



Media Release

Chiefs of Staff, News Directors

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Southern marine reserve benefits assessed

Scientists have been evaluating the benefits of no-take protection (i.e. no fishing) on deep reef systems of Tasmania's wild southwest coast.

This research is comparing the marine life and seafloor habitat in fished environments with those found within the Tasman Fracture Commonwealth Marine Reserve (CMR) southeast of Tasmania. A section of this reserve has been no-take protected for over seven years, and evaluating the effects of such protection is an important part of managing the CMR network in Australian waters.

The \$300,000 assessment involved an initial phase of habitat mapping on the continental shelf component of the 42,501 sq km Reserve south of Maatsuyker Island.

A second phase concentrated on examining the extent that rock lobsters had been protected by this reserve, and the third phase of the study is now examining the actual habitat that supports rock lobsters and associated fish communities, the species that constitute the ecosystem, and the overall system health.

Research results will be used not only to inform management of changes over the past seven years in response to protection, but also to establish early knowledge of this remote environment from which to compare future changes and identify potential management issues.

Working from the Australian Maritime College training vessel *Bluefin*, the team of scientists and support staff relied on an autonomous underwater vehicle (AUV) to supply highly detailed imagery of the rocky reefs and sediments, together with an assessment of the marine animals that live in on the seafloor in these deep offshore systems.

The AUV, operated by the Australian Centre for Field Robotics at the University of Sydney, is a key national research facility of Australia's Integrated Marine Observing System. All imagery from the voyage will be made available through the IMOS Ocean Portal <https://imos.aodn.org.au>

Project leader Dr Neville Barrett, from the Institute for Marine and Antarctic Studies, said scientists were excited by the opportunity to visit the region and collect data. The knowledge gained will be used to inform management of Commonwealth Marine Reserves, including building an increased understanding of deep reef and other habitats within the Tasman Fracture CMR that support important invertebrate communities and species such as stripey trumpeter and rock lobster.

“The AUV has supplied us with highly-detailed imagery of the rocky reefs and sediments, together with an assessment of the benthic marine animals that live in these deep offshore systems.”

“This provides our first detailed look at the shelf fauna of the Marine Reserve and cool temperate region, as well as the habitat and biological assemblages that support our important coastal fisheries, such as rock lobster.”

“We’ll be analysing the new data over the next few months, but first indications are that the deep reef systems extending south of Maatsuyker Island into the CMR are particularly rich in invertebrate diversity, and are unusually dominated by soft corals and brittlestars,” Dr Barrett said.

The five-day research voyage began around Maatsuyker Island on Tasmania’s south coast and extended across the continental shelf to sample representative examples of deep reef systems within the region, as well as explored a range of interesting features identified by detailed multibeam bathymetric mapping in an earlier voyage undertaken in 2014 to describe the habitats of this area.

The work is being undertaken through the Australian Government funded National Environmental Research Program (NERP) Marine Biodiversity Hub and supported by Parks Australia Division of the Department of the Environment.

<https://www.youtube.com/watch?v=cEcESn7eoS4>

Information released by:

Communications and Media Office, University of Tasmania

Phone: 61 3 6226 2124

Email: Media.Office@utas.edu.au

