

Final Task Report

Task Number: T1.1

Title: Evaluation of the Eastern Torres Strait Reef Line Fishery

Start Date: 01-Jul-03

End Date: 31-Dec-06

Task Contacts

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Objectives

1. Analyse historical catch and effort data of non-indigenous fishers and Torres Strait Islanders to determine spatial and temporal patterns in the ETS commercial reef line fishery.
2. Develop an on-going sampling program to assess spatial and temporal patterns in catch and catch composition of the ETS commercial reef line fishery.
3. Document the catch composition of non-indigenous fishers and Torres Strait Islanders in the ETS commercial reef line fishery.
4. Collect and analyse samples of key reef fish species within the ETS commercial reef line fishery, including leopard coral trout (*Plectropomus aroelatus*), Islander trout (*P. maculatus*) and common coral trout (*P. leopardus*) to estimate fundamental biological parameters required for the assessment of the ecological sustainability of their harvest.
5. Extend and apply to the ETS, Management Strategy Evaluation (MSE) models from the reef line fishery of the GBRWHA to evaluate alternative potential management strategies for the Torres Strait.

Need (from proposal)

The project arises in response to major concerns expressed by all stakeholder groups over the lack of documented information about the current status and exploitation of the eastern Torres Strait (ETS) reef line fishery. These concerns are primarily driven by questions about the sustainability of current harvest rates of key reef fish species within the Torres Strait and perceived risks of over-exploitation of fin fish resources.

Commercial harvest of reef fish in the ETS is shared between Torres Strait Islanders and non-indigenous fishers, but to date no formal assessment of the fishery has been done, and no allocation or management strategies directed at the special circumstances in the Torres Strait currently exist. Additional concerns include the considerable latent effort that exists in the commercial sectors, potential for increased fishing pressure driven by expansion of the live fish trade into the Torres Strait, and future development of charter boat and tourism operations in the ETS.

Whilst in some respects the reef line fishery in the ETS has much in common with the tropical east coast line fishery of the Great Barrier Reef World Heritage Area (GBRWHA), there are also important differences. In particular, the needs of the Torres Strait Islanders have no parallel in the east coast fishery and the species composition of commercial catches in the Torres Strait differs from that of the east coast. These differences mean that assessments of management strategies for the Torres Strait require dedicated research to supplement information from research on the east coast.

Accordingly, there is an urgent need for research into the catch and effort characteristics of the ETS reef line fishery, the biological characteristics of key target species (especially those not common on the east coast), and the suitability of alternative management strategies for the specific circumstances of the Torres Strait. The proposed research provides the necessary pre-requisites to future application to

the Torres Strait of formal Management Strategy Evaluation (MSE) tools developed for the GBRWHA reef line fishery, and will provide the initial application of these assessment tools. Moreover, recent conflict between the stakeholder groups greatly emphasises the need for research into the ETS reef line fishery to resolve ever-increasing resource allocation and sustainable utilisation issues.

Significance (from proposal)

The project will provide direct benefits to the assessment and management of the ETS reef line fishery. Formal assessment of historical catch and effort data will enable 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 approach future management decisions from a more informed basis about past and present fishing practices. Documentation of catch composition will clarify the degree of overlap between commercial and traditional harvest, thereby assisting in future decisions about resource allocation and appropriate regulatory frameworks for the commercial fishery. Thorough documentation of by-catch/by-product from the fishery will address key Ecological Sustainable Development issues relevant to the Environment Protection & Biodiversity Conservation Act and Native Species Export regulations. Estimation of fundamental biological parameters of key harvest reef fish species will be paramount to the sustainable development of the fishery, particularly as there is little or no information known about two of these species (*Plectropomus aroelatus* and *P. maculatus*). Outputs from the project will also build on previous research of the CRC Reef Effects of Line Fishing (ELF) Project and the current AFMA funded review of the ETS reef line fishery and the collation of Islander commercial freezer records. All stakeholders and managers involved in the ETS reef line fishery will benefit from the project through improved management of the harvested stocks in the medium-long term. Active engagement of stakeholders in the research process and extensive liaison during the research will result in improved understanding of the research, assessment and management process.

Research Summary

Commercial harvest of coral reef fish in the Eastern Torres Strait (ETS) is shared between Torres Strait Islanders and non-Islander fishers, but to date no formal assessment of the fishery has been done, and no allocation of management strategies currently exist. Major concerns have been expressed by all stakeholder groups over the lack of documented information about the current status of the ETS reef line fishery. This project aims to address these concerns by describing the catch and effort characteristics of the commercial Islander and non-Islander ETS reef line fishery, estimating the biological characteristics of key target species in the fishery, and evaluating alternative management strategies for the fishery.

