

# PZJA Torres Strait Finfish Resource Assessment Group

Meeting Number 2

21-22 March 2018  
Thursday Island

Final Meeting Record

Note all meeting papers and records are available on  
the PZJA webpage:

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



Australian Government

Australian Fisheries Management Authority

**Contents**

- Meeting Participants .....3
- Agenda Item 1 - Preliminaries .....4
  - 1.1. Welcome and meeting preliminaries .....5
  - 1.3 Declarations of interests .....5
- Agenda Item 2 – RAG Business.....6
- Agenda Item 3 – Harvest Strategy Project.....7
- Agenda Item 5 – Other business ..... 13
- Agenda Item 6 – Date and venue for the next meeting..... 13

## Meeting Participants

**Table 1. Attendance and declarations of interest – Finfish RAG Members.**

Name	Organisation	Declaration of interest
David Brewer	Independent RAG chair	Runs a fisheries consultancy which has no current Torres Strait projects.
Selina Stoute	AFMA	Nil.
Tom Roberts	QDAF	No pecuniary interests.
Andrew Trappett	AFMA, RAG EO	Nil
Rocky Stephen – industry member	Kos and Abob Fisheries, Ugar	Councillor for Ugar, President of Kos and Abob Fishers Association. Eastern cluster representative on the PZJA Finfish Working Group. Sit on Prawn MAC and TS SAC. Does not hold a TIB licence.
Kenny Bedford – industry member	Erub Fisheries Management Association	TIB licence holder with SM and RL endorsement. Runs a consultancy business which has recently delivered the infrastructure audit project to TSRA.
Tony Vass	Industry member	No financial interests in the Torres Strait. Does not own or operate a licence in Torres Strait.
Michael O'Neill	QDAF, Science member	Principal scientist for TSSAC recommended project to develop a harvest strategy for the Torres Strait Finfish Fishery. Member of PZJA Finfish Working Group.
Ashley Williams – scientific member	ABARES, JCU	Involved in previous TS research, is an author on the ABARES Fishery Status Reports.
Rik Buckworth	Consultant,	Independant. Fisheries Scientist with Sea Sense Consultancy, adjunct at Charles Darwin University. No pecuniary interest declared. Hoping to secure future research projects.

## Meeting observers and declarations of interests volunteered

Name	Organisation	Declaration of interest
Allison Runck	TSRA	No pecuniary interests.
Andy Bodsworth	Consultant	Consultant. On Fishing Feasibility Study Barra Crab study w Andrew Tobin, Snr Manager Northern Fisheries

Yen Loban	TSRA	Chairperson of the Finfish Quota Management Committee. TIB licence holder. TSRA Member.
Charlie Caddie	TSRA	No direct COI, formerly held TIB licence not currently.
Trevor Hutton	CSIRO	CSIRO receives research funding. Principal investigator for TSSAC recommended project to develop a harvest strategy for the Torres Strait Finfish Fishery.
George Leigh	QDAF	No interests. QDAF gets external funding and bids for research contracts.
Jerry Stephens	UQ CARM	TIB Licence holder, Fisheries portfolio member for TSRA
Frank Faud	TSIRC/ TSRA	FWG central island. PBC Chair. TSRA Member
Andrew Tobin	Consultant	TSRA/FRDC Feasibility Study, HS project team, recently completed AFMA funded SM project with M. O'Neill, no interest in Torres Strait (no quota), retail seafood, no product from Torres Strait.

## Actions tabled

**Table 1.** Action items tabled at the present Finfish RAG meeting (FRAG 2)

<b>FRAG 2, Action 1</b>	AFMA to facilitate a discussion via teleconference between interested RAG members and the QDAF Long Term Monitoring Program to get advice on their methodology for biological data collection and what data may be required. AFMA to report back to the RAG on the outcomes of this discussion.
<b>FRAG 2, Action 2</b>	AFMA to circulate the Keith Sainsbury paper "Best Practice Reference Points for Australian Fisheries" for RAG reference. <a href="http://www.afma.gov.au/wp-content/uploads/2010/06/rep_sainsbury_best-practice_jan08_20080228.pdf">http://www.afma.gov.au/wp-content/uploads/2010/06/rep_sainsbury_best-practice_jan08_20080228.pdf</a>
<b>FRAG 2, Action 3</b>	AFMA, Industry member (Tony Vass) to aid the Harvest Strategy Project Team in investigating whether PNG droughts have impacted mackerel Catch Per Unit Effort levels.
<b>FRAG 2, Action 4</b>	AFMA and the Harvest Strategy Project Team are to liaise to investigate options for getting extra input from stakeholders on interim performance indicators to aide development of harvest strategy components.
<b>FRAG 2, Action 5</b>	Science member Rik Buckworth to supply the RAG with a short summary of how F-based assessments of biomass are performed.

