



Australian Government

Department of the Environment and Heritage

**Assessment of the
Torres Strait Tropical Rock Lobster Fishery**

Approvals and Wildlife Division

September 2004

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This document is an assessment carried out by The Department of the Environment and Heritage of a commercial fishery against the Australian Government Guidelines for the Ecologically Sustainable Management of Fisheries. It forms part of the advice provided to the Minister for the Environment and Heritage on the fishery in relation to decisions under Parts 10, 13 and 13A of the Environment Protection and Biodiversity Conservation Act 1999. The views expressed do not necessarily reflect those of the Minister for the Environment and Heritage or the Australian Government.

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Assessment of the ecological sustainability of management arrangements for the Torres Strait Tropical Rock Lobster Fishery

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EXECUTIVE SUMMARY

Background

The Australian Fisheries Management Authority (AFMA) has submitted documents for assessment of the Torres Strait Tropical Rock Lobster Fishery (TSTRLF) under Parts 10, 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

On 25 November 2002, the Minister for the Environment and Heritage (the Minister) signed an Agreement with the Minister for Fisheries, Forestry and Conservation to initiate strategic assessment. Following public consultation, *Terms of Reference for the Environmental Assessment of Torres Strait Tropical Rock Lobster Fishery* were adopted. The document *Draft Assessment Report – Torres Strait Tropical Rock Lobster Fishery* was received by the Department of the Environment and Heritage (DEH) in April 2003. It was released for a thirty-one-day public comment period that expired on 5 May 2003. Four public comments were received and AFMA provided a response to the issues raised and amended the documents where necessary. A final version of the *Assessment Report – Torres Strait Tropical Rock Lobster Fishery* (the submission) was submitted for assessment in December 2003.

The submission reports on the TSTRLF against the Terms of Reference, including the Australian Government *Guidelines for the ecologically sustainable management of fisheries*. The DEH assessment considers the submission and associated documents, public comments and AFMA's response to the comments.

The Torres Strait Treaty (TST) between Australia and Papua New Guinea (PNG) is concerned with the sovereignty and maritime boundaries in the area between the two countries and the protection of the traditional way of life and livelihood of traditional inhabitants and the marine environment. The Treaty established the rights of Australia and PNG to share the commercial fisheries of the Torres Strait Protected Zone (TSPZ), including Tropical Rock Lobster.

The area of the TRLF includes waters of the TSPZ, located between north-eastern Australia and PNG. Catch sharing arrangements with PNG under the Treaty enable PNG fishers to harvest some of the stock within Australian waters.¹ However, if PNG operators do not take up this share Australian boats can take up the unused PNG effort.² DEH strongly encourages the cooperative approach that PZJA/AFMA have taken in pursuing cross jurisdictional arrangements with Papua New Guinea with regards to catch sharing under the Torres Strait Treaty.

The fishery targets Tropical Rock Lobster (TRL) (*Panulirus ornatus*). There is no byproduct in the fishery, however operators are able to retain species under other endorsements while targeting TRL. Species harvested under these other endorsements will be assessed under other relevant fishery submissions and therefore are not discussed in this report.

TRLs are found from the north of Western Australia to the northern coast of Queensland and north into PNG waters. They are found in sufficient numbers to support directed fisheries in Torres Strait (TS), north Qld and PNG. It is believed that all of these fisheries harvest lobsters from the same stock (some lobsters are also harvested in the Coral Sea but these are generally of other species). Spawning occurs from December to March. The lobsters that settle as larvae in the TS generally migrate North and East to breed near the end of their second year. It is not believed that many, if

¹ Article 23 TST.

² Article 25 TST.

any, of these lobsters return to TS. Some lobsters in TS however do not migrate until the end of their third year.

Table 1: Summary of the Torres Strait Tropical Rock Lobster Fishery

Area	Torres Strait
Fishery status	Overfished
Target Species	Tropical Rock Lobster (<i>Panulirus ornatus</i>)
Byproduct Species	None, however fishers with other endorsements are able to harvest under those authorities while targeting rock lobster
Gear	Hand collection, some with small hand-held spears and some with hookah dive gear ³
Season	December to September with a peak during March-August.
Commercial harvest 2003/04 (2001/02 – 2002/03 harvest not yet available)	661 tonnes live weight (live weight and tails converted) by Australian fishers
Value of commercial harvest 2003/04	\$10-12 million
Recreational harvest	Believed to be minimal due to remoteness of the fishery. Harvest for traditional purposes is also believed to be minimal due to the commercial value of the lobsters. Possession and size limits apply.
Commercial licences issued as at August 04	116* non-indigenous Fishing Boat Licence (FBL) (including 29 primary boats and 81 tenders, and some dinghies). These licences are capped. 324 Traditional Inhabitant Boat (TIB) licences. There is a temporary cap on the number of TIB endorsements which will end in December and an amnesty process through which 213 applications for licences has been made.
Management arrangements	Input controlled through boat and gear restrictions and a seasonal closure. Output controlled through a size limit of 115 mm tail length (90 mm carapace length).
Export	Almost all live lobsters are exported as are the majority of frozen lobster tails.
Bycatch	Nil
Interaction with Protected Species	No interaction recorded

*In the 2003 season, a one off 30% reduction in tenders resulted in only 54 tenders operating.

