



Australian Government

Australian Fisheries Management Authority



**Northern Prawn Fishery
Resource Assessment Group
(NPRAG) Meeting**

Teleconference Minutes

Date: 20 March 2015

Attendance

Name	Membership (type i.e. chair etc.)
Ian Knuckey	Chair
Rik Buckworth	Scientific Member - CSIRO
David Brewer	Scientific Member - CSIRO
Michael O'Brien	Industry Member
Phil Robson	Industry Member
Don Bromhead	Executive Officer (a/g AFMA Member)
Steve Bolton	Observer - AFMA
Shane Fava	Observer - AFMA
Renee Bowling	Observer - AFMA
Adrienne Laird	Observer - NPFI
Trevor Hutton	Observer - CSIRO
Roy Deng	Observer - CSIRO
Robert Curtotti	Observer - ABARES

Minutes

Agenda Item 1 - Preliminaries

1.1 Welcome and apologies

The Northern Prawn Fishery Resource Assessment Group (NPRAG) Chair, Ian Knuckey, opened the meeting noting that the two key items were the preliminary results of the Red-legged Banana Prawn assessment and its implication for the Harvest Strategy and a summary of information from the Tiger Prawn fishery and recruitment survey.

Apologies were received from Ian Boot, Malcolm Haddon and Tom Kompas. It was noted that Don Bromhead was acting in the role of the AFMA member for the teleconference.

1.2 Adoption of Agenda

The NPRAG adopted the draft agenda for the meeting (**Attachment 1**).

1.3 Declaration of interests

The Chair asked that any members or observers present notify the RAG of any changes in declared interests to those noted at the previous meeting on 3-4 March and as identified in **Attachment 2**. Noting that there were no changes for attendees of the previous meeting, the Chair then asked any additional observers (not present at the previous meeting) to declare any interests. The observers were Steve Bolton, Renee Bowling and Robert Curtotti. Their declarations are noted in **Attachment 2**. The NPRAG agreed that all participants should be allowed to participate in the meeting discussions due to their relevant expertise and capacity to contribute.



Agenda Item 2 – Application of the Harvest Strategy for the 2015 Joseph Bonaparte Gulf (JBG) Red-legged Banana Prawn Fishery

The results of the recent Red-legged Banana Prawn assessment were provided to the RAG for review and comment. Dr Buckworth noted that the fishing power analyses determined that there had only been a 1% increase in fishing power in the JBG fishery in 2014 (in contrast to 12% increase in 2013 due to the switch from double to quad gear in the fleet). He described a sensitivity analysis which ran the model assuming another 12% increase in 2014 and noted that the harvest strategy conditions for opening the fishery were still met even under this conservative scenario.

Dr Buckworth noted that the fishery is in a healthy state, with good recruitment the previous year supporting good catches (second highest on record), high CPUEs and increased fishing effort in the fishery. Quarterly average fishing mortality rate was 0.13, close to the target level of 0.15.

NPRAG also noted that the assessment was used to calculate a recommended total allowable effort for 2015 of 350 boat days (with 90% confidence intervals of 248 and 453) with a corresponding catch prediction of 445mt (CI's: 305, 585). These estimates utilised the base case model and a fishing pattern derived from the average of the previous three years. This base case model estimate is substantially less than the corresponding value estimated in 2014. Dr Buckworth noted that the effort and catch estimates are very dependent on the quarterly fishing pattern, which affects how the fishery is predicted to interact with the stock through the quarters. The stock biomass changes through the year due to growth and natural mortality processes as well as fishing. A sensitivity model was run using the 2014 effort pattern and this had a large impact on the estimated allowable effort and catch (563 boat days and 693mt).

Based on the assessment results, the Harvest Strategy provides clear guidelines for the opening of the fishery for Red-legged Banana Prawns in the first and second season. Although this does not explicitly require a recommendation from the RAG, the implications of the assessment to the Harvest Strategy was presented.

Dr Buckworth provided an overview of key outputs from the assessment relevant to the harvest strategy, and explained the series of decision rules that determine if the fishery will be opened, and if so, for both or only one season. He noted that the results of the assessment indicated that all Harvest Strategy requirements for the fishery to open in the first season and fish during 2015 have been met:

1. Catch and effort information for the last two years has been used in an assessment of the fishery;
2. **The Limit Reference Point (LRP) has not been triggered.** The stock size in the last two years of the assessment was estimated to be greater than the LRP, i.e. $B_{2013}, B_{2014} > 0.5 \text{ BMSY}$. The assessment indicates that stock sizes in 2013 and 2014 were each, in fact, greater than at Maximum Sustainable Yield (MSY) (but noting that this is with wide confidence intervals);
3. **The number of fishing days in JBG was more than 100 in 2014.** With 559 boat days of fishing in JBG in 2014, ensuring that catch rate information should be meaningful;



4. **Mean catch rates in the period August to October 2014 were > 390 kg/ boat/ day.** Mean catch rates were 1447 kg/ boat/ day (all banana prawns).

