

I was awarded with the Irene Marshall Scholarship and the Peter Marsh Prize which granted me the opportunity to travel to the picturesque island of Koh Phangan in Thailand, to partake in a four-week diving and marine conservation internship with an NGO organisation called COREsea. This enabled me to do primary research for my BSc geography dissertation by using Koh Phangan as a case study to investigate how global warming has impacted coral reefs. I did my research in six different areas in the north of Koh Phangan, and I will be using the data I obtained to compare with previous data sets from 2014, 2015, 2016, and 2017. By doing my research with COREsea I could gain an insight into how marine conservation within NGO's works.



I had never dived before so spent the first week of my trip gaining the skills I needed to undertake my research and completed my PADI Open Water Diver qualification. I then spent the next 3 weeks diving nearly every day undertaking coral bleaching surveys and live coral cover surveys. An average day doing research would start at 9am with a briefing of current developments around the world and planning for the day sorting out which roles of the dive will be carried out by different dive buddy pairs. The dives are always an hour long and consist of two dive teams. One team would roll out the transects and complete a live coral cover survey and a bleaching survey starting from the end of the transects. Then the other team would start at the beginning of the transects completing a fish ID survey and then reeling in the transects. After the dive, we would go back to COREsea and have a dive debrief to discuss what we discovered on the dive and share information between each dive team. After lunch we would then process the data by putting it into spreadsheets ready to be compared.

To do a coral bleaching survey we needed to reel out 3x50m transects in a line and then we would swim along the transect categorising the coral that was 1m either side of the coral into fully bleached, partially bleached and healthy. All divers swim with a buddy system so there would be one diver either side of the transect. We would identify the 4 main coral growth forms, massive, branching, plate-like, and solitary and then we would categorise the level of bleaching. This would later be inputted into a spreadsheet and used later to compare data and put forward information to the local government to aid decisions involving environmental issues. To do a live coral cover survey we would swim along the

transects taking a photograph every 0.5m then we would identify what type of coral was in the photograph and whether it was dead or healthy and alive. Again, this would be put into a spreadsheet and compared with previous data to aid future environmental decisions. For my project, I also collected data from water samples at each dive site by measuring the pH, conductivity, turbidity, and temperature of the water. I enjoyed being able to collect my data and witness how important this form of research is.



I was also able to take part in multiple beach clean-ups along the beaches in Koh Phangan collecting glass, plastic and other rubbish that had either been dumped on the beach or washed up from the sea. This was sorted into different bags ready to be recycled as best as it could. Although quite displeasing to see the beaches covered in trash, it was rewarding that at the end of each beach clean-up there would be 10-30 bags of rubbish cleaned off the beach. All the beach clean-up events were organised by 'Trash Hero', they work to increase action and awareness whilst educating and inspiring people to become more conscious of environmental issues.



My time in Koh Phangan is something I will cherish for the rest of my life and I will always be grateful to have had the opportunity to do research with COREsea as the experience was invaluable and has increased my interest in diving and marine conservation. I came back from COREsea feeling inspired by the work they were accomplishing and the passion and determination they have to make a difference. My trip to Koh Phangan would not have been possible if it were not for the generosity of the university for awarding me with both the Irene Marshall Scholarship and the Peter Marsh Award.