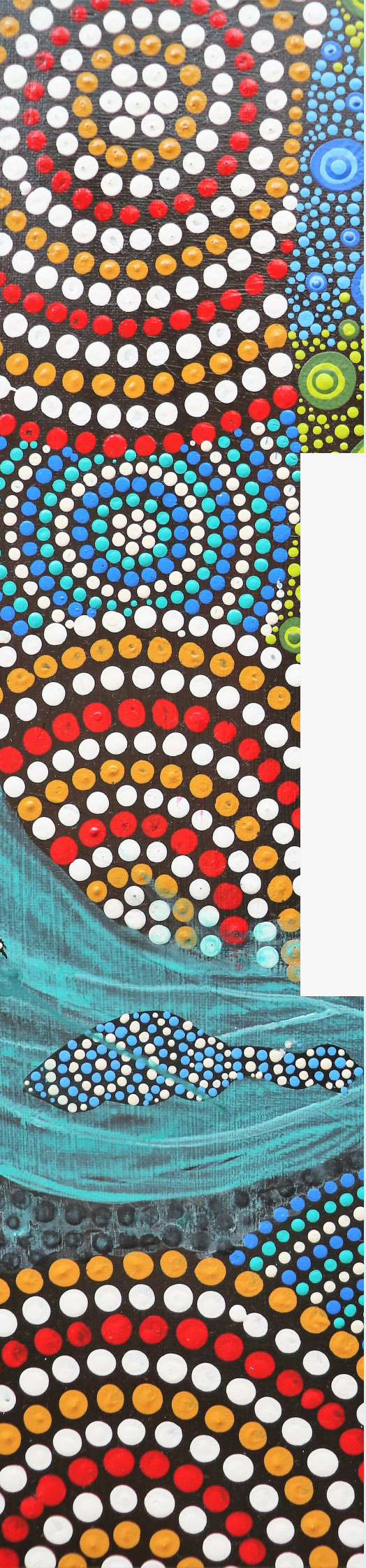

FRDC

FRDC INDIGENOUS REFERENCE GROUP ON FISHERIES

Land to Sea CONSULTING

MAY 2017

Optimising the Management of Tropical Reef Fish through the Development of Indigenous Scientific Capability

FRDC PROJECT NO 2013/017

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2020

We acknowledge the Traditional Owners of Country throughout Australia and recognise their continuing connection to land and water.

We pay our respects to their Elders past, present and emerging.

FRDC-IRG funded projects use ethical methodologies and take place on Country with the consent of Traditional Owners.

This summary booklet was prepared by Leila Alkassab and Hanna Gallagher of Land to Sea Consulting Pty ltd. as part of FRDC-IRG project 2018-183 'Identifying and synthesising key messages from projects funded by the FRDC Indigenous Reference Group..

Artwork by Beau Pennefather Motlop

Background

In 2011 the Fisheries Research and Development Corporation (FRDC) sponsored a national Indigenous fisheries forum to discuss and identify issues impacting the involvement of Indigenous people in Australia's fisheries. An Indigenous Reference Group (IRG) then collated this work and developed a set of research priorities to guide research, development and extension.

These research priorities were subsequently endorsed in 2012 by the original national forum. Using these research priorities the FRDC-IRG have supported a number of projects focused on Aboriginal and Torres Strait Islander fisheries.

1 PRIMACY FOR INDIGENOUS PEOPLE

Indigenous people have certain recognised rights associated with and based on the prior and continuing occupation of country and water and activities (e.g. fishing, gathering) associated with the use and management of these.

2 ACKNOWLEDGEMENT OF INDIGENOUS CULTURAL PRACTICES

Indigenous people have the right to maintain and develop cultural practices to address spiritual, cultural, social and economic needs associated with aquatic resources and landscapes.

3 SELF DETERMINATION OF INDIGENOUS RIGHTS TO USE AND MANAGE CULTURAL ASSETS AND RESOURCES

Indigenous people have the right to determine courses of action in relation to use and management of aquatic biological resources.