This species is typically found in inter-reef areas of hard substrate and among coral reefs. They have also been observed in sand and mud substrates to depths of 100 m. Like most marine crustaceans, they are highly fecund. The larval settlement in the area of the fishery is thought to come from the lobsters that have migrated from all fishery areas however it is not known exactly where this breeding occurs or what happens to the lobsters after they have bred. However, at one

³ Hookah are air hoses used by divers who collect lobsters

well established breeding area in the eastern Gulf of Papua most lobsters die by the end of the breeding season.

Approximately 661 tonnes (live weight) were harvested in the TS fishery in 2003/04, at an estimated value of A\$10-12 million. The commercial fishery began in the 1960s with only a handful of vessels. Gradually vessel numbers increased and in the 1980s the fishery became a major source of income for Torres Strait Islanders. In 1986 the fishery experienced its greatest catch with 350 tonnes harvested (tail weight). Targeted trawling of the migrating lobsters was banned in 1984 (prior to the migration), and the incidental take of lobsters by trawlers was banned in 1988.

In 2001, the Bureau of Rural Sciences (BRS) released a report on the status of Commonwealth fisheries that classed the TSTRLF as overfished.⁴ AFMA implemented a range of managed measures to ensure recovery of the stock as a result of the assessment. There has been insufficient catch data for the BRS to make a subsequent assessment of the status of the fishery. The Commonwealth Scientific and Industries Research Organisation (CSIRO) surveys in 2002 and 2003 indicated that recruitment was about average for the fishery and the stock is substantially larger than it was a few years previously. The 2003 catch was among the highest for a decade.⁵ The 2004 season has also been a record season for catches indicating that the stocks may be recovering.

The fishery currently targets lobsters with either a small hand held spear or hookah dive gear. There are restrictions on the size of the vessel and the number of tenders. Fishery management arrangements include a seasonal closure. There is limited entry to this fishery for non-indigenous commercial fishers. Traditional Inhabitant Boat (TIB) endorsements may still be issued when requested.

Due to the highly selective nature of the fishing operations there is no bycatch or incidental take of or injury to protected species.

The submission states that there is no significant take of lobsters by the recreational sector due to the remoteness of the fishery. It also states that the commercial value of the lobsters also deter Indigenous take for traditional purposes. There is no independent source of information to validate either of these claims. Lobsters are occasionally caught in prawn trawls however they must be released and are believed to have high rates of survival.

The fishery is managed under fishery notices issued under the *Torres Strait Fisheries Act 1984*. Recreational harvest, including charter fishing, is managed through provisions in the *Queensland Fisheries Management Act 1994*.

Overall assessment

The material submitted by AFMA demonstrates that the management arrangements for the Torres Strait Tropical Rock Lobster Fishery meet most of the requirements of the Australian Government *Guidelines for the ecologically sustainable management of fisheries*.

While the fishery is relatively well managed, DEH has identified a number of risks that must be managed to ensure that their impacts are minimised:

- Lack of adequate and reliable data appropriate to the scale of the fishery on catch and effort collected from all sectors of the fishery;
- The absence of clear fishery specific objectives, performance indicators and performance measures;

⁴ <http://www.affa.gov.au/statusreports>.

⁵ Darren Dennis, CSIRO personal communication as cited in AFMA submission.

- The lack of a clear process once a performance measure is breached;
- No cap on effort in all sectors of the fishery;
- Stock assessment does not take into account mortalities from all adjacent fisheries (does not include Queensland) that take from the same stock; and
- Lack of a compliance risk assessment with an implementation strategy for resultant recommendations.

Recommendations to address these issues have been developed to ensure that the risk of impact is minimized in the longer term. Through the implementation of the recommendations and the continuation of a responsible attitude to the management of the fishery, management arrangements are likely to be sufficiently precautionary and capable of controlling, monitoring and enforcing the level of take from the fishery while ensuring the stocks are fished sustainably.

The management regime aims to ensure that fishing is conducted in a manner that does not lead to over-fishing and for fishing operations to be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem. Although recent assessments are that the fishery was overfished, measures introduced to recover the stock have coincided with a strong recovery of the stock. DEH considers that there is a high degree of probability that the stock will continue to recover, provided that fishing effort is controlled. On balance, the fishery is being managed in an ecologically sustainable manner and is working to address existing problems and minimise environmental risks.

The operation of the fishery is consistent with the objects of Part 13A of the EPBC Act. Given the management arrangements specified in the management regime, the fishery independent monitoring and the work towards rebuilding previously overfished stocks, DEH considers that the fishery will not be detrimental to the survival or conservation status of the taxon to which it relates in the short term. Similarly, it is not likely to threaten any relevant ecosystem in the short term. DEH therefore recommends that the fishery be declared an approved Wildlife Trade Operation (WTO) with the actions specified in the recommendations to be undertaken by PZJA/AFMA to contain the environmental risks in the long term. DEH considers that the fishery, as managed in accordance with the management regime is not likely to cause serious or irreversible ecological damage over the period of the export decision. Specifically, the WTO declaration would allow the export of product from the fishery for a period of 3 (three) years. The WTO declaration will require annual reporting on the progress of implementing the recommendations of this report and other managerial commitments. The implementation of the recommendations will be monitored and reviewed as part of the next DEH review of the fishery in 3 years time.

