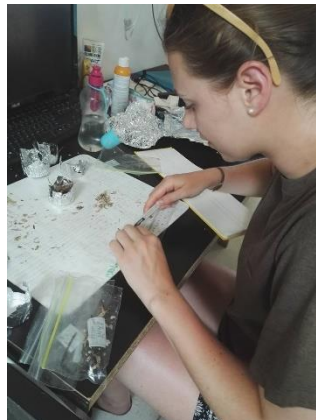
The Royal Holloway Travel Award gave me the fantastic opportunity to travel to the Bahamas this Summer, to undertake research into foraging grounds of the juvenile green sea turtle at the Cape Eleuthera Institute. The Cape Eleuthera Institute acts as a hub for marine research, facilitating many research programmes, including vital research into the foraging grounds of immature green turtles (*Chelonia mydas*). The travel award allowed me to participate in and undertake this fantastic research through Operation Wallacea, forming the basis for my third-year research project.

Green sea turtles are one of only seven remaining sea turtle species, classified as an endangered species in 2009 on the IUCN Red list. Although the green sea turtle is protected in Bahamian waters, it is still of great importance to investigate the factors that influence where juvenile green sea turtles choose to forage, as this life cycle stage is crucial to the species ability to grow and thrive. Sea grass beds play a critical role within this juvenile turtle life cycle stage, where sea grass itself acts as a key food source, and therefore is vital for growth and development. The research I carried out this Summer aims to contribute to the improvement of future conservation efforts of the green sea turtle, through habitat protection.

Sea grass was studied within nine different creeks around the island of Eleuthera, Bahamas. At each creek, quadrats were placed and used for the investigation of sea grass structure, where percentage cover, species richness, and leaf canopy height data were collected. Environmental factors were also studied in the field, for example measurements of water depth were taken for each quadrat. Samples of the seagrass were then taken using a core for later laboratory analysis.



Laboratory analysis of sea grass was carried out to identify the determinants of sea grass density. This analysis included determining the number of leaves and number of shoots in each core taken. The biomass of the samples was then calculated, by dividing the core samples into above and below-ground matter. These sea grass samples were then heated to give dry weights of above and below ground sea grass matter.



To collect data regarding turtle abundance, turtle seining, chasing and abundance surveys were carried out within the creeks where sea grass data had previously been collected. Juvenile green sea turtles captured during seining and chasing had measurements taken to assess growth and were tagged, a great hands on experience as well as opportunity to collect valuable data for the species. Sea grass and juvenile green sea turtle data combined sought to demonstrate correlations between seagrass characteristics and green sea turtle growth and abundance.



As well as this research providing data for my own project, this project included collaboration with educational programmes such as Earthwatch, allowing for the fantastic opportunity to share this research with younger students while out in the field. Working with research scientists and other university students at the Cape Eleuthera Institute was again a fantastic experience, and a great opportunity to meet others with a shared interest. While carrying out my own research project data collection, I was also able to get involved in other research. During a field course in Samos earlier in the Summer, I had carried out a small own project looking at ingested microplastics in fish, which subsequently sparked an interest in microplastics. At the Cape Eleuthera institute I was able to continue to fuel this interest, where I assisted with plastic trawls in the Exuma Sound and dissected other larger pelagic fish species to find and collect data on ingested microplastics.





The Cape Eleuthera Institute was a brilliant base for a marine research project, as well as a fantastic place to be part of a community working together to achieve a more sustainable lifestyle. The institute itself was built and designed to be environmentally friendly, where the institute for example has onsite renewable power, water harvesting facilities and buildings made using locally derived building materials. A fantastic experience surrounding the research was being fully involved in a generally thoughtful way of living, reducing any immediate and long-term impacts on the surrounding ecology. A changed lifestyle for six weeks included using only harvested water, eating locally grown foods, using energy from renewable resources and the favorite, navy showers. Taking on this more sustainable way of living was a real eye opener, and on reflection is now something I strive to intergrade more into my own everyday life at home.



Living in such a beautiful part of the world for six weeks, there were many opportunities to be had. Learning to scuba dive was a truly amazing experience and a real highlight. I gained my PADI open water diving qualification, allowing me to see more of the beautiful marine life in the Bahamas- including the rather large and curious barracudas.



It was really special sharing the experience of living in the Bahamas with other students and interns. One weekend we all went on a down island trip, where we had a whole day to travel to the top of the Island and back down. Highlights included caving, visiting the stunning French Leave beach and discovering the 'tourist tree'- so called because the bark is red and peeling.



During the weeks, bikes were used to explore the island and it was lovely to experience such freedom. At the Cape Eleuthera Institute there were also opportunities to help in the local community, one afternoon we helped clear the vegetable garden at the local primary school.



I am extremely grateful to have been given the Travel Award, allowing me to carry out an exciting third year research project, as well as giving me an overall fantastic and once in a lifetime experience. I have had the most truly amazing Summer.



