Final Task Report

Task Number: T1.2
Title: Status Assessment of the Eastern Torres Strait Spanish Mackerel Fishery
Start Date: 01-Jul-03
End Date: 30-Jun-06

Task Contacts

Task Leader: Begg, Gavin
Task Associate: Marrington, John

Objectives

1. To retrieve and collate all available biological, historical fisheries, and commercial and islander catch and effort data on the Torres Strait Spanish mackerel stock.

2. To review, document and report the extent and quality of the collated data and determine the most suitable model for a status assessment of the Torres Strait Spanish mackerel stock.

3. To optimise use of all available data to describe current trends in the fishery, and undertake a status assessment of the Torres Strait Spanish mackerel fishery.

4. To advise on monitoring, reporting and/or further research required to improve or enable future assessments of the Torres Strait Spanish mackerel fishery.

Need (from proposal)

This proposal arises in response to the high priority placed on the need for a status assessment of Torres Strait Spanish mackerel by the Australian Fisheries Management Authority (AFMA) Management Advisory Committee and the Torres Strait Scientific Advisory Committee. The aggregated schooling behaviour of Spanish mackerel renders the species susceptible to overfishing and stock collapse, as fishers are able to effectively target fishing effort within known aggregation areas and times.

Tied to these concerns is the recent determination by FRDC Project 1998/159 that Spanish mackerel throughout northern and western Australia conform to a "meta-population" type stock structure. By sampling fish from numerous locations between Torres Strait in the east and Perth in the west, project staff determined adult mackerel do not undertake lengthy seasonal migrations as previously assumed but show a high degree of site attachment. Critically, the combination of the schooling habit of Spanish mackerel with a meta-population structure renders stocks highly susceptible to localised and serial depletions. In response to this outcome, NT and WA management agencies are currently re-evaluating the appropriateness of state-wide management objectives with a view that regional-based management objectives may be better suited to the species.

The occurrence of large spawning aggregations of Spanish mackerel in the north-eastern Torres Strait between September and November each year is well documented. Bramble Cay and Stephens Island are two areas recognised as harbouring large schools of mackerel during this period, and these schools are opportunistically harvested by commercial and to a lesser extent indigenous islander fishers. Concerns about the sustainability of current harvest rates, perceived risks of over-exploitation and localized depletions, and recent conflict between user groups emphasizes the need for an assessment of the status of the Torres Strait Spanish mackerel fishery to resolve increasing resource allocation and sustainability issues.

It is proposed that all available biological data for Spanish mackerel, together with historical fisheries data on commercial and islander landings in the Torres Strait be retrieved and collated in a format suitable for application to a range of fishery assessment models. The modelling and previous mackerel
stock assessment expertise of Drs Rik Buckworth (NT Fisheries), Michael Mackie (WA Fisheries), Gavin Begg (CRC/JCU), and Neil Gribble and Michael O’Neill (QDPI), in collaboration with the Task Leader and TBA Research Assistant will review these data and undertake a status assessment of the stock.

It is anticipated that core project staff will initially undertake a review and assessment of all available data and relevant fisheries information that will conclude with a preliminary report that will rigorously evaluate the quality of the gathered data, discuss possible interpretations of that data (such as trends within catch records) and decide whether or not sufficient data exists to proceed with a transparent and valid assessment of the fishery. The preliminary report will take on the form of a fishery review document and will be accompanied with a non-technical summary that will report on this process to all stakeholders.

Should it be deemed that sufficient data do exist for a fishery assessment, core project staff will then be tasked with conducting the status assessment of the fishery. It will be necessary that the assessment outputs, their interpretation and potential management implications are rigorously discussed and reviewed prior to the dissemination of the outputs to the wider stakeholders. The final report will report on the assessment outcomes, their interpretation and potential management recommendations and will be disseminated through a dedicated Torres Strait CRC F&F newsletter, CRC Reef Technical Report, and peer-reviewed scientific publications. Where available, presentations of the outcomes of the research assessment will be given to all stakeholders.

Significance (from proposal)

At a time when the status of the eastern Torres Strait Spanish mackerel fishery is uncertain, this project will provide stakeholders with access to a review summary of all available information relevant to the status of the fishery. Further, the collation of this information will allow a scientific working group to conduct a robust status assessment of the fishery. This assessment will permit stakeholders, AFMA, the Torres Strait Regional Authority (TSRA), the Torres Strait Fisheries Management Advisory Committee (TSFMAC) and the Torres Strait Fisheries Scientific Advisory Committee (TSFSAC) to enact future management decisions from a more informed basis. A plethora of information and expertise relevant to the research, monitoring, assessment and management of Spanish mackerel fisheries is currently available throughout Australia. This project will encapsulate all available information and expertise in order to facilitate a comprehensive interpretation, analysis and assessment of all data available for the Torres Strait fishery. All stakeholders and managers involved with the eastern Torres Strait fishery will benefit in the medium- to long-term through improved management of the harvested resource. Further, the project will actively engage all stakeholder groups in the information gathering and interpreting stages to ensure all available data is sourced and understood. Extensive liaison throughout the project will ensure transparency of the processes and outcomes.

Research Summary

This task aimed to conduct an assessment of the eastern Torres Strait Spanish mackerel fishery. Given the special circumstances that occur within the eastern Torres Strait, where the harvest of Spanish mackerel is shared between Torres Strait Islanders and non-indigenous fishers, this project actively involved all stakeholder groups to ensure all available information was gathered and correctly interpreted, and that the assessment process remained transparent and accessible. The research has provided managers and stakeholders with greater certainty regarding the current status of the fishery and has provided recommendations to ensure future sustainable harvest from the resource.

The assessment of the eastern Torres Strait Spanish mackerel fishery is now complete. The assessment report has been reviewed and the reviewers’ comments are currently being addressed. Results from the assessment will be presented at the next Torres Strait Finfish Working Group where recommendations can be made to the Management Advisory Committee.

Task Associate Comment

MARRINGTON, John (Mr J)

To Be Completed
Outcomes/Achievements against each Specific Objective

1: To retrieve and collate all available biological, historical fisheries, and commercial and islander catch and effort data on the Torres Strait Spanish mackerel stock.

TBC

2: To review, document and report the extent and quality of the collated data and determine the most suitable model for a status assessment of the Torres Strait Spanish mackerel stock.

TBC

3: To optimise use of all available data to describe current trends in the fishery, and undertake a status assessment of the Torres Strait Spanish mackerel fishery.

The results from the stock assessment will be presented at the next Torres Strait Finfish Working Group meeting where recommendations to the Management Advisory Committee can be made. TBC

4: To advise on monitoring, reporting and/or further research required to improve or enable future assessments of the Torres Strait Spanish mackerel fishery.

Recommendations for further research and monitoring of the Torres Strait Spanish mackerel fishery will be presented at the next Torres Strait Finfish Working Group meeting where recommendations to the Management Advisory Committee can be made.

TBC

Utilisation and Application of the Research, Commercialisation

Although this research has not been utilised by industry or management to date, the results and recommendations from this research will be presented at the next Torres Strait Finfish Working Group meeting where recommendations to the Management Advisory Committee can be made.

Publications

(Final Report)

Technical Reports:

Other Outputs

None

1st July 2004 - 30th June 2005

Public Meetings, Industry/Interest Group Meetings (relevant to CRC Reef) Attended:
AFMA Torres Strait Finfish Working Group Meeting, Thursday Island, Torres Strait, Queensland, 19-20 April 2005.

Postgraduate Students

There are no postgraduate students associated with this project.

Grants & Awards
None reported.