As the official fishery area encompasses Commonwealth as well as State waters, consideration under Part 13 of the EPBC Act is required regarding the impact of the fishery on listed threatened species, listed migratory species, cetaceans and listed marine species.

Protected species occurring in the fishery area include marine turtles, dugong and seabirds. The fishery has no recorded interaction with these species groups. The actual and potential impact on Part 13 species under the management arrangements is considered negligible and adequate protection is provided. There are no listed threatened ecological communities in the fishery area.

DEH considers that the fishery to which the regime relates does not, or is not likely to, adversely affect the survival in nature of listed threatened species or population of that species, or the conservation status of a listed migratory species, cetacean species or listed marine species or a population of any of those species. DEH also considers that the regime requires that all reasonable steps are taken to avoid the killing or injuring of protected species, and the level of interaction

under current fishing operations is negligible. On this basis, DEH considers that an action taken by an individual fisher, acting in accordance with the regime would not be expected to have a significant impact on a listed threatened species or listed migratory species protected by the EPBC Act.

Part 10 of the EPBC Act requires that Commonwealth managed fisheries undergo strategic assessment to determine whether actions taken in the fishery have a significant impact on the environment in Commonwealth Marine Areas. Under this Part, the Minister may accredit a management plan to exempt actions taken in accordance with the management plan from further impact assessment approval.

DEH considers, *inter alia*, that there has been adequate assessment of the impacts that actions approved in accordance with the regime have, will have or are likely to have on the marine environment. DEH also considers that actions approved or taken in accordance with the regime will not have unacceptable or unsustainable impacts on the marine environment in a Commonwealth area. DEH therefore recommends that, in accordance with Part 10, the regime be accredited under section 33 of the EPBC Act for the matter of national environmental significance “the marine environment”.

The implementation of the following recommendations and other commitments made by AFMA/PZJA in the submission will be monitored and reviewed as part of the next DEH review of the fishery in 3 years time.

Recommendations

Recommendation 1: Operation of the fishery will be carried out in accordance with the *Torres Strait Fisheries Act 1984* and the *Torres Strait Rock Lobster Statement of Management Arrangements*. AFMA will inform DEH of any changes to the Act or the Statement.

Recommendation 2: AFMA to continue to ensure that consultative processes are conducted in a manner that ensures the timely implementation of management responses essential for the sustainability of the fishery.

Recommendation 3: AFMA to develop clear objectives and performance measures for the fishery relating to target species and ecosystem impacts within 1 year. The performance of the fishery to be reviewed annually against these measures and the outcomes published. A biological reference point to be developed and implemented for rock lobster stocks.

Recommendation 4: AFMA to develop a clear process and timeframe for determining the reason for a performance criteria breach and implementing appropriate management measures within specified timeframes.

Recommendation 5: AFMA to conduct a formal compliance risk assessment of the TSRLF within 1 year and develop a strategy to implement any resultant recommendations.

Recommendation 6: Annual catch and effort statistics to be published and publicly available by the end of 2004.

Recommendation 7: AFMA to ensure that mechanisms are in place to ensure that adequate and reliable data on catch and effort, appropriate to the scale of the fishery, are collected from all sectors to ensure sustainable management of the TSRL resource.

Recommendation 8: AFMA to continue to pursue complementary management arrangements with other jurisdictions responsible for managing shared rock lobster stocks to ensure that all removals and other relevant impacts on the stock are properly accounted for in stock assessments.

Recommendation 9: AFMA to control fishing mortality, through effort controls or other mechanisms across all sectors, to maintain stocks at ecologically sustainable levels.

Recommendation 10: AFMA will provide a report annually to the DEH on the progress in implementing the recommendations.

PART I - MANAGEMENT ARRANGEMENTS

The TS TRL Fishery is managed by the Protected Zone Joint Authority (PZJA) considering advice from its consultative bodies. This Authority consists of the Australian Government (represented by the Minister for Fisheries, Forestry and Conservation), the Queensland Government (represented by the Minister for Primary Industries) and the Torres Strait Regional Authority (represented by the Chair). The Australian Fisheries Management Authority (AFMA) coordinates and delivers fisheries management and surveillance/enforcement programs in the TS in conjunction with the Queensland Department of Primary Industries and Fisheries (DPI&F) on behalf of the PZJA and in accordance with the *Torres Strait Fisheries Act 1984*. Recreational fishing, including charter fishing, is managed under Queensland law.

