

NERP Tropical Ecosystems Hub Project Factsheet

Assessing the effects of management zoning on inshore reefs of the Great Barrier Reef Marine Park

Project leaders: Professor Garry Russ & Dr David Williamson (JCU)

Project summary

This project has provided convincing evidence that no-take marine reserves have significantly improved the status of fished species in the Great Barrier Reef Marine Park (GBRMP). The project has also established the basis for assessing the role of no-take marine reserve networks in protecting biodiversity, sustaining ecosystem goods and services and providing a buffer against natural disturbances, such as extreme weather events and the cumulative impacts of climate change.

Why this research is needed

Following major changes to the zoning of the GBRMP in 2004, a large number of no-take marine reserves were established. It is important for the Great Barrier Reef Marine Park Authority (GBRMPA) and fisheries managers to have accurate information describing the effects that this increase in the number and area of no-take reserves has had on biodiversity and fish populations in the GBRMP.

Research-user focus

The project will deliver important information for fisheries managers in Queensland and other states about the impact of no-take zones on target fish populations, as well as conservation planners/managers and tourism bodies. These research-user organisations include the GBRMPA, the Department of Sustainability, Environment, Water, Population and Communities and the Queensland Department of Agriculture, Fisheries and Forestry.

Project Partners:



Diver conducting underwater visual surveys of reef fishes on the Great Barrier Reef.



A bar-cheek coral trout (*Plectropomus maculatus*) in the Keppel Islands, Great Barrier Reef.

Outcomes

This project will provide a direct assessment of the ecological effects of multiple-use zoning on inshore reefs of the GBRMP. Long-term surveys of reef fish and coral communities within no-take reserves and in areas that have remained open to fishing will provide information on:

- The effects of no-take reserves on populations of both species that are fished and other non-fished species.
- Variations in structure of fish communities due to the reserves and natural disturbances.
- Structure and dynamics of marine species on the sea bed.
- Coral health, bleaching, incidence and severity of coral disease and coral predators.

Find this project at www.nerptropical.edu.au

Theme 3: Managing for resilient tropical systems

Program 8: Effectiveness of spatial management on the GBR

Project: 8.2

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