

Annual status report 2005

Queensland East Coast Tropical Rock Lobster Fishery

September 2005



The Department of Primary Industries and Fisheries (DPI&F) seeks to maximise the economic potential of Queensland's primary industries on a sustainable basis.

This publication provides information on the Tropical Rock Lobster Fishery.

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Introduction

Queensland tropical rock lobsters are highly sought after by commercial, Indigenous and recreational fishers. Commercial harvest in the East Coast Tropical Rock Lobster Fishery (ECTRLF) is restricted to a specified region in Far North Queensland. Indigenous and recreational harvests of tropical rock lobsters can occur along the entire length of the Queensland coast, but minimal quantities are believed to be harvested within the bounds of the commercial fishery. Product from the commercial harvest includes whole live animals and frozen tails and is sold on the export and domestic markets. The Department of Primary Industries and Fisheries (DPI&F) is responsible for the management of the ECTRLF.

Description of the fishery

Fishing methods

Commercial divers using hookah collect live lobsters by hand or nooses. The use of hookah and other breathing apparatus is only permitted for commercial operations. Spear guns and hand spearing are also permitted for both commercial and recreational fishers. Recreational fishers, however, are not permitted to use spear guns/hand spears while diving with SCUBA or hookah.

Divers work from tenders (permitted length up to 7 m) attached to a mother ship (permitted length up to 20 m). There are limits on the number of tenders and the number of divers on each tender.

Fishing area

The commercial fishery area for the east coast of Queensland comprises all tidal waters east of longitude 142° 31' 49" east, south of latitude 10° 41' south and north of latitude 14° south.

The recreational fishery operates along the entire east coast of Queensland with a nominal component likely within the Gulf of Carpentaria.

Quantifying the area and effort of Indigenous fishing is difficult due to a lack of detailed information. It is most likely concentrated north of Townsville but may extend as far south as the Queensland/New South Wales border.

Main management methods used

The East Coast Tropical Rock Lobster Fishery (ECTRLF) is a limited entry fishery with a cap placed on new primary boat and tender boat licences since 1996.

Most management measures apply to the commercial fishery only. A seasonal closure is in place from 1 October to 1 February to reduce fishing mortality on breeding stocks. Mated (tar spotted) and egg-bearing female lobsters are not allowed to be taken in the commercial fishery. There is a minimum size limit of 115 mm carapace length in the commercial fishery.

A recreational in-possession limit is also in place.

Approximate allocation between sectors

Because of the limited data available, an approximate allocation cannot be determined.

Fishery accreditation under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)

A Wildlife Trade Operation (WTO) approval, acknowledging that the fishery was being managed in a sustainable manner and allowing the continued export of tropical rock lobster caught in Queensland, was granted on 1 December 2004 under Parts 13 and 13A of the EPBC Act. The approval expires in December 2007.

Fishery profile

The target species for the East Coast Tropical Rock Lobster Fishery (ECTRLF) is the ornate rock lobster, *Panulirus ornatus*, with the majority of the catch sold whole. Three other *Panulirus* species are sometimes harvested and sold as frozen tails (< 2% of the annual catch).

Total harvest from all sectors: approximately 180 t

Commercial harvest 2004: 180 t

Recreational harvest: not quantifiable for fishery area — expected to be low

Indigenous harvest: not quantifiable for fishery area — expected to be low

Charter harvest: not quantifiable for fishery area — expected to be low

Commercial GVP for 2004: approximately \$3.9 million

Number of licences: 28 R primary licences and 93 tender licences

Boats accessing the fishery: 17 commercial boats

Catch and effort (target species)