Since 1985 the fishery has been managed under the *Torres Strait Fisheries Act 1984* and the *Torres Strait Fisheries Regulation*. The management regime is legislated through Fisheries Management Notices (FMN) under the Commonwealth *Torres Strait Fisheries Act 1984* and conditions on fishing permits. FMNs are publicly available. There is an intention to develop formal management plans for some Torres Strait fisheries, however the timing of this development will rely on the outcomes of a priority setting exercise and available resources. While management arrangements do not need to be part of a formal management plan, such a plan provides for better governance and transparency to stakeholders.

DEH considers it important that management arrangements remain flexible to ensure timely and appropriate managerial decisions. Due to the importance of the documents discussed above to DEH's assessment of the fishery, an amendment could change the outcomes of our assessment and decisions stemming from it.

Recommendation 1: *Operation of the fishery will be carried out in accordance with the Torres Strait Fisheries Act 1984 and the Torres Strait Rock Lobster Statement of Management Arrangements. AFMA will inform DEH of any changes to the Act or the Statement.*

There is a sophisticated consultative process in place for all Torres Strait fisheries. The PZJA seeks and receives advice from the Torres Strait Fisheries Management Advisory Committee (the MAC). The MAC generally meets biannually on Thursday Island and consists of representatives from both management agencies, industry, the Torres Strait Regional Authority (TSRA) and representatives from 24 Islander communities. The MAC was established in order to improve consultation with the traditional inhabitants. The first meeting of the MAC took place in April 2003. Feedback on the effectiveness of the new structure was very positive however the effectiveness of the new process will need to be seen.

Recommendation 2: *AFMA to continue to ensure that consultative processes are conducted in a manner that ensures the timely implementation of management responses essential for the sustainability of the fishery.*

Discussions within consultative bodies have revealed that both Indigenous commercial fisheries and non-Indigenous commercial fishers believe that sustainability and traditional harvest take priority over any commercial rights. However, Indigenous commercial fishers consider that the objectives of the Torres Strait Treaty give them a priority of access to the fishery resources. They consider that any required reduction in catch or effort should come from the non-Indigenous commercial sector. The non-Indigenous commercial fishers consider that both sectors have the same priority of access and that they have taken significant effort reductions in recent times. They also consider that in order for any management response to be effective it must be applied across all sectors of the

fishery. This lack of clarification on priority of access is complicating consultative processes and largely prevents the implementation of timely managerial intervention when required.

The MAC is advised by several sub-committees including the Torres Strait Fisheries Scientific Advisory Committee (the TSFSAC), the Prawn Working Group and the Rock Lobster Working Group (RLWG). Each of these sub-committees has participation from scientists, industry, Islander representatives and management. In addition, the chair of the TSFSAC and DEH attend MAC meetings as observers.

The objectives of this fishery are to:

- conserve the stock of tropical rock lobster;
- maximise the opportunities for traditional inhabitants of both Australia and Papua New Guinea to participate by implementing policies that include managing the fishery for tropical rock lobster as a dive fishery; and
- promote the dive fisheries for tropical rock lobster in Torres Strait and in the waters near Yule Island, Papua New Guinea.

The RLWG has recommended changes to these objectives however these changes have not yet been agreed by the PZJA. There are currently no performance indicators or measures formalised for this fishery although a long-term potential yield has been identified. Concerns with the lack of formal reference points for the fishery were raised during the public comment.

Recommendation 3: *AFMA to develop clear objectives and performance measures for the fishery relating to target species and ecosystem impacts within 1 year. The performance of the fishery to be reviewed annually against these measures and the outcomes published. A biological reference point to be developed and implemented for rock lobster stocks.*

DEH considers that effective management requires that managers respond promptly to breaches of performance criteria in accordance with an established process.

Recommendation 4: *AFMA to develop a clear process and timeframe for determining the reason for a performance criteria breach and implementing appropriate management measures within specified timeframes.*

Management of the fishery uses both input and output controls as outlined in Table 2. Additionally, the PZJA is generally not issuing new Torres Strait Master Fisher's Licences to non-indigenous fishers. A Master Fisher's Licence is required for non-traditional inhabitants to fish commercially so as fishers leave the Torres Strait the numbers are reducing.

PNG has gazetted a management plan for their tropical rock lobster fishery that substantially complements the Australian legislation, including a minimum size limit, limits on licences, a four month ban on hookah and a ban on trawling. Additionally the plan sets a limit on the number of hookahs that can be used. Queensland has also introduced a four month commercial closure and size limit for its tropical rock lobster fishery consistent with the TSTRLF.

Table 2: Input and output controls in the Tropical Rock Lobster Fishery.

INPUT CONTROLS	
Closures	Closed 1 October to 30 November (2 months). The use of hookah gear is banned from the start of this closure until 31 January
Gear Restrictions	Hand held spear or hand collection. Hookah permitted (except Oct to Jan)
Vessel Restrictions	Boat replacement policy Max length on boat 20 m Tenders limited to 6 m
Limited entry	A cap on licences for non-Indigenous commercial fishers
OUTPUT CONTROLS	
Minimum size limit commercial	115 mm tail length or 90 mm carapace length
Recreational and Subsistence possession and Size limits	Size limits as above. Possession limit of 3 per person or 6 per boat.