## Agenda Item 1 - Preliminaries

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### 1.1. Welcome and meeting preliminaries

The meeting of the PZJA Torres Strait Finfish Fishery Resource Assessment Group (FRAG) was opened in prayer by Frank Faud at 8:45 am. FRAG Chairperson, David Brewer, acknowledged the traditional owners of the land on which the meeting was held. It was noted that all FRAG members were in attendance. Mr Maluwap Nona, (Malu Lamar, RNTBC) was an invited participant, but noted as an apology.

### 1.2 Adoption of agenda

The agenda was adopted as circulated and it was agreed that a discussion on the impacts of Papuan New Guinean droughts on the fishery, would occur under other business.

### 1.3 Declarations of interests

The RAG noted the requirement to declare all interests, perceived or real. Each member declared their interest in the fishery as documented in Table 1. In line with the AFMA standard for declaring conflicts of interest in Commonwealth MACs and RAGs to best protect the integrity of advice, members with grouped interests (science, industry etc.) were sequentially asked to leave the room to allow the remaining RAG members to:

- freely comment on the declared interests;
- agree if the interests precluded the members from participating in any discussions; and
- agree to any methods to treat the declared interest (e.g. the member provides preliminary input but leaves the room when any advice is formed).

#### ***Industry members***

Industry members and observers left the room (Rocky Stephen, Kenny Bedford, Tony Vass, Yen Loban, Jerry Stephen). The RAG noted that while industry members did have direct interests in the fishery they also had valuable input and their advice was required. It was noted that members could potentially gain for themselves individually or their community and the RAG would need to manage these interests during relevant discussions. Industry members re-joined the RAG meeting.

#### ***Science members***

Science members and invited participants left the room (Dave Brewer, Ash Williams, Rik Buckworth, George Leigh, Trevor Hutton, Andy Bodsworth, Andrew Tobin, and Michael O'Neill). The RAG considered their declared interests, noting these interests and the valuable input the members would provide from their wide experience base. The RAG agreed that science members could freely provide advice at all agenda items. RAG noted that science members needed to be mindful and venture their declared interests at agenda items on bidding or providing advice on research contracts.

RAG members queried why certain research institutions such as CSIRO and QDAF received Torres Strait research contracts rather than NSW, Victoria and other Australian science providers. It was noted that anyone can bid for research contracts. The RAG discussed and agreed that generally the successful tenders had highly relevant Torres Strait expertise within their institutions and their personal background in researching. Science members re-joined the RAG meeting.

#### ***TSRA members***

TSRA members (Charlie Caddy, Allison Runck, Frank Faud, Jerry Stephen) left the room. The RAG noted that TSRA had an interest in revenue from leasing access to the fishery to the sunset sector on behalf of traditional inhabitants and that this revenue was held in trust. TSRA were noted as being a critical member of the PZJA and also administer funding for valuable research projects in communities such as infrastructure development. The RAG agreed to be mindful of managing how advice on TACs and funding applications from TSRA were handled by the RAG. RAG noted

the need to acknowledge the commercial nature of negotiating lease prices which occurred between TSRA and sunset licence holders noting both parties could be present in RAG or Working Group meetings. The RAG noted the TSRA Finfish Quota Management Committee has its own process and conflict of interest procedures to ensure the integrity of the advice. TSRA staff re-joined the RAG.

#### 1.4 Actions arising

The RAG noted progress against actions arising from the November 2017 RAG Meeting 1 (**Appendix A**).

The RAG noted an update from Ashley Williams on how ABARES calculates and reports on beach prices. It was advised that in the past ABARES had used direct fisher data obtained from phone surveys. In the last ABARES Fishery Status Reports (reporting on Financial Year 2016/17) no phone interviews were conducted with fishers. Instead during the last reporting cycle Sydney Fish Markets price data were used and beach prices were back calculated using assumptions such as freight cost. RAG noted there is a need to compare Torres Strait beach prices with Queensland East Coast fisheries for target species and other species such as Barramundi Cod. RAG noted that beach prices for Coral Trout on the east coast were very dynamic with prices driven by availability of species with red colouration. It was noted that price does vary throughout the coastal area of Queensland with the more northern ports generally getting lower prices for finfish species.

The RAG noted that, regarding Action Item 5, the 2007 Management Strategy Evaluation report data set has been located as being held by CSIRO. A data request has been submitted to acquire access to these data.