Progress during the past 12 months has been good with the completion of all field work, laboratory processing and data entry. Data analysis has commenced and the project is anticipated to be completed by December 31, 2006. A major highlight of the research so far has been the significant involvement of both Islander and non-islander fishers in providing data and samples for the project.

Task Associate Comment

No comment available.

Outcomes/Achievements against each Specific Objective

1: Analyse historical catch and effort data of non-indigenous fishers and Torres Strait Islanders to determine spatial and temporal patterns in the ETS commercial reef line fishery.

To be Completed

2: Develop an on-going sampling program to assess spatial and temporal patterns in catch and catch composition of the ETS commercial reef line fishery.

To be Completed

3: Document the catch composition of non-indigenous fishers and Torres Strait Islanders in the ETS commercial reef line fishery.

To be Completed

4: Collect and analyse samples of key reef fish species within the ETS commercial reef line fishery, including leopard coral trout (*Plectropomus aroelatus*), Islander trout (*P. maculatus*) and common coral trout (*P. leopardus*) to estimate fundamental biological parameters required for the assessment of the ecological sustainability of their harvest.

To be Completed

5: Extend and apply to the ETS, Management Strategy Evaluation (MSE) models from the reef line fishery of the GBRWHA to evaluate alternative potential management strategies for the Torres Strait.

To be Completed

Utilisation and Application of the Research, Commercialisation

This research has not been utilised by industry or management to date, but results will be presented to the Torres Strait Finfish Working Group where recommendations will be made to the Management Advisory Committee on the relative merits of alternate management strategies for the eastern Torres Strait reef line fishery.

Publications

(1st July 2005 - 30th June 2006)

Technical Reports:

Begg, G.A., and Murchie, C.D. 2005. Collation and review of Islander commercial catch history (1988-2003) in the eastern Torres Strait reef line fishery. CRC Reef Research Centre Technical Report No. 57, CRC Reef Research Centre, Townsville.
<http://www.reef.crc.org.au/publications/techreport/TechRep57.htm>

(Previous Yearly Reports)

Technical Reports:

Begg, G.A., and Murchie, C.D. 2005. Collation and review of Islander commercial catch history (1988-2003) in the eastern Torres Strait reef line fishery. CRC Reef Research Centre Technical Report No. 57, CRC Reef Research Centre, Townsville.

Begg GA, Murchie CD. 2004. Collation and review of Islander commercial catch history (1988-2003) in the eastern Torres Strait reef line fishery. CRC Reef Research Centre Technical Report No. 57, CRC Reef Research Centre, Townsville.

Other Outputs

A technical report and an information brochure are anticipated for later in 2006.

(1st July 2005 - 30th June 2006)

Number of Other Public Presentations, eg Seminars and Conference Presentations:

Williams, A.J. et al. Monitoring the multi-sector Eastern Torres Strait Coral Reef Finfish Fishery. Australian Society for Fish Biology Workshop July 2005.

1st July 2004 - 30th June 2005

Public Meetings, Industry/Interest Group Meetings (relevant to CRC Reef) Attended:

Torres Strait Finfish Working Group meeting, Thursday Island, May 2004. Torres Strait Finfish Working Group meeting, Thursday Island, April 2005. 'Evaluation of the Eastern Torres Strait Reef Line Fishery.' Presented at community meetings at Murray, Darnley and Yorke Islands in July 2004. 'Evaluation of the Eastern Torres Strait Reef Line Fishery.' Presented at community meetings at Murray and Darnley Islands in March 2005. 'Evaluation of the Eastern Torres Strait Reef Line Fishery.' Presented at a meeting with AFMA and TSRA at Thursday Island in March 2005. 'Introduction to Management Strategy Evaluation.' Presented at a meeting with AFMA and TSRA at Thursday Island in March 2005.

Workshops, Industry Information Sessions for Communications of Research findings:

'Evaluation of the Eastern Torres Strait Reef Line Fishery.' Fishing for More: A student-stakeholder workshop on the biology, ecology, sociology and economics of fisheries, Townsville, QLD, 9 November 2004.

1st July 2003 - 30th June 2004

Media Activities (Television, radio exposure, newspaper or magazine):

Two radio interviews on Thursday Island radio discussing results from the analysis of Islander commercial catch history and planned research on the Eastern Torres Strait reef line fishery

Media Activities (Television, radio exposure, newspaper or magazine):

Article in CRC Reef's Fishing and Fisheries Group Newsletter summarising results from the analysis of Islander commercial catch history

Public Meetings, Industry/Interest Group Meetings (relevant to CRC Reef) Attended:

Attendance at Torres Strait Finfish Working Group Meetings in November 2003 and May 2004

Workshops, Industry Information Sessions for Communications of Research findings:

Presentation of results from the analysis of Islander commercial catch history at Murray, Darnley and Yorke Islands

Postgraduate Students

There are no postgraduate students associated with this task

Grants & Awards

None reported.