Compliance and enforcement tools implemented in the fishery include random at sea and port inspections to identify undersized catch and illegal fishing during the seasonal closure. They are conducted by the Qld Department of Primary Industries and Fisheries (DPI&F) Boating and Fisheries Patrol on behalf of the PZJA. Fishers are not allowed to ‘meat’ the lobster tails until they are landed. The submission recognises that there are compliance issues in the fishery that are unable to be addressed with current compliance and enforcement resources. AFMA and QBFP are in the process of completing a risk assessment of compliance and enforcement in TS fisheries to enable them to identify resources needs and the most effective responses. There are concerns regarding compliance with the ban on trawling for Rock lobsters in the PNG section. DEH strongly supports PZJA/AFMA continuing to working cooperatively with PNG with regards to compliance with the ban on trawling lobster in the Gulf of Papua.

Recommendation 5: *AFMA to conduct a formal compliance risk assessment of the TSRLF within 1 year and develop a strategy to implement any resultant recommendations.*

Management arrangements in the fishery are regularly reviewed through the working group and MAC. As there are no performance measures or indicators, there are currently no regular reports available for public viewing. Information on the fishery on the AFMA website is several years old. Transparency of the performance of the fishery is critical to good governance.

Recommendation 6: *Annual catch and effort statistics to be published and publicly available by the end of 2004.*

Fishery dependent and independent information relating to the target species is collected through a variety of means in the fishery. These information collection systems are discussed under Part Two of this report.

An analysis of the fishery’s capacity for assessing, monitoring and avoiding, remedying or mitigating any adverse impacts on the wider marine ecosystem in which the target species lives and the fishery operates is contained under Principle Two of this report.

DEH considers that the current management arrangements comply with all relevant threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch action strategies developed under that policy. Although there is no mechanism in the arrangements that requires compliance with any future plans or policies, AFMA and DPI&F have demonstrated their capacity and willingness to amend arrangements when required.

DEH considers that the fishery management arrangements comply with all relevant international and regional management regimes to which Australia is a party. The most relevant of which is the Torres Strait Treaty with PNG. The objectives of the *Torres Strait Fisheries Act 1984* are the same as the treaty and the PZJA pursue these objectives in all of their managerial responses and treaty meetings. The other important international regime affecting the fishery is the United Nations Convention on the Law of the Sea (UNCLOS). The management regime essentially complies with this. Other international regimes are applicable to fisheries management but do not explicitly involve this fishery, for example the 1992 Convention on Biological Diversity and in particular the 1995 Jakarta Mandate requiring that, in relation to the sustainable use of marine and coastal biological diversity, the precautionary principle should apply in efforts to address threats to biodiversity. While these agreements are not specifically addressed in the Submission, the fishery's compliance with their requirements can be assessed by examination of Part Two of this report. The application of the International Convention for the Prevention of Pollution from Ships (MARPOL) to vessels operating in the fishery is explicitly discussed under Principle 2, Objective 3.

DEH considers it is incumbent on all authorities to develop a thorough understanding of the framework of national, regional and international agreements and their applicability to export-based fisheries for which they are responsible.

Conclusion

DEH considers that the TSRLF management regime is documented, publicly available and transparent, and is developed through a consultative process. The management arrangements lack appropriate objectives and performance criteria by which the effectiveness of the management arrangements can be measured, enforced and reviewed.

The management arrangements are capable of controlling the harvest through a combination of input controls appropriate to the size of the fishery. Periodic review of the fishery is provided for, as are the means of enforcing critical aspects of the management arrangements.

The management regime takes into account arrangements in other jurisdictions, and adheres to arrangements established under Australian laws and international agreements.

DEH considers that there is scope to further refine the management arrangements and has provided a number of recommendations for improvements in the longer term.

PART II – GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES

Stock Status and Recovery

Principle 1: *‘A fishery must be conducted in a manner that does not lead to over-fishing, or for those stocks that are over-fished, the fishery must be conducted such that there is a high degree of probability the stock(s) will recover’*

Maintain ecologically viable stocks

Objective 1: *‘The fishery shall be conducted at catch levels that maintain ecologically viable stock levels at an agreed point or range, with acceptable levels of probability’*

Information requirements

Information collection in the fishery is based on a mix of fishery dependant and fishery independent sources and is reviewed periodically by the TSFSAC. There are several sources of fishery dependent data for the fishery. From 2003, skippers of vessels greater than 7 m have been required to complete and submit logbooks including daily effort (spatial and temporal), catch and gear used. Prior to this date, logbooks were completed on a voluntary basis. Similar data for all freezer boats in the fishery have been collected since 1997. AFMA is unsure what percentage of fishing effort information is collected through this process but hopes that the new information collection process described below will clarify this. Processor Carrier Boats are required to provide tail weight of TRL, delivered by the last day of each month.⁶ TIB licence holders are not required to complete logbooks due to operational difficulties. Again the new system should address this gap.