## Agenda Item 2 – RAG Business

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### 2.1 Biological data collection to support stock assessment updates

The RAG noted the agenda paper seeking RAG input on a plan of action to address a key data shortfall identified at the November 2017 RAG meeting, the collection of biological data to support stock assessments.

Points discussed on biological data collection:

- RAG noted the previous data collection had occurred from 2000 to 2005 and was detailed in the agenda paper.
- RAG advised that there was a need for the collection of fish frames for the collection of ageing data from both TIB and sunset fishers. These data would aid our understanding of age structure, particularly the ongoing issue for investigation on domed vs. non-domed selectivity of Spanish mackerel.
- To examine the usefulness of these data, sensitivity analyses could be performed on stock assessment runs this year to examine the impacts of including biological data versus running the model without these data.
- It was suggested that the QDAF Long Term Monitoring Program could provide advice on sampling methodology and it was suggested that RAG members could begin discussion though out-of-session teleconferences to better inform what data would likely be required and advice obtained on collection. RAG members advised that any out-of-session fact finding needs to be reported back to the RAG and that a clear process should be mapped out and agreed by the RAG on deciding what data is to be collected and the associated methodology.

**RAG 2, Action 1:** AFMA to facilitate a discussion via teleconference between interested RAG members and the QDAF Long Term Monitoring Program to get advice on their methodology for biological data collection and what data may be required. AFMA to report back to the RAG on the outcomes of this discussion.

In addition to advice on biological data collection, the RAG provided some additional commentary on other data-needs in the Finfish Fishery as noted below.

Noting the focus for the present meeting was on progressing the harvest strategy, the RAG flagged that future meetings of the group could provide more commentary on shaping the data needs, assessment issues and advice on meeting both short term data gaps and longer term priorities.

The following points on data needs were discussed:

- QDAF will be actioning sensitivity analyses in the updated 2018 Spanish mackerel assessment to examine:
  - whether dome-shaped selectivity is important to the model - if this has an important influence on the model this might highlight the need to acquire biological data to further assess;
  - how unreported catches affect the model (noting an inflated estimate model x1.75 was presented but not accepted in the last assessment update); and
  - unexpected declines in Catch Per Unit Effort for Spanish mackerel.
- Visual dive surveys to assess virgin biomass for coral trout in Torres Strait may not be possible given poor visibility in the Torres Strait compared to Queensland east coast.
- Examining available habitat mapping data for the Torres Strait, and its utility, should be addressed in the short term (e.g. examining the amount of wet reef versus dry reef). At the moment the perimeter of reefs from visual mapping data is used as the proxy.
- Species specific data for coral trout was identified as a key item for investigation (reporting on all four species versus assuming all management applies to the basket of four species). RAG considered that there was likely little or no cost associated with getting individual species catch data from fishers, but this relies on accurate identification of species. A review of the logbook was flagged as a method to improve species ID and reporting accuracy. It was suggested that a program could be run to validate fisher logbooks against species identifications and that this could be run in Cairns during unloads. It was noted this program would likely have associated costs.
- Harvest strategy project team members presentation advised that industry and PZJA forums should be involved in any work on validating available and future fishing data collection. The RAG noted that it could support the Harvest Strategy project team.
- RAG advised that industry member Mr Tony Vass would be well placed to assist with logbook validation based on older logbook data and that he could aid investigation and validation of data ahead of the industry workshop.
- RAG noted previous work had been carried out on researching the connectivity between Bramble Cay and the remainder of the fishery. RAG advised that this was no longer a research priority due to the expense associated with these forms of research. It was advised that a full feedback Management Strategy Evaluation can examine the impacts of various stock structure scenarios e.g. most catches coming from Bramble Cay versus the rest of fishery.
- Members noted that traditional inhabitants have a strong interest in supporting fisheries management and have expressed interest in data collection and were able to assist.

## 2.2 RAG work plan for 2018 and 2019

The Finfish RAG noted the tabled schedule of upcoming meetings and the main business planned for each meeting. It was noted that the industry workshop was an outcome of previous RAG and Working Group meetings and that the workshop will have a heavy data focus, involve industry with science and management in reviewing the effectiveness of the fishery logbook, characterising and interpreting catch and effort data.

## Agenda Item 3 – Harvest Strategy Project

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### 3.1 Harvest Strategy development for Torres Strait Finfish Fisheries

The RAG welcomed the attendance of the Harvest Strategy Project team members (Trevor Hutton, George Leigh, Michael O'Neill and Andrew Tobin) and noted presentations from the team on the

development of a Harvest Strategy for coral trout and Spanish mackerel in the Torres Strait Finfish Fishery.

