# SCOPES AND LIMITS

The concept and theory of our groups project is probably months away from being a reality. Our project requires lots of testing in real aquatic environments before a final product would ever be completed. Testing against all types of weather conditions like extreme heat, heavy rainfall, hail, storms, rough winds etc. The robot would also have to be tested against physical obstacles and environments such as, rocks, boats, sand etc. The biggest and probably the most important aspect to test for would be the safety and security of the marine life where the robot would be situated. This would be the most important aspect of our project. We would need to ensure our project does not affect any of the marine life. Its important that our robot does not interfere with the habitats of the animals or endanger the wildlife in any shape or form. These testing is important to the effectiveness of our project. A robot that breaks through design flaws, a robot that does not pick up rubbish effectively, a robot that endangers the safety of animals are all things to consider and test for when developing our robot. It is a very big and major part of our scope. Given the timeframes however, it is not part of our near future plans. Testing comes after prototypes are made.

As students, we are limited to our capabilities. We do not currently possess all the knowledge and understanding required to develop this project into its entirety. The project requires a lot of engineering, programming as well as knowledge about the marine life and the environment. Our projects scope would include researching these fields and even finding/reaching out to specialists in these fields to assist in the project. A project called the ‘WasteShark’ that is very similar to ours, for example, was developed by World Wildlife Foundation (WWF) and Sky Ocean Rescue- Their project would include many individuals contributing to the project who are specialised in the relevant and necessary fields in order to have made the project a reality. We as students are only in our first year of University. We do not currently possess the knowledge and skills to make this project a reality and are limited by said lack of skills. However, hypothetically if we had graduated with the right type of knowledge and skills, the projects scope would still include having to do more research and proof-of-concept testing. We would still require engineers and scientists who specialise in marine life and environment.

We are also limited by the amount of time, given that this assignment is due on the 31st, we are limited by the time available to execute the project to its entirety. Obviously, even if we had the required skills to complete this project, it would unlikely finish within just a few weeks. Given enough time in the world however, the scope of the project would include, researching relevant information surrounding the correct parts and resources required for the robot, researching ways to minimise any impact the robot may have in the environment it would be situated in, designing a robot that is effective in executing our aims and goals of cleaning up the ocean of litter and pollution, designing a robot that is capable of surviving the conditions of the sea as well as the weather, prototyping, including testing and proof-of-concepts to make sure we can optimise the robot as much as possible and acquiring relevant permissions including but not limited to; Government permissions, dock/marina permits as well as the wildlife sector of the government.

A project that involves a lot of experts and people contributing and working on the project would cost a lot of money in wages (unless it was a volunteered project). The parts and equipment needed to also create the robot would also require funding. In a perfect world, this robot would gain traction and there would be one in every dock and waterway across the globe. The funds required to support all these parts. If the robot was produced to accommodate for tens to hundreds of docks and waterways across the world, the project would require lots of funding. Even on a singular level, as students, we would also be greatly limited by our lack of funds to make a single robot. We could seek funding from third party sources, like RMIT or wildlife organisations or even Government grants, however, with our lack of skills, knowledge, and time, it would be basically impossible to find enough realistic funding.