4 ECONOMIC DEVELOPMENT OPPORTUNITIES ARISING FROM INDIGENOUS PEOPLES CULTURAL ASSETS AND ASSOCIATED RIGHTS

Indigenous people have the right to engage in economic activity based on the use of traditional aquatic biological resources and/or the right to share in the benefits derived from the exploitation of aquatic biological resources.

5 CAPACITY BUILDING OPPORTUNITIES FOR INDIGENOUS PEOPLE ARE ENHANCED

Indigenous people have the right to access capacity building activities to further their aspirations in the use and management of aquatic biological resources..

About the project...

In the Darwin region, Black Jewfish, Golden Snapper and Grass Emperor are targeted by all fishing sectors. Fisheries managers need information about the biology and stock structure of the the key fish species so that management decisions lead to sustainable harvest levels.

This project was developed to address two key needs:

1.

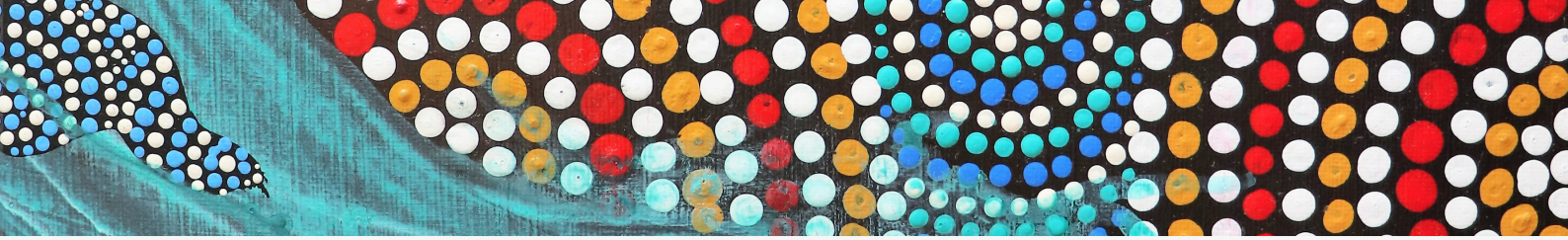
To fill a knowledge gap about the biology of three key tropical reef fish species, all of which have suffered significant declines in the Darwin region.

2.

To develop the scientific research capability of Indigenous communities and increase involvement in co-management of their sea country fisheries resources.

The project team examined the stock structure of the three key tropical reef fish species. They analysed the communities of fish to understand their movement patterns and collected samples of the three species across their entire range in Australia concentrating in the Darwin region where overfishing has been identified. The samples were then analysed using otolith microchemistry, parasite and genetic analysis.

The research was then used to develop a Certificate II course 'Measuring and Analysis' with input from Indigenous Marine Ranger (IMR) groups.



What they found...

All three species were found to have find-scale stock structures, similar stock structuring and increased risk of localised depletions. Populations were genetically similar across distances ranging from hundreds to thousands of kilometres but were limited to areas tens to a few hundred feet.

The training course for Indigenous rangers was successful and students enjoyed and achieved competency in all the units. Graduates also gained employment in government research agencies and Indigenous Marine Ranger groups conducting fisheries research monitoring activities.

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Recommendations...

- The project team recommend that fisheries managers consider the fine-scale stock structure of the three key species.

- Other tropical reef fish species are likely to have fine-scale stock structure and this also needs to be considered in management decisions regarding sustainability and harvest decisions.

Conclusions...

This project addressed important gaps in knowledge for the three key target species. Overfishing has led to these species being vulnerable in the Darwin region. It is likely that they are representative of many tropical reef fish stocks.

The information from this project allows fisheries managers to apply the knowledge for harvesting and access allocation

The Certificate II in sampling and analysis provided increased scientific monitoring capability to Indigenous participants and initially three Indigenous communities were participating in scientific monitoring programs on a fee for service. However, recently this has declined to one community providing scientific monitoring capability with a stronger focus on Indigenous Ranger Groups developing fishery compliance capability.