List of presentations:

- **Attachment A** – Harvest Strategy Development for Torres Strait Finfish Fisheries, presented by Trevor Hutton (CSIRO) and team.
- **Attachment B** – Harvest strategies for Torres Strait finfish: Focus on coral trout, presented by George Leigh, QDAF.
- **Attachment C** – A description of the Torres Strait fisheries for Spanish mackerel and coral trout, presented by Andrew Tobin.

The RAG noted these presentations and provided input to the harvest strategy project team on a number of actions tabled for their input as detailed in the presentations and summarised in **Table 1** below.

RAG noted that the current meeting would have a focus on Spanish mackerel noting that analysis of this stock has been progressed further than coral trout with an agreed assessment in place.

It was noted that the project team were developing the components of the harvest strategy framework and that the adoption of a final harvest strategy will be the responsibility of the PZJA, RAG and Working Group following broader consultation with communities.

The RAG noted upcoming work scheduled on the process of developing the Harvest Strategy. It was noted that the RAG would meet again in the third quarter of 2018 to progress the development of the Strategy framework. Key priorities for the RAG at the present meeting and the next meeting would be providing advice on the adoption of interim reference points which were required to aid the project team in coming up with options for the framework noting that these were only interim and subject to review and testing prior to adoption.

It was noted that the project team would be attending any industry data workshop to be able to get advice from industry on data issues and aid characterisation.

RAG members noted that the project had entered into technically focussed advice at the present stage on components (such as reference points) to meet the objectives with reference being made to the *Commonwealth Harvest Strategy Policy and Guidelines (2007)*<sup>1</sup> and best practice from other fisheries such as Queensland East Coast finfish fisheries and other Torres Strait Harvest Strategies under development (Tropical Rock Lobster and Beche-de-mer). The RAG noted that it is important to consider what the key objectives for the fishery might be for traditional inhabitants in addition to those of the *Finfish Fishery Management Plan 2013*. It was considered that, in parallel to further development of the Strategy, there was merit in conducting a survey or convening an additional workshop to further engage TIB sector fishers and community members in providing input into what the fishery might look like in future, what the aspirations of TIB fishers/communities may be and get input on performance measures that could be considered to meet the objectives.

AFMA advised that they would consider resourcing and meet with the project team following this RAG meeting to assess progress to date and consider additional channels for acquiring stakeholder input.

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<sup>1</sup> <http://www.agriculture.gov.au/SiteCollectionDocuments/fisheries/domestic/hsp.pdf>



**Table 1. Action items for the Harvest Strategy Project team to acquire advice from the PZJA Finfish RAG Meeting #2.**

Action Item	Feedback from RAG
<b>Coral trout actions</b>	
<p><b>Action 1.</b> Review uncertainties and practical management issues of assessing Coral Trout on the basis of the main target species (<i>Plectropomus leopardus</i>) or by splitting into the four species found and fished commercially in the Torres Strait.</p>	<p>RAG considered the two options for management and assessment:</p> <ul style="list-style-type: none"> <li>a) Species combined into a basket and assessed only on the basis of the primary target species <i>P. leopardus</i> (common coral trout)</li> <li>b) Assessed on split species (common, bar-cheeked, blue-spot, passionfruit)</li> </ul>
<p><b>Action 2.</b> As part of (A.1) review the implications for setting aggregated catch limits (for group of species) if Coral Trout is assessed on the basis of single species. Conversely, document potential increased uncertainties (and risks) with non-species specific assessments.</p>	<p>RAG advised that a multi-species approach for assessment and management could be adopted with a strong focus on data collection and the percentage break down of species captured. It was suggested that a trigger could be developed for consideration that if more than 'X' per cent of a one species is caught management could then revert to single species approach focusing on that key species. Further discussions are noted below.</p>
<p><b>Action 3.</b> Ascertain what was the rationale for setting the current interim magnitude of Coral Trout catch levels (information is required from WG, RAG and industry).</p>	<p>RAG noted the current TAC is based on average catches from 2001 to 2005 (113.2 t average for TVH and 21.7 t for TIB sector). RAG noted the need for detailed data validation on coral trout (and also Spanish mackerel) and supported an industry meeting being held that could help AFMA and the project team characterise data and fisher behaviour.</p>
<b>Spanish mackerel actions</b>	
<p><b>Action 4.</b> Adopt a Limit Reference Point for Spanish mackerel.</p>	<p>RAG recommended B20 (20 per cent of virgin biomass) as an interim limit reference point in line with the <i>Commonwealth Harvest Strategy Policy and Guidelines 2007</i>. RAG suggested a higher level of associated P (e.g. P 0.95) could be adopted to add increased certainty the stock would not breach this point.</p>
<p><b>Action 5.</b> Adopt performance metrics for Spanish mackerel based on current standard performance measures/metrics used in fisheries.</p>	<p>RAG discussed the use of CPUE as an indicator in detail and provided input to the HS Project Team on a range of likely factors affecting CPUE standardisation as detailed below.</p>
<p><b>Action 6.</b> Discuss options for adopting a harvest control rule that takes into account the current stock assessment of Spanish mackerel, and responds to all the reference points. Explore 'response' rules to each reference point.</p>	<p>RAG noted that a range of harvest control rules would be developed and provided for analysis and discussion as the project progresses.</p>
<p><b>Action 7.</b> Finalise agreement on different monitoring information that will be collected such as catch-at-age data (with consensus on who, when and by when?).</p>	<p>RAG tabled a range of data needs and perceived value-for-money analyses (for coral trout and Spanish mackerel) (<b>APPENDIX B</b>) which would inform development of a sampling program. RAG noted that these could be condensed with the live document tabling research and data needs developed at the Nov 2017 meeting. RAG science members can table business cases for sampling designs (age, length data) to meet data needs as they are analysed and agreed as the project progresses.</p>

