

Collecting biological data on coral trout and Spanish mackerel in the Torres Strait

About the research project

Torres Strait finfish are harvested from the ocean by line fishing. Fish such as coral trout and Spanish mackerel are an important traditional food source and income for communities.

The Protected Zone Joint Authority uses a stock assessment tool to set the amount of fish that are allowed to be caught each year by all fishers across the fishery. The most recent stock assessment for the Torres Strait Spanish Mackerel Fishery shows that catch rates in the fishery appear to be declining.

Length and age information is essential to future stock assessments for coral trout and Spanish mackerel. This information will help us understand more about the fish caught across different fishery areas.



Figure 1 A common coral trout

The Department of Agriculture and Fisheries, Australian Fisheries Management Authority and the Torres Strait Regional Authority staff will continue to work with commercial fishers and Torres Strait Islander communities to collect biological data from commercial catches of coral trout and Spanish mackerel.

The Australian Fisheries Management Authority and the Torres Strait Regional Authority is funding another year of this research.

Project objectives

The project will collect information on the age and length of coral trout and Spanish mackerel caught by commercial fishers in the Torres Strait during 2020 and 2021. It will also record the different species of coral trout caught by fishers. This information will be used in the stock assessments for these species.



Figure 2 A Spanish mackerel

Research locations

Sampling will focus on the eastern areas of the Torres Strait, where commercial fishing operations target these fish.

Project staff will aim to visit Erub (Darnley Island), Masig (Yorke Island), Ugar (Stephen Island), Mer (Murray Island) and Thursday Island to meet with fishers and representatives from fishing groups. They will discuss the project and ask fishers and staff at community freezer facilities to collect data and fish samples during the project period.

Data collection

The project will involve:

- collecting species, length, age and sex information of coral trout and Spanish mackerel from commercial catches
- working with Indigenous and non-Indigenous commercial fishers and staff at community freezer facilities to assist in the collection of length data and fish frame



samples. These samples will help determine the length, sex and age of each fish

- a stratified sampling design to make sure most of the fish length, sex and age information is collected at times and places where most of the fish are being caught
- freighting fish frames to Cairns to be processed in the Department of Agriculture and Fisheries Northern Fisheries Centre laboratories. The ear bones (otoliths) will be removed from the fish and used to determine the age of each fish (see Figure 2).

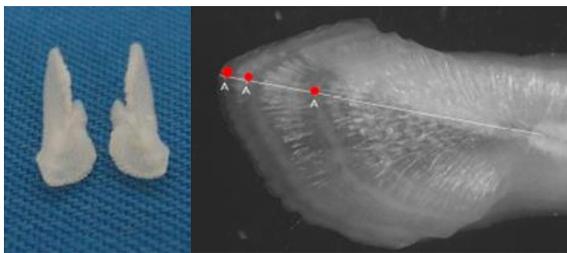


Figure 2 (left) A pair of whole otoliths (ear bones) from a Spanish mackerel. **(right)** An otolith under a microscope with three annual bands, each representative of a year of life, marked by red dots.

Working with fishers and communities

Project staff will talk to Torres Strait Islander communities and fishers about the project. There will be opportunities for fishers and community freezer facilities staff to be involved in collecting data and fish samples.



Figure 3 Scientific staff member removing otoliths from a Spanish mackerel at the Erub freezer

How will the information be used?

The species type, length, sex and age data will provide important insights into the structure of coral trout and Spanish mackerel stocks caught by the fishery. The data will be incorporated into future Torres Strait Finfish Fishery stock assessments.

This project may provide more certainty in the catch levels set by the Protected Zone Joint Authority. This will assist the long-term health and sustainability of these fisheries and will help to maximise the catch that can be taken.

Summarised results from 2019-20 for Spanish mackerel are available and further results will be also at the end of the project, and presentations will be conducted to communicate the major project findings.

For more information

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