Smaller boats do not have freezing capability on board. Therefore catch is sold directly to land based freezers. Catch from freezer vessels is also sold to land based processors. Processors now provide information on catch and effort from the fishers in the Torres Strait Seafood Buyers and Processors Docket Book. This system was implemented in November 2003. AFMA reports that this process will provide information on catch and effort from smaller operators while providing validation of data from larger operators. Comments received during public comment supported strengthening of the data collecting processes on effort and catch levels.

Recommendation 7: *AFMA to ensure that mechanisms are in place to ensure that adequate and reliable data on catch and effort, appropriate to the scale of the fishery, are collected from all sectors to ensure sustainable management of the TSRL resource.*

AFMA is currently working on the collation of processor records for the period 2001- 2003 inclusive. There will also be some effort made to collect corresponding shipping records for the period so that there can be a transitional/validation period from the old to new system of estimating catch.

An annual survey has been conducted by CSIRO since 1989 to estimate the abundance of lobsters and age structure in the most productive areas of the fishery. A larger re-benchmarking survey was conducted in 2002 to standardise all the surveys undertaken so far. Funding for this research is allocated on an annual basis through to 2006 however the submission states that it is likely that the survey will continue to be funded in the future. Annual surveys are an important component of monitoring the TRL population, as aggregate catch rates are not a good index of relative abundance.

⁶ Catch Reporting Notice 13.

The TSFSAC is currently developing a new five-year research plan for all Torres Strait fisheries including TRL. AFMA expects this plan to be finalised early in 2005. DEH welcomes this strategic approach to research planning.

Assessment

The stocks of TRL are assessed annually by CSIRO and these processes are regularly reviewed by the TSFSAC. The assessments are based predominantly on data from the CSIRO surveys and then incorporated with commercial catch information. The BRS Fishery Status Report 2000/01 (2002) states that the reliability of the assessment is high.

CSIRO surveys in 2002 and 2003 indicated that recruitment was about average for the fishery and the stock is substantially larger than it was a few years previously. The 2003 catch was among the highest for a decade.⁷ The 2004 season has also been a record season for catches indicating that the stocks may be recovering.

The status of the fishery and the assessment process is reviewed by BRS. The BRS Fishery Status Report 2000/01 (2002) stated that the TSTRLF was overfished at effort levels then, though catches vary from year to year in response to effort and recruitment. The BRS Fishery Status Report 2002–2003 (2003) also stated that the fishery was overfished. However, due to the lack of commercial catch data since 2001 BRS has been unable to undertake any subsequent assessments of the fishery status.

As highlighted in the submission, current evidence suggests the TRL harvested in this fishery are part of the same stock as those harvested in the Qld Rock Lobster fishery, and PNG. Currently, harvest from PNG is considered in the stock assessment process for the TSTRLF fishery, but the harvest in Qld is not. The submission states that although this would be possible it would require additional resources.

DEH considers it essential that separate fisheries accessing shared stocks consider cross-jurisdictional issues in research, assessment and management. Concerns regarding this issue were also raised in public comment. Recognising recent efforts made by the managers of this fishery, and the logistical difficulties associated with pursuing this objective with other countries, understanding the cumulative impacts of the fisheries will be essential to maintain the fishery at sustainable levels.

Recommendation 8: *AFMA to continue to pursue complementary management arrangements with other jurisdictions responsible for managing shared rock lobster stocks to ensure that all removals and other relevant impacts on the stock are properly accounted for in stock assessments.*

Many of the management responses in the QLD fishery are similar to those in the TSTRLF and the PZJA have been pursuing complementarities with PNG as discussed earlier in the report.

The submission claims that illegal activity is low due to a permissible take for recreational purposes. It claims that fishers very rapidly adjusted to a new size limit and that incidental harvesting of undersized lobsters is low. The practice of ‘meating’ the tails (ie removing the meat from the shell of the tail) has been banned to reduce the risk of purposefully harvesting smaller lobsters.

⁷ Darren Dennis, CSIRO personal communication as cited in AFMA submission.

As discussed previously in this report, a new data collection system aims to ensure that all commercial removals from the fishery can be estimated accurately. The submission states that indigenous harvest of lobsters for traditional purposes are minimal due to the economic importance of the commercial fishery to many communities in the region. Recreational removals are thought to be minimal due to the remote locality of the fishery. Possession and size limits also apply to recreational harvest. AFMA advise that there is no charter fishing for this species in the area of the fishery. DEH has recommended that AFMA ensures that reliable data on catch and effort are collected from all sectors of the fishery, including recreational and charter fishing, (see **Recommendation 7**).

The submission states that the stock assessment model has indicated that the long-term potential average yield for the fishery is approximately 255 t (tail weight). However, the BRS website states that this figure is actually 210 t and includes all harvest from the TS, Qld and PNG fisheries. It is unclear whether the reference point used by the managers relates to total harvest from the stock, just from the TSTRLF or just from the total TSTRLF area (which would include some PNG harvest under catch sharing arrangements).