## **Points discussed against tabled items for action (Table 1)**

### **Actions 1 and 2. Strategy to cover assessing either a basket of coral trout species or assess individually split species.**

The RAG provided advice on the options of either assessing the stock on the basis of the main coral trout species targeted (common coral trout *Plectropomus leopardus*) or alternatively splitting the assessment of the stock into the four species found and fished commercially in the Torres Strait. The RAG also provided advice to the project team on the implications for setting aggregated catch limits (for a basket of four coral trout species) versus non-species specific assessments.

The following points were noted:

- RAG noted that for a period of five years since leasing began in June 2008 only one sunset sector boat has consistently been fishing for trout fillets rather than fishing for live trout, which had only really begun in the 2017/18 season. Individual species did not matter too much to this boat targeting trouts for fillets as colouration was not an important factor for market for fillets.
- It was advised that live boats will mainly preferentially target *P. leopardus* (common coral trout) due to strong red colouration and will actively avoid portions of the Torres Strait which have higher proportions of the other lower value species (bar-cheeked, blue-spot, passionfruit) for the live trout trade.
- RAG advised that a multi-species approach could be adopted with a strong focus on data collection and the percentage break down of species captured. It was suggested that a trigger could be developed for consideration that if more than 'X' per cent of a one species is caught management could then revert to single species approach focusing on that key species.
- RAG advised that the east coast coral trout stock is assessed as a basket but is less of an issue as common coral trout are mainly caught with fewer of the other species compared to Torres Strait.
- Both the Catch Disposal Record and Daily Fishing Logbook have the capacity to record multiple trout species (percentage splits for the four Torres Strait species) but this relies on the ability of fishers to identify species. This will require support from management in encouraging fishers with identification material and encouraging accurate reporting.
- It was noted that the analysis of historic coral trout catch data is challenging (fillets versus live boat) and the project team will examine how these data can best be used in the assessment.
- The RAG noted a strong need for:
  - a. increased reporting on coral trout catches from the TIB sector;
  - b. AFMA to encourage new fishers entering the fishery to complete daily fishing logbooks; and
  - c. all fishers are to provide species-split data for coral trout.

### **Action 3. Coral trout catch data underlying the level of the nominal TAC**

RAG noted the current 134.9 t TAC is based on average catches from 2001 to 2005 (113.2 t average for TVH and 21.7 t for TIB sector). RAG noted the need for detailed data validation on coral trout (and also Spanish mackerel) and supported an industry meeting being held that could help to characterise these older data and fisher/fleet behavioural changes over time.

The project team advised that the original data set used for analysis for the 2008 Management Strategy Evaluation work (Evaluation of the eastern Torres Strait reef line fishery, Williams et al. 2007) would be very useful for this purpose. It was advised that the data set had been located (held by CSIRO) and the project team would put in a data request to acquire access. RAG advised that the older island freezer data (part of this data set collected by JCU) would need scrutiny to

check its completeness and usefulness for CPUE analysis given that it may not have associated effort data.

#### **Action 4. Limit reference point for Spanish mackerel**

The RAG noted the default *Commonwealth Harvest Strategy Policy* proxy for a limit reference point (BLIM defined as the points below which targeted fishing ceases) is B20 - 20 per cent of virgin biomass - with an associated probability of 90 per cent, meaning that the stock would not drop below B LIM nine times of out ten.

While B20 was noted as the default limit reference point, industry members suggested a higher B LIM such as B25 could have advantages and could be tested as an interim limit reference point. The RAG considered this suggestion but could not support adopting this without a firm justification as to why. RAG considered that instead of moving BLIM to a higher point, it could be kept at B20 but with an added higher level of precaution which would decrease the probability of the stock dipping below the limit.