NPFRAG noted the outcomes of the assessment as applied to the harvest strategy decision rules and agreed that all the conditions of the harvest strategy had been met to allow the opening of the JBG fishery for the full fishing year in 2015.

The AFMA a/g member asked if there was a need to review the red leg assessment at some point in the short to medium term, given that there has been no development or improvement work done on the assessment since it was first developed (2010) and used in the fishery (2011). He noted that assumptions have been held static in annual updates, and MSY is also fixed at a value that was based on calculations derived from 1988 – 2006. He asked if it was possible the average spatial and temporal fishing pattern had shifted since then. Dr Buckworth also noted that there is an inconsistency in the model outputs which requires further explanation, specifically that 2014 fishing mortality was close to the target level but the spawning biomass was well above the MSY. He pointed out that the assessment indicates the fishery is very healthy, but the level of uncertainty in the assessment is much greater than for the much more advanced Tiger Prawn assessments.

The Chair indicated that a review of the assessment might be added to the list of potential future assessment work discussed at the previous RAG meeting (3-4 March 2015) but questioned its immediate priority and suggested it was too soon to be looking to review it. An industry member felt that a review was unnecessary when the fishery was in such a healthy state, but it was also noted that there were significant uncertainty in assessment outputs and it might be wise to not wait until there was an urgent need (e.g. successive poor recruitments) to increase the level of certainty.

The Chair suggested that Dr Buckworth write a brief (one page) description of any improvements required to the red leg assessment, for the NPFRAG's consideration at its next meeting. A scientific member suggested the proposed "potential future project" list was too ad-hoc and the RAG agreed there was a need to bed down the research prioritisation process in the NPF.

NPFRAG requested that AFMA and NPFI develop an NPF version of the ARC/FRDC research cycles paper (presented to NPFRAG by AFMA on 3-4 March 2015) which would indicate the timeline and processes of how the assessment of research priorities and development of required research projects would utilise the annual and five year strategic research plans and integrate in a timely manner into the ARC/FRDC funding cycles.

The RAG sought clarification on what the formal process is by which a decision is made to open/close the red leg fishery in the JBG, subsequent to its review of the red leg harvest strategy.

Action item 1 – CSIRO (Dr Buckworth) to develop a brief summary paper of review required for the red leg assessment. CSIRO/NPFI to put the project on the future projects list.

Action item 2 – AFMA/NPFI to develop an NPF version of the ARC/FRDC research cycles paper indicating the timing of processes by which research strategy is used to prioritise and develop required research.

Action item 3 – EO to clarify the formal process by which the decision to open the JBG fishery is made.



Agenda Item 3 – Tiger prawn data summary and recruitment survey results

3.1 Tiger prawn data summary

Dr Buckworth noted that although there is no assessment in 2015, collection and management of the data is still necessary on an annual basis, and he provided a brief overview of some of the key catch trends in the Tiger Prawn fishery. Compared with the data in 2013, the Tiger Prawn species-combined catch decreased (about 23%) while corresponding effort decreased by only 14% in 2014. He attributed the decline to reduced recruitment, leading to reduced effort, and also to a good preceding White Banana Prawn season. Blue Endeavour Prawn catch increased by 9.9%. The nominal effort targeting Grooved Tiger Prawns decreased by about 11% and that targeting Brown Tiger Prawns decreased 22% from 2013 to 2014.

3.2 Recruitment survey results

The monitoring survey data are analysed after each survey to provide indices of recruitment for Tiger Prawns and Blue Endeavour Prawns. Dr Buckworth provided summarised results from the most recent survey (see figure below), noting that both Tiger Prawn indices (but particularly for Grooved Tiger Prawns) and Blue Endeavour Prawn recruits were higher compared to the previous year, suggesting that the fishery might expect a good Tiger Prawn season in 2015.

The harvest strategy for White Banana Prawns states that the NORMAC industry members will meet by the end of four weeks into the first season to discuss and agree on prawn beach price, fuel price and other non-fixed inputs to the MEY trigger calculation, and that this information is then provided to the RAG. The Chair emphasized that it is important that the RAG be provided an opportunity to review data inputs to the trigger calculation prior to its use in that calculation. The Chair noted that lower rainfall leading into the season might lead to reduced recruitment and reduced effort in the first season and that there was a possibility that the 15% buffer might play a role this coming season.

Next meeting

As such, it was agreed that the next meeting would be a teleconference in **mid-late April 2015** to discuss the data inputs for the white banana prawn MEY trigger.

Signed (Chairperson):

Date:

List of Attachments

- 1) NPRAG 20 March 2015 - Annotated Agenda
- 2) NPRAG 20 March 2015 - Declared conflicts of Interest