AFMA and CSIRO are currently undertaking a project entitled *Ecological Risk Assessment for Commonwealth Fisheries*. The objectives of this project include:

- consolidating/developing ecological risk assessment methods that will meet the requirements of strategic assessment for Commonwealth fisheries
- determining the relative sustainability risks in Commonwealth managed fisheries, considering target, byproduct, bycatch and broader ecological impacts where possible

AFMA advise that the Torres Strait component of the project is currently at the scoping stage with a full ERA to be prepared in the next two years. Because it is a single species fishery, the TSTRLF component of this project will be simple in comparison to some other Commonwealth fisheries. As more information is gathered, it will be incorporated into future reviews of the *Ecological Risk Assessment* project.

Management response

The current TRLF management regime aims to maintain ecologically viable stock levels through a range of input and output controls as outlined in Table 2.

Although the stock assessment model has indicated that no more than 255 tonnes of TRL should be harvested by the fishery in any one year, there is currently no mechanism in place to ensure that this level is not breached. Nor is there a trigger in place to review arrangements if harvest approaches these levels. Catch from the fishery has exceeded this level several times in recent years. DEH has recommended the development of performance criteria for the fishery along with a clear process for when the performance measure is breached (see **Recommendation 3 and 4**).

There is a substantial amount of latent effort in this fishery. In an attempt to prevent the activation of this effort, a latent effort sub-committee of the PZJA recommended that licences that cannot demonstrate an economic dependence in the TSTRLF fishery (to a specified value) in several recent years have the lobster endorsement removed. The recommendations were agreed by the PZJA and the process is nearing completion.

While there have been no major increases in Indigenous fishing endorsement numbers in recent years, growth in this sector is possible because of the limitless number of fishing endorsements available to it. DEH is concerned that, with current management arrangements, the stock may be

unable to withstand the extra pressure caused by such growth or even the activation of current latent effort. Concerns regarding management of effort in the fishery were also raised in public comment. The consultative bodies for the fishery have discussed several different responses to address these sustainability concerns.

Recommendation 9: *AFMA to control fishing mortality, through effort controls or other mechanisms across all sectors, to maintain stocks at ecologically sustainable levels.*

Some public comments indicated that a ban on hookah gear for the entire season would ensure that lobsters from a certain depth would be protected entirely from fishing pressure, thus ensuring continued sustainability. This issue was also raised in the April 2003 MAC meeting and is currently under consideration by members. DEH encourages the MAC to consider the cost and benefit of banning the use of hookah gear as a method of controlling effort.

Due to the highly selective nature of this fishery, there are no byproduct species harvested under a TRL endorsement. Many of the fishers hold endorsements for other fisheries and may harvest those species while also targeting lobsters. For example, a fisher may dive targeting a lobster and spot a holothurian (sea cucumber) and harvest that individual under a bêche-de-mer endorsement. The take of these other species will be considered under the assessments of those fisheries and is therefore not discussed in this report.

Conclusion

DEH considers that the management regime in the TSRLF is appropriately precautionary and while Rock Lobster stocks are currently overfished the fishery is being conducted in a manner that there is a high degree of probability the stocks will recover, provided that fishing effort is controlled. DEH considers that the recent assessment that stocks are overfished is being addressed through a recovery strategy.

DEH considers that the information collection system and stock assessment and management arrangements generally are sufficient to ensure that the fishery is conducted at catch levels that maintain ecologically viable stock levels with acceptable levels of probability.

DEH considers that there is scope to further refine some of the existing information collection, assessment and management responses and has provided a number of recommendations for improvements in the longer term.

Promote recovery to ecologically viable stock levels

Objective 2: *'Where the fished stock(s) are below a defined reference point, the fishery will be managed to promote recovery to ecologically viable stock levels within nominated timeframes'*

In 2002, BRS released a report classifying the TS TRL fishery as overfished. In response to this, the PZJA, in consultation with their advisory groups, enacted several actions to ensure stocks would rebuild to sustainable levels. These are now in place and include:

- The two month seasonal closure to all operators;
- An extended closure for the use of hookah gear;
- Increased minimum size limits; and
- A one off reduction in the number of tenders for non-indigenous commercial fishers of 30% in the 2003 season and 22% in the 2004 season.

AFMA expects, based on CSIRO modelling predictions, that these actions will lead to a gradual recovery in the stock, but is very cautious about the need to control fishing effort.

The AFMA submission states that the 2002 and 2003 surveys indicated that recruitment was about average for the fishery and the stock is substantially larger than it was a few years previously. The 2003 catch was among the highest for a decade.⁸

Conclusion

The recent assessment that stocks are overfished is being addressed through a recovery strategy. DEH considers that there is a high probability that the stocks will continue to recover.

Ecosystem impacts

Principle 2: *'Fishing operations should be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem'*

Bycatch protection

Objective 1: *'The fishery is conducted in a manner that does not threaten bycatch species'*

DEH considers that the fishery is conducted in a manner that does not threaten bycatch species. This fishery is highly specific as TRL are harvested by hand, with spears or alive. Therefore there are no interactions with bycatch species that can be reported. Although the harvesting of lobsters may indirectly include the harvest of miniscule symbiotic or parasitic organisms, it is likely that, while TRL stocks are maintained, these species and communities will be protected from unsustainable impacts. These issues are therefore covered by discussion under Principle One, Objective One.