**RAG 2, Action Item 2:** AFMA to circulate the Keith Sainsbury paper “Best Practice Reference Points for Australian Fisheries” for RAG reference. [http://www.afma.gov.au/wp-content/uploads/2010/06/rep\\_sainsbury\\_best-practice\\_jan08\\_20080228.pdf](http://www.afma.gov.au/wp-content/uploads/2010/06/rep_sainsbury_best-practice_jan08_20080228.pdf)

The RAG agreed to an interim BLIM of B20 noting that this would be reviewed and investigation could be carried out on an associated higher level of probability.

#### **Action 5. Spanish mackerel CPUE as an indicator**

The RAG noted that catch per unit effort is traditionally used in assessments and harvest strategies as a powerful indicator (a signal) for how the fishery is performing and also for informing management responses under a harvest strategy. The RAG proposed that CPUE could be used as an indicator during the development of the harvest strategy framework and advised that a number of examinations would need to be performed to increase our understanding.

The RAG noted the apparent downwards trend in standardised catch per unit effort (Nov. 2017 examination of catch data up to 2016) from the last Spanish mackerel stock assessment (Figure 1. below).

It was noted that a number of assumptions underlie such analyses including:

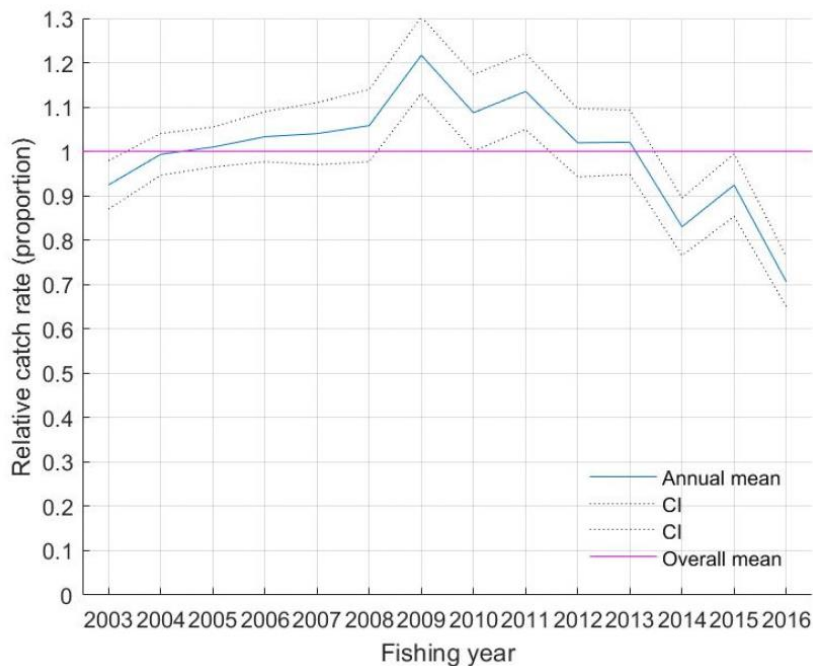
- No fishing power change through time.
- No spatial information.
- No zero catches.
- No “hours fished” before 2003.

The RAG advised that examination of these assumptions is required and that consideration of large changes in the fishery might also need to be taken account of. RAG advised that in recent history (post 2003) the fishery has gone through a period of significant change including the buyout of the TVH sector in 2007 and transition to Sunset sector leasing arrangements since 2008/09, changes to daily fishing logbooks (new logbook in 2003), fluctuations in docket book reporting levels (TIB sector), experienced TIB fishers leaving the fishery and island freezers ceasing operation.

RAG identified that there is a need for consistent daily fishing logbook reporting of the following information to ensure the most accurate data is available to support assessments:

- Identify fishing trips over multiple days
- Target species and gear
- Vessels and skippers
- Locations fished (noting that coral trout data has location of the primary only, no tender fishing location is recorded).

- Time spent searching for fish and time spent fishing.



**Figure 1. CPUE time series from most recent Spanish mackerel stock assessment.**

Other factors were considered to be influencing the utility of CPUE as an indicator for Spanish mackerel including environmental factors, such as droughts in PNG (e.g. 2015/16). An industry member advised that such droughts could be a factor influencing catch rates in the Mackerel sector of the fishery, particularly at Bramble Cay where outflow from the Fly River was known to influence both water turbidity and salinity. AFMA advised that analysis of the historic data set could show which years had poor CPUE and this could be matched against known data from PNG droughts.

**RAG 2, Action 3:** AFMA, Industry member and Harvest Strategy project team to investigate whether PNG droughts have impacted mackerel CPUE.

RAG encouraged AFMA and the project team to further investigate getting extra input from stakeholders about performance indicators, for example, what is a good number of mackerel per dingy per day for the TIB sector? These data would help inform development of indicators for Spanish mackerel.

**RAG 2, Action 4:** AFMA and the project team to liaise and investigate options for getting extra input from stakeholders on interim performance indicators to aide development of harvest strategy components.

### **Action 6. Harvest Control Rules**

RAG noted that they were scheduled to discuss options for adopting a harvest control rule that takes into account the current stock assessment of Spanish mackerel, and responds to all the reference points.

Noting that work was still ongoing on reference points, the RAG noted that draft harvest control rules and example graphs of stock responses could be presented alongside assessments for consideration at the next harvest strategy meeting.

## **Action 7. Monitoring data**

RAG were asked to provide advice on different monitoring information that will be collected under a harvest strategy such as catch-at-age data. The following points were advised:

- RAG provided some advice on this action item at agenda item 2.1 including identifying that the Queensland Long Term Monitoring Program could be consulted for advice.
- Ideally the fishery would have a consistent monitoring method over time, at scheduled intervals with representative spatial coverage (noting previous ageing data was from Bramble Cay).
- RAG provided a table of data needs (**Appendix B**) for the short term while the strategy was under development together with listed priorities and indicative costing (noting that some of these needs are being addressed through the budgeted Harvest Strategy Project). RAG noted that Table 2 of the prepared agenda paper 2.2 provided some good supporting information for each of the table items in the appendix.
- Priority items for Spanish mackerel were:
  - unexplained CPUE declines and sensitivity analyses to investigate impacts on the assessment model; and
  - data validation (via existing workshops) after logbook validation and analyses.
- Priority items for coral trout were:
  - species specific data (via fishery data)
  - virgin biomass estimate,
  - unexplained CPUE declines, sensitivity analyses
  - data validation (via scheduled workshops).

### **Other points discussed**

- Harvest strategy project team were requested to provide a glossary of terms in their summary updates and final reports.
- The RAG noted that consideration can be given to alternative methods of assessing the biomass of the stock such as F-based approaches. It was noted that scientific member Rik Buckworth could supply the RAG with further information about such approaches.

<p><b>RAG 2, Action 5:</b> Rik Buckworth to supply the RAG with a short summary of how F-based assessments of biomass are performed.</p>
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## **Agenda Item 5 – Other business**

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None tabled. It was noted that the PNG droughts issue had been addressed under Spanish mackerel CPUE discussions.

## **Agenda Item 6 – Date and venue for the next meeting**

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The RAG noted the schedule of meetings for RAG and Working Group from Agenda Item 2.2 Table 1. It was noted that AFMA would liaise with the project team after the meeting to review progress to date and canvas member availability for the next meeting scheduled to be held in the third quarter of 2018.

## **List of Attachments**

**Attachment A** – Harvest Strategy Development for Torres Strait Finfish Fisheries, presented by Trevor Hutton (CSIRO) and team.

**Attachment B** – Harvest strategies for Torres Strait finfish: Focus on coral trout, presented by George Leigh, QDAF.

**Attachment C** – A description of the Torres Strait fisheries for Spanish mackerel and coral trout, presented by Andrew Tobin.

## **List of Appendices**

**Appendix A** – Table of action items from RAG Meeting 1 (Agenda Item 1.4)

**Appendix B** - Table of identified data needs with prioritisation and indicative costings.

## **List of papers tabled with the RAG at the current meeting :**

Fairclough, D.V., Molony, B.W., Crisafulli, B.M., Keay, I.S., Hesp, S.A. and Marriott, R.J. 2014. *Status of demersal finfish stocks on the west coast of Australia*. Fisheries Research Report No. 253. Department of Fisheries, Western Australia. 96pp.

Sainsbury, K. (2008) *Best practice Reference Points for Australian Fisheries (AFMA Report)*. [http://www.afma.gov.au/wp-content/uploads/2010/06/rep\\_sainsbury\\_best-practice\\_jan08\\_20080228.pdf](http://www.afma.gov.au/wp-content/uploads/2010/06/rep_sainsbury_best-practice_jan08_20080228.pdf)

Stephen J. Newman, Joshua I. Brown, David V. Fairclough, Brent S. Wise, Lynda M. Bellchambers, Brett W. Molony, Rodney C.J. Lenanton, Gary Jackson, Kim A. Smith, Daniel J. Gaughan, Warrick (Rick) J. Fletcher, Rory B. McAuley, Corey B. Wakefield (2018) *A risk assessment and prioritisation approach to the selection of indicator species for the assessment of multi-species, multi-gear, multi-sector fishery resources* – Marine Policy 88, 11-22.

Williams AJ, Begg GA, Little LR, Currey LM, Ballagh AC, Murchie CD (2007). *Evaluation of the eastern Torres Strait reef line fishery*. Fishing and Fisheries Research Centre Technical Report No. 1

Williams, A. J., Little, L. R., and Begg, G. A. (2011) *Balancing indigenous and non-indigenous commercial objectives in a coral reef finfish fishery*. – ICES Journal of Marine Science, 68: 834–847.

Williams, A. J., Newman, S. J., Wakefield, C. B., Bunel, M., Halafihi, T., Kaltavara, J., and Nicol, S. J. (2015) *Evaluating the performance of otolith morphometrics in deriving age compositions and mortality rates for assessment of data-poor tropical fisheries*. – ICES Journal of Marine Science, 72: 2098–2109.

## Report on action items from Finfish RAG Meeting 1, November 2017

Number	Action	Status
1.	<b>RAG 1, Action 1, Agenda item 2.2:</b> Ashley Williams to advise the RAG on how beach price is determined in ABARES Fishery Status Reports. Whether by phone survey direct with Torres Strait buyers or fishers or whether this information is inferred from other sources.	<b>Complete</b> – Advice provided and tabled at Agenda item 1.4 (pp. 5 of this meeting record).
2.	<b>RAG 1, Action 2, Agenda item 3.2:</b> Harvest strategy project team to provide a short paper advising the RAG on work that would be required to support Management Strategy Evaluation following the Harvest Strategy development.	<b>Incomplete</b> – to be prepared for RAG Meeting 3.
3.	<b>RAG 1, Action 3, Agenda item 5.1:</b> AFMA to liaise with the harvest strategy project team to investigate the coral trout catch data that underlies a) the apparent decline in biomass from 1980 to 2003 and b) the catch series that underlies the reference period 2001-2005, noting some of these data may be housed by QDAF.	<b>In progress</b> – Liaison complete. Coral trout data from AFMA supplied under deed of confidentiality to harvest strategy project team. Data is undergoing characterisation under harvest strategy project and will be reported to RAG.
4.	<b>RAG 1, Action 4, Agenda item 6:</b> Harvest Strategy project team to contact Roland Pitcher to enquire as to what Torres Strait habitat mapping data is available.	<b>In progress</b> – under harvest strategy project.
5.	<b>RAG 1, Action 5, Agenda item 6:</b> AFMA to liaise with the 2007 reef-line sector MSE project team to determine what coral trout catch data series were used in the MSE.	<b>In progress</b> – liaison complete. Catch data was located, held by CSIRO, Harvest Strategy Project team has submitted a data request to acquire these data.
6.	<b>RAG 1, Action 6, Agenda item 6:</b> Harvest Strategy project team to advise the RAG and Finfish Working Group on the outcomes of the east coast coral trout assessment in 2018.	<b>In progress</b> – QLD east coast Coral Trout assessment due April 2018. To be reported to the RAG at RAG Meeting 3 in August 2018.
7.	<b>RAG 1, Action 7, Agenda item 6:</b> Michael O'Neill to provide the Finfish RAG with revised figures e) and f) from Figure 20 of the stock assessment report with the same scale to illustrate how a B60 long term average equilibrium point provides greater catch rates.	<b>In progress.</b>

### RAG input on monitoring data to support management and harvest strategy development including prioritisation and potential costs

(Areas considered higher priority by the RAG are highlighted in yellow).

Priority (P)	Potential Cost (C)						
High priority = 3	<\$50 k = 3						
Medium priority = 2	\$50 - \$150 k = 2						
Low priority = 1	\$>\$150 k = 1						
Spanish Mackerel				Coral Trout			
	P	C			P	C	
1. Age structure (domed – non-domed selectivity - sunset)	2			1. Species specific data (via fishery data)	3	3	
2. Unexplained CPUE declines, sensitivity analyses (covered?)	3	3		2. Habitat mapping	2	3	
3. Data validation (via existing workshops) after logbook validation and analyses	3	3		3. Virgin biomass estimate	3	1	
4. Ageing data TIB (student)	2	3		4. Ageing (student)			
5. Ageing data TIB (researcher)	2	2		5. Ageing (researcher)			
6. Connectedness between stocks	1	1		6. UVC (Dive survey)		1	
7. Investigation of tagging for fishing mortality data and confirming stock structure.	2	1		7. Unexplained CPUE declines, sensitivity analyses	3		
8. Estimating F (Fishing mortality)	2	2		8. Data validation (via scheduled workshops)	3	3	