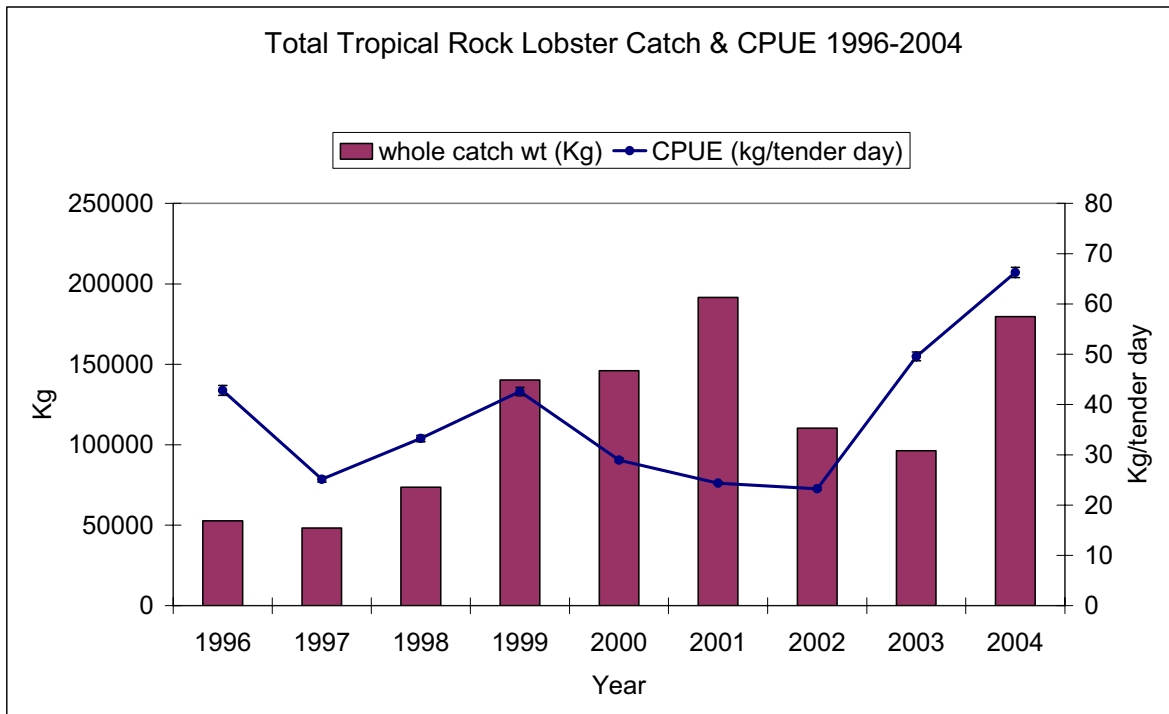


Figure 1 Catch and Catch per unit effort (CPUE) data for the Queensland East Coast Tropical Rock Lobster fishery (data sourced from DPI&F commercial logbook data)

Commercial

In 2002 and 2003, fishing effort declined to around one-third of the 2001 level. A number of factors may have contributed to this decline. Increased catch rates in the Torres Strait may have drawn dual-licensed operators away from the East Coast fishery. Another factor may be the SARS outbreak in Asia, which led to the closure of restaurants and to a fall in demand and reduced prices for live lobster.¹

Although the total annual catch declined during 2002–03 as fishing effort decreased, the 2004 catch increased to approximately 180 t mainly because of a large increase in catch rates. The higher catch rates appear to be the result of increased stock numbers and a contraction of the active fleet to a small group of efficient fishers.

Table 1: Fishery details for the East Coast Tropical Rock Lobster Fishery since 2000

Fishery Descriptors	Year				
	2000	2001	2002	2003	2004
Primary Boats	26	25	18	14	17
Primary Days	1 736	2 738	1 414	479	709
Tender Days	5 049	7 858	4 744	1 941	2 716
Weight (t)	146	192	110	96	180
GVP Annual (\$AUD)	\$2.8 million	\$3.8 million	\$2.2 million	\$2.0 million	\$3.9 million
Average Primary Days/Boat	67	110	79	34	42
Average Tender Days/Boat	194	314	264	139	160
Average Catch (kg)/Boat	5 619	7 664	6 129	6 872	10 577
Average GVP/Boat	\$106 850	\$153 300	\$122 323	\$144 042	\$227 521
Average Catch (kg)/Boat/Primary Day	84	70	78	201	254
Average Catch (kg)/Boat/Tender Day	29	24	23	50	66

Recreational and charter

There are no estimates for the commercial fishery area, but the recreational and charter harvests are believed to be minimal because of the remoteness of the fishery (i.e. north of 14° S). The National Recreational and Indigenous Fishing Survey (NRIFS) estimated in 2001 that approximately 20 000 lobsters were taken recreationally in the whole of Queensland.²

Possession and size limits apply to the recreational sector.

Indigenous

Although there are no estimates for the commercial fishery area, the Indigenous harvest is believed to be small. The NRIFS estimated that approximately 13 000 lobsters were harvested by Indigenous fishers in Queensland waters in 2001.

¹ Pitcher, CR, Turnbull, CT, Atfield, J, Griffin, D, Dennis, D & Skewes, T 2005, *Biology, larval transport modelling and commercial logbook data analysis to support management of the NE Queensland rock lobster *Panulirus ornatus* fishery. Chapter 9, SUB-PROJECT 3. LOGBOOK DATA – Assessment of logbook data*, FRDC project 2002/008, Brisbane.

