

# Torres Strait Tropical Rock Lobster Resource Assessment Group and Working Group

Meeting Record

14 December 2015

Teleconference

Note all meeting papers and record available on  
the AFMA and PZJA webpages:

[www.afma.gov.au](http://www.afma.gov.au)

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Australian Government

Australian Fisheries Management Authority

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## Meeting Participants

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Name	Role
<b>MEMBERS</b>	
Ian Knuckey	Chair of combined meeting
John Pollock	Chair of TRLRAG
Selina Stoute	AFMA Member
Dean Pease	AFMA, Executive Officer
Brett Arlidge	Industry Member (TRLRAG)
Darren Dennis	CSIRO Scientific Member (TRLRAG, TRLWG)
Eva Plaganyi	CSIRO Scientific Member (TRLRAG)
Nokome Bentley	Independent Scientific Member (TRLRAG)
Tom Roberts	QDAF Member
Suzanne Stratton (in place of Mariana Nahas)	TSRA Member
John Ramsay	TSRA Member
<b>OBSERVERS</b>	
Robert Campbell	CSIRO Scientific Observer
Roy Deng	CSIRO Scientific Observer
Ray Moore	Industry Observer
Graham Hirakawa	Industry Observer
Kevin Sabatino	Industry Observer
Basil Sabatino	Industry Observer
Joseph King	Industry Observer
Trent Butcher	Industry Observer

## Action Items

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**Table1.** Action items from Tropical Rock Lobster Resource Assessment Group and Working Group meeting.

No.	Action Item	Agenda	Responsible member/agency	Due Date
1.	CSIRO to investigate possible reasons for the variance between the standardised indices based on analyses which include either Vessel-Name or Vessel-Symbol	1	CSIRO	TRLRAG 15 – March 2015

### Agenda Item 1 - Preliminaries

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#### 1.1 Apologies / declaration of interest / Adoption of Agenda

Apologies were received from Mr Phillip Ketchell (Industry Member) Mr Kenny Bedford (TSRA Fisheries Portfolio Observer), Mr Ian Liviko (PNG NFA Observer), Maluwap Nona (Chairperson Malu Lamar RNTBC), Mariana Nahas (TSRA Member) and Mr Mark Dean (Industry Member).

The following members could not be contacted for the meeting; Mr Aaron Tom (Industry Member), Mr Terrence Whap (Industry Member), Mr Mark David (Industry Member), Mr Les Pitt (Industry Member) and Mr Luke Dillon (Industry Member).

The TRLRAG and WG recognised the likely conflict of interest for industry members when developing advice for future TACs but agreed for members to remain present for the discussions noting the important contribution of industry expertise.

Members agreed to the agenda noting the meeting priority was to develop advice on the RBC/TAC for the 2015/16 fishing season.

#### Agenda Item 1 – Catch and effort statistics and standardised CPUE indices, 2015

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The TRLRAG and TRLWG noted an update on catch and effort statistics and standardised CPUE indices as presented by CSIRO and detailed in the paper titled “*Catch and Effort Statistics and Standardised CPUE Indices for the Torres Strait Rock Lobster Fishery – 2015 December update*” (**Attachment A**).

Members noted the following methodology updates:

- vessel name and symbol combined was used as a new categorical variable for filtering TVH sector data. This was recommended by the TRLRAG at its meeting in August 2015;
- the monthly Southern Oscillation Index was included in the CPUE standardisation but had little influence on either the TVH or TIB sector annual index of abundance;
- TIB seller names have been reduced from 2606 to 983 in the TIB Docket-book database as a result of information provided by industry members at the CSIRO Science Capability Training Workshop held in Brisbane on 3-6 November 2015; and,
- The proportion of catch as tails was fitted as a class variable with each record.

Members and Observers noted the benefit of the CSIRO Science Capability Training Workshop in building industry understanding of the stock assessment process and to improve the Docket-book data used through industry input.

The TRLRAG and TRLWG agreed to the following **action**:

- CSIRO to investigate possible reasons for the variance between the standardised indices based on analyses which include either Vessel-Name or Vessel-Symbol.

## **Agenda Item 2 – Pre-season population survey update, 2015**

The TRLRAG and TRLWG noted an update on the 2015-16 pre-season survey as presented by CSIRO and detailed in the paper titled '*Torres Strait TRL Pre-Season Population Survey – 2015 December Update*' (**Attachment B**).

Members noted the following regarding the 2015 season:

- The pre-season survey involved a reduced number of sites (78 down from 130). The reduced number of sample sites is considered representative and does not significantly impact the abundance time series. If conducted in line with scientific requirements, additional industry-run surveys would increase the precision and provide greater confidence in the estimates of annual recruitment.
- The 2015 index of recruit abundance (1+) is the highest recorded, although not significantly higher than the 2006 and 2014 levels. The high recruitment is mainly driven by levels recorded in the Kiracaldie\_rubble, South\_east and TI\_bridge strata. Low abundance was recorded in Mabuiag and Buru strata.
- Sand incursions were recorded over the seabed habitat at several sites across a number of strata.

Members noted that although the pre-season survey recorded the highest index of recruit abundance, pre-season surveys have taken place in mostly low abundance years (based on standardised CPUE index). The 2015 index therefore may not reflect such high recruitment to the fishery based on average years. It was noted however that the stock assessment model balances between the pre-season recruitment data and when available, the subsequent 2+ abundance data collected from the mid-season surveys.

One member noted concerns that the decision not to conduct a 2016 mid-year survey coupled with an anomalous 2015 fishing season with low catches may increase uncertainty in the stock assessment process.

## **Agenda Item 3 – Catch comparison with TAC, 2015**

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The TRLRAG and TRLWG noted advice from CSIRO regarding the potential drivers for the difference between the 2015 TAC and the reported catch as detailed in the paper titled '*Torres Strait TRL 2015 catch comparison with the TAC and reasons for the difference*' (**Attachment C**). Drivers identified in order of least to most likely are:

### 1. Errors in catch reporting

Members noted possible sources of error include underreported catch (both in Australia and PNG), discards, and yet to be submitted catch reports. Underestimates of catch can lead to an overly conservative prediction of abundance.

Industry members and observers advised however that the reported catch levels appear reasonably accurate based on their commercial knowledge of the fishery. AFMA confirmed that all catch reports received for the 2014/15 fishing season had been entered into its database and that it is not aware of outstanding catch returns.

Scientific members noted that annual catches have historically only been confirmed at the subsequent year's TRLRAG (often held on August the following year). This results in the Australian and PNG records being updated; hence the 2015 catch estimate may be lower than the actual catch.

### 2. Model and analysis errors

Members noted that while further work by CSIRO is required to examine ways in which the model's predictive ability could be improved:

- for a highly variable fishery (due to the species life-history characteristics) there is generally a good relationship between the model predictions and the mid-season and pre-season surveys and catch; and
- low 2015 catches could be an anomalous event noting the catches were outside of the 90 percent confidence limits of the TAC recommendation: 538t-1000t (total recorded global catch was 495t).

### 3. Habitat changes influencing catchability and possibly survival

Members noted that environmental factors may have impacted the catchability and possibly the survival of TRL during the 2015 fishing season but understood that it is difficult

to discern the level if any, of those impacts. Potential environmental drivers which are not necessarily mutually exclusive include:

- significant sand incursions over the fishing grounds, that have been reported by industry and observed during the pre-season survey;
- the current *El Niño* which is a 1:50 year event. Although the effects of *El Niño*'s are variable they may include increased water temperature and ocean height. These changes can lead to changes in waters currents which in turn, can impact life-history traits or could explain the sand incursions.

Some members observed that:

- 1+ lobsters are relatively resilient animals capable of extensive migration and that it is unlikely sand incursions would result in increased rates of mortality (and therefore decreased abundance). Instead, 1+ lobsters (those observed during the pre-season survey) are more likely to have migrated to new areas, in particular north into PNG waters. One industry member provided some evidence for this stating number of small TRL at Boigu were reportedly high in 2015.
- reductions in data collection including cancelling the 2016 mid-year survey and reducing the number of sites in the pre-season survey (from 130 to 78) may result in greater uncertainty in the stock assessment process. CSIRO advised that the survey sites are still considered representative, based on the close historical relationship between indices from the full pre-season surveys and the mid-year subset.
- the TRLRAG's focus is to advise on the RBC and TAC for each fishing season while ensuring the long-term sustainability of the stock. The RAG does not have the data available to advise on the catchability of the stock for each fishing season.

One member suggested that:

- sand incursions would have greater influence on recently-settled lobsters due to their site fidelity.

The TRLRAG and TRLWG agreed that improved CPUE data reporting, more frequent data summaries and/or mid-season surveys may assist in discerning between impacts on availability (catchability) versus abundance. Tagging research would also assist however this kind of research is typically very expensive.

CSIRO and AFMA noted they are continuing to work with PNG-NFA to develop a fishery-independent survey of TRL in PNG waters. AFMA noted PNG-NFA provided further commitment to this work at the bilateral meeting in 2015.

## **Agenda Item 4 – Recommended Biological Catch and TAC for 2015/16 fishing season**

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The TRLRAG and TRLWG noted advice from the scientific member and presentation based on the paper titled '*2015 updated assessment of the Tropical Rock Lobster (Panulirus ornatus) Fishery in the Torres Straits following November 2015 preseason survey*' (**Attachment D**).

Based on the currently agreed harvest strategy the TRLRAG and TRLWG **recommended** a *global TAC of 796t (inclusive of Australian and PNG waters) for the 2015/16 fishing season.*

In coming to this recommendation, TRLRAG and TRLWG considered whether additional precaution should be applied in recommending an RBC/TAC for the 2015/16 fishing season to take into account the low 2014/15 catches that may have resulted from anomalous environmental conditions and/or catchability of the stock. Ultimately they agreed that this was not warranted given:

- precaution is inherent in the interim TRL harvest strategy including:
  - a) a conservative target fishing mortality level of 0.15; and,
  - b) a conservative target biomass of 80 per cent of pre-fished levels which is significantly higher than the default 48 per cent target set out in the *Commonwealth Fisheries Harvest Strategy Policy and Guidelines, Sep 2007.*

Members noted advice from the scientific member that there is likely to be sectoral CPUE differences in the 2015/16 fishing season based on the spatial distribution of lobsters observed in the pre-season survey.

## Other Business

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The TRLRAG and TRLWG noted other business listed for discussion would be considered at future meetings. Items include:

- preliminary costs for TRLRAG identified stock assessment options;
- preliminary procedures and costs for the proposed transition to industry survey; and
- proposed 12 month open season for free-dive and lamp fishing (time permitting).

Members thanked CSIRO for preparing advice for the meeting within a very short timeframe following the completion of the pre-season survey.