Protected species and threatened ecological community protection

Objective 2: *'The fishery is conducted in a manner that avoids mortality of, or injuries to, endangered, threatened or protected species and avoids or minimises impacts on threatened ecological communities'*

Information requirements

There are no declared threatened ecological communities in the fishery area and therefore these provisions in the Guidelines are not applicable.

As discussed under Principle Two, Objective One, the fishing method in this fishery is highly selective and there is no incidental interaction with any protected species.

Assessment

As there is no incidental harvest of protected species, no assessment is required and this guideline is not applicable.

Management response

⁸ Darren Dennis, CSIRO personal communication as cited in AFMA submission.

No threatened ecological communities have been identified in the area of the fishery and interactions that impact on endangered, threatened or protected species are considered unlikely. Therefore, an assessment has not been undertaken and management measures have not been developed. AFMA advise that if future research indicates that interactions do occur, an assessment will be undertaken as appropriate.

Conclusion

DEH notes that there are no incidental interactions with protected species in this fishery and considers that the fishery is conducted in a manner that avoids mortality of, or injuries to, endangered, threatened or protected species and avoids or minimises impacts on threatened ecological communities.

Minimising ecological impacts of fishing operations

Objective 3: *'The fishery is conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally'*

Information requirements

Lobsters in this fishery are harvested by hand. The submission states that although divers may have some contact with benthos, and some fishers walk on reefs while collecting lobsters, the potential impacts of these actions are thought to be low. Therefore, there is no information collected regarding these actions.

DEH is concerned at the lack of information collection and research covering the fisheries impact on the ecosystem and environment generally. However, DEH understands that this lack of information is the case across a range of Australian and International fisheries and until appropriate research techniques and programs are developed and implemented this will continue to be the case. DEH strongly supports research in this area.

Assessment

The submission also states that as predator and prey relationships for TRL are not specialist, there are no known negative impacts of removing them from the marine environment. In addition, the impact of discarding lobster carapaces and using lights to fish at night are equally unlikely to be unacceptable.

AFMA is conducting ERAs for all Commonwealth fisheries. The TRLF ERA will be a crucial step in the future management of bycatch and fishing impacts in the fishery. AFMA advise that the Torres Strait component of the project will be undertaken in 2004 and that as more information is gathered, it will be incorporated into future reviews of the *Ecological Risk Assessment* project.

Management response

No specific management responses have been developed as AFMA advises that the marine environment is not considered to be significantly impacted by the fishery. AFMA advises that should the need arise, appropriate management measures will be considered by the relevant advisory group. Management arrangements require lobsters to be harvested by hand and hand-held spear only. As a result, the impact of the fishery on the physical environment is less than other lobster fisheries that use pots and traps.

DEH considers that as there are no specialist predator or prey relationships in the fishery area, there will not be significant damage to the ecosystem due to the operation of the fishery while the stocks are maintained at sustainable levels (ie above the limit reference point).

The National Oceans Office is currently working in cooperation with the Torres Strait Regional Natural Resource Management Body in a regional natural resource planning process in the area of the fishery. The planning process aims to ensure the ecologically sustainable use of the resources in the planning area and will help to integrate management across jurisdictions and sectors. It may also identify potential candidate areas for the National Representative System of Marine Protected Areas (NRSMPA). The regional natural resource planning process is a potential vehicle for pursuing sustainable fisheries objectives, particularly where cross-sectoral or cross-jurisdictional approaches are required. AFMA/PZJA should continue to engage in the process as far as practical. More information is available at www.oceans.gov.au.

Conclusion

DEH considers that the fishery is conducted in a manner that minimises the impact of fishing operations on the ecosystem generally. DEH notes that should circumstances alter significantly in the fishery, appropriate assessments and additional actions should be promptly identified and implemented.

Table 3: List of acronyms

AFMA	Australian Fisheries Management Authority
BRS	Bureau of Resource Sciences
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEH	Department of the Environment and Heritage
DPI&F	Department of Primary Industries and Fisheries
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERA	Ecological Risk Assessment
ESD	Ecologically Sustainable Development
FMN	Fisheries Management Notice
FRDC	Fisheries Research and Development Corporation
MAC	Torres Strait Fisheries Management Advisory Committee
MARPOL	International Convention on Marine Pollution
NSW	New South Wales
OCS	Offshore Constitutional Settlement
PNG	Papua New Guinea
PZJA	Protected Zone Joint Authority
QLD	Queensland
RLWG	Rock Lobster Working Group
TIB	Traditional Inhabitant Boat (licence)
TRL	Tropical Rock Lobster
TS	Torres Strait
TSFSAC	Torres Strait Fisheries Scientific Advisory Committee
TSPZ	Torres Strait Protected Zone
TSRA	Torres Strait Regional Authority
TSRLF	Torres Strait Rock Lobster Fishery
TST	Torres Strait Treaty
UNCLOS	United Nations Convention on the Law of the Sea
VMS	Vessel Monitoring System
WTO	Wildlife Trade Operation