² Henry, GW and Lyle, JM (eds) (2003), *National Recreational and Indigenous Fishing Survey*, FRDC Project No. 99/158, Australian Government Department of Agriculture, Fisheries and Forestry, Canberra.

Non-retained species / bycatch

Because of the hand collection methods used, there are no non-retained species or bycatch in the fishery.

Interactions with protected species

There were no interactions reported. Interactions with protected species are unlikely, except through vessel interactions.

Fishery impacts on the ecosystem

The fishery is conducted in a manner that minimises the impact of fishing on the ecosystem. Collection methods that are used generally do not physically harm the environment. Fishery waste products are minimal (limited processing into tails at sea) and are readily absorbed into the food chain.

General ecosystem health

The fishery operates within the Great Barrier Reef Marine Park, where there are spatial management measures in place to protect the biodiversity and health of the park. The impact of climate change on the reef ecosystem cannot yet be predicted.

Spatial issues / trends

The fishery has a highly mobile fleet. Twenty vessels from both the ECTRLF and the Torres Strait Tropical Rock Lobster (TRL) Fishery have dual licences that allow harvest from both fisheries. Good catch rates in the Torres Strait in 2002 and 2003 influenced fleet dynamics and resulted in only a few boats fishing in the ECTRLF during those years. The low catches in 2002 and 2003 reflected this lower level of activity. Excellent catches were made in the ECTRLF in 2004 however, and these appear to be the result of more abundant stocks being fished by a few very efficient operators.

Socioeconomic characteristics and trends

The SARS-induced drop in prices of 2003 (when prices reached around \$34/kg at the Hong Kong market) appears to have stabilised. However, prices for live lobster product in 2005 are low overall. This appears to be a result of the strong Australian dollar, which has reduced the value of the exported product, and the increase in aquaculture grow-out product from Vietnam, which has forced prices down.

Research and monitoring

Recent research and implications

A Fisheries Research & Development Corporation (FRDC) funded project investigating tropical rock lobster biology, larval transport modelling and commercial logbook data from the ECTRLF (2002/008) by DPI&F and CSIRO is nearing completion. Findings from the project established our current knowledge of recruitment patterns for the fishery. The study has also provided a preliminary estimate of the maximum sustainable yield (MSY) for the Queensland fishery, though more data is required to validate the findings. A number of management and research priorities have arisen as a result of the study. The project report is in its final draft form and will be publicly available shortly.

Apart from this study, no specific research is being conducted for the ECTRLF at present.

Monitoring programs and results

Logbooks provide catch trend data that is assessed by DPI&F. The most recent catch data is presented in Figure 1.

Summaries of the data are provided to the Harvest Management Advisory Committee (HarvestMAC) for review by the industry and by the Harvest Scientific Advisory Group.

Collaborative research

A CRC Torres Strait Program project led by Commonwealth Scientific and Industrial Research Organisation (CSIRO) Marine and Atmospheric Research is conducting annual fishery independent surveys of rock lobster, monitoring recruitment fluctuations and population size composition and updating a stock assessment model to evaluate stock status in the Torres Strait TRL fishery.³

Fishery management

Compliance report

Data for the 2003–04 financial year indicates that the Queensland Boating and Fisheries Patrol (QBFP) made a total of 91 inspections, with 10 breaches recorded. Figures from the 2004–05 financial year show that of 96 fishers inspected, only one was breached for illegal activity. These figures show a non-compliance rate of around 1%.

A new Compliance Activity System is currently being developed by DPI&F that will record detailed information on QBFP activities. The new system will include:

1. Breach Reports Issued (including offences and court outcomes)
2. Unattended Breach Reports
3. Fisheries Infringement Notices (FINS) issued
4. All field activities (from new Field Occurrence Logs)
5. Complaints made via the Fishwatch hotline (including follow-up actions).

As part of this project a number of new code categories have also been developed to allow consistent reporting:

1. Fishery Codes
2. Offence Codes.

The location of offences and field activities will also be recoded to six nautical mile CFISH grids. This will allow enforcement activities and offences to be represented spatially. Progress to date includes the development of the new system to record Breach Reports, Unattended Breach Reports and Fisheries Infringement Notices. The new Field Occurrence Logs were trialled in Cairns and released to the rest of the patrol in July 2005.

³ Sustainability assessment of the Torres Strait rock lobster fishery (T1.3)
<http://www.crctorres.com/research/T1-3.html>

Changes to management arrangements in the reporting year

An investment warning for the fishery has been in place since 2001.

A draft policy to remove latent effort from the East Coast fishery has been prepared by DPI&F. However, because of the interdependence between the East Coast and the Torres Strait fisheries, the decision to release the policy has been delayed until sector allocation issues in the Torres Strait fishery have been resolved by the Protected Zone Joint Authority (PZJA).

Consultation / communication / education

One of the DPI&F's ongoing roles is the promotion of regulations applying to commercial and recreational fishers, including those relating to tropical rock lobster. Nearly 160 000 recreational fishing brochures giving size and possession limits were distributed in 2004. In addition, approximately 500 stakeholders were sent the four editions of the fisheries newsletter, *Fish*, produced during 2004. The newsletter highlights recent achievements, latest research, and proposed changes to management arrangements. In February 2004, DPI&F introduced *FishFlash*, an email-based newsletter with links to the latest fisheries news. Approximately 300 stakeholders subscribe to *FishFlash*, which is now up to its 17th issue.

Harvest and management issues are discussed by members of HarvestMAC. Meetings are held twice a year. HarvestMAC provides management advice to the DPI&F.

Complementary management

Tropical rock lobster species in the adjacent Torres Strait Protected Zone are managed under the jurisdiction of the Torres Strait Protected Zone Joint Authority and the *Torres Strait Fisheries Act 1984* (Commonwealth). Tropical rock lobster stocks in the Gulf of Carpentaria outside of the Torres Strait Protected Zone are managed under Queensland law.

ECTRLF species are likely to be from the same stock as those from Torres Strait and Papua New Guinean waters. Research suggests that ECTRLF stocks supply recruits to both northern fishery regions. This highlights the need for complementary management across the region. Consequently, a number of input and output controls in the ECTRLF, such as the main seasonal closure, minimum size limits and recreational bag limits, are mirrored in the Torres Strait fishery.

Fishery Performance

Appraisal of fishery in regard to sustainability

Catch and fishing effort information from commercial fisher logbooks suggests the ECTRLF is being managed by DPI&F in a sustainable manner. Harvest levels and catch rates in 2004 were substantially higher than in 2002 and 2003, despite there being only a few operators. Should sustainability become a concern, DPI&F has the capacity to implement precautionary management measures to ensure stock is not overfished.

Progress in implementing DEH recommendations

In June 2004, DPI&F submitted a report, *An ecological assessment of Queensland's East Coast Tropical Rock Lobster Fishery*, to the Australian Government Department of

the Environment and Heritage (DEH) for assessment against the *Guidelines for the ecologically sustainable management of fisheries*.⁴

DEH provided ten recommendations to address sustainability issues in the ECTRLF. These are to be progressively met by DPI&F over a three-year period starting in 2005. The document with these recommendations can be found at <http://www.deh.gov.au/coasts/fisheries/qld/tropical-rock-lobster/report.html>.

The ECTRLF has undergone a compliance risk assessment to help determine compliance strengths and weaknesses. Recommendations arising from the assessment will provide the basis for developing future compliance strategies aimed at securing the sustainability of the fishery. Non-confidential ECTRLF compliance issues and the resulting recommendations will be summarised in the next annual status report.

This status report meets the DEH requirement to produce a publicly available annual report on the status of the fishery. By the end of 2006, DPI&F must develop fishery-specific objectives linked to performance indicators and performance measures for the most commonly caught (but not limited to) species in the fishery. DPI&F will report against the performance indicators and measures in the 2007 annual status report.

DPI&F has not met the six-month deadline to implement interim measures to control significant rises in effort in the fishery (Recommendation 9), but a draft policy has been developed. Its implementation has been delayed so that the flow-on effects of any decisions affecting sectoral allocation issues in the Torres Strait fishery can be incorporated. Implementing an appropriate policy for the East Coast fishery once the Torres Strait issues are resolved is a priority.

Management performance

Performance measures and reference points have not yet been developed for the fishery. DPI&F will develop these measures in conjunction with HarvestMAC by the end of 2006.

Resource concerns

There are no resource concerns in the ECTRLF.

The adjacent Torres Strait TRL Fishery (which forms part of the same stock) is considered overfished by the Bureau of Rural Sciences; however, this fishery has a very high number of fishers and significantly higher catches than the ECTRLF.⁵

Information compiled by

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⁴ Atfield, J (2004), *An ecological assessment of Queensland's East Coast Tropical Rock Lobster Fishery. A report to the Australian Government Department of Environment and Heritage ecologically sustainable management of a single-species dive fishery*, Queensland Department of Primary Industries and Fisheries, Brisbane.

⁵ Canton, A & McLoughlin, K (eds) 2004, *Fishery Status Reports: Status of Fish Stocks Managed by the Australian Government*, Bureau of Rural Sciences, Canberra.

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