



PROJECT SUMMARY

Ref No.: MRIC-RRIGS 21-02	Title: Assessment of the biodiversity on the submarine platform to the south of the South East Marine Protected Area (SEMPA), Rodrigues
Local Company: Shoals Rodrigues	
Collaborating Institution: Marine Management Organisation, UK	
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TECHNICAL ABSTRACT	
<p>The coral reef and extensive shallow lagoon encircling Rodrigues are vital to the island's economy, providing an essential source of food and income. Sedimentation, coral bleaching, overfishing and destructive fishing techniques have however resulted in the degradation of the lagoon and reef flat and a decline in catches of fish and octopus. Rodrigues is a remote island, and it is likely that the reefs and the organisms supported by these habitats are largely self-seeding, with recruitment being dependent on the transport of larvae from areas in the vicinity of the island. To date, scientific research on the marine habitats around Rodrigues has mainly focussed on the lagoon and the shallow fore-reef slopes, and there have been fewer surveys further offshore on the deeper submarine platform that surrounds the island. Preliminary surveys on this submarine platform to the north and south of the island have revealed a high cover of live coral (>60%), which is above the national and regional average; abundant fish communities; and the presence of endemic species, large predatory fish (trevallies, barracuda, shark), turtles and dolphins. These initial studies were of limited spatial and temporal coverage and the biodiversity associated with the platform remains unknown. The dense coral communities on the platform around Rodrigues are likely to be a critical source of larvae and propagules to</p>	

replenish coral, fish and invertebrate populations on the degraded reef flat and lagoon. Being situated further offshore, the communities on the platform are likely to be less impacted by land-based run-off and as they are situated in deeper water, they may also be more resilient to climate change. It is also highly likely that the platform provides other ecosystem services, in terms of shoreline protection, dampening oncoming waves and protecting against coastal flooding. The island of Rodrigues is now undergoing a period of rapid change and development which heightens the need to gain a greater understanding of the structure and biodiversity of the communities associated with the deeper platform surrounding the island. The Rodrigues Regional Assembly (RRA) is supporting the redeployment of lagoon fishers into alternative livelihoods including off-lagoon fishing around areas on the submarine platform and other more distant banks. Improved understanding about the sensitivity of the deeper water habitats within the territorial waters around Rodrigues would provide the RRA with a more coherent basis for planning the sustainable development of the off-lagoon fishery and other indirect-uses (e.g. dive-tourism, charter boats). Further research is therefore urgently needed to improve knowledge, raise awareness, and guide policy formulation to ensure sustainable development. The aim of the project is to increase knowledge about the biodiversity and habitat types on the submarine platform to the south of Rodrigues to inform policy and provide management recommendations in relation to the South East Marine Protected Area (SEMPA). More specifically, the project will map previously undescribed habitats on the submarine platform south of SEMPA and assess the biodiversity of associated communities. The study was identified as a priority as part of the newly updated management plan for SEMPA prepared in 2020. The biodiversity associated with the platform will be assessed across depth ranges, using a combination of SCUBA diving, drop-down video surveys and baited remote underwater video (BRUV) techniques. The principal outcome of the project will be an improved understanding of the habitats and biodiversity on the submarine platform south of Rodrigues. Policy recommendations will be provided, which may include recommendations to extend the boundary of SEMPA southwards to provide additional protection to high biodiversity offshore areas. The results of the project will be disseminated at a local, national and international level. A scientific paper will be produced and an educational poster to raise awareness of the importance of these deeper off-lagoon habitats amongst marine resources users and the general public in Rodrigues.

Key Words: Rodrigues, Coral Reef, Ecosystem Services, South East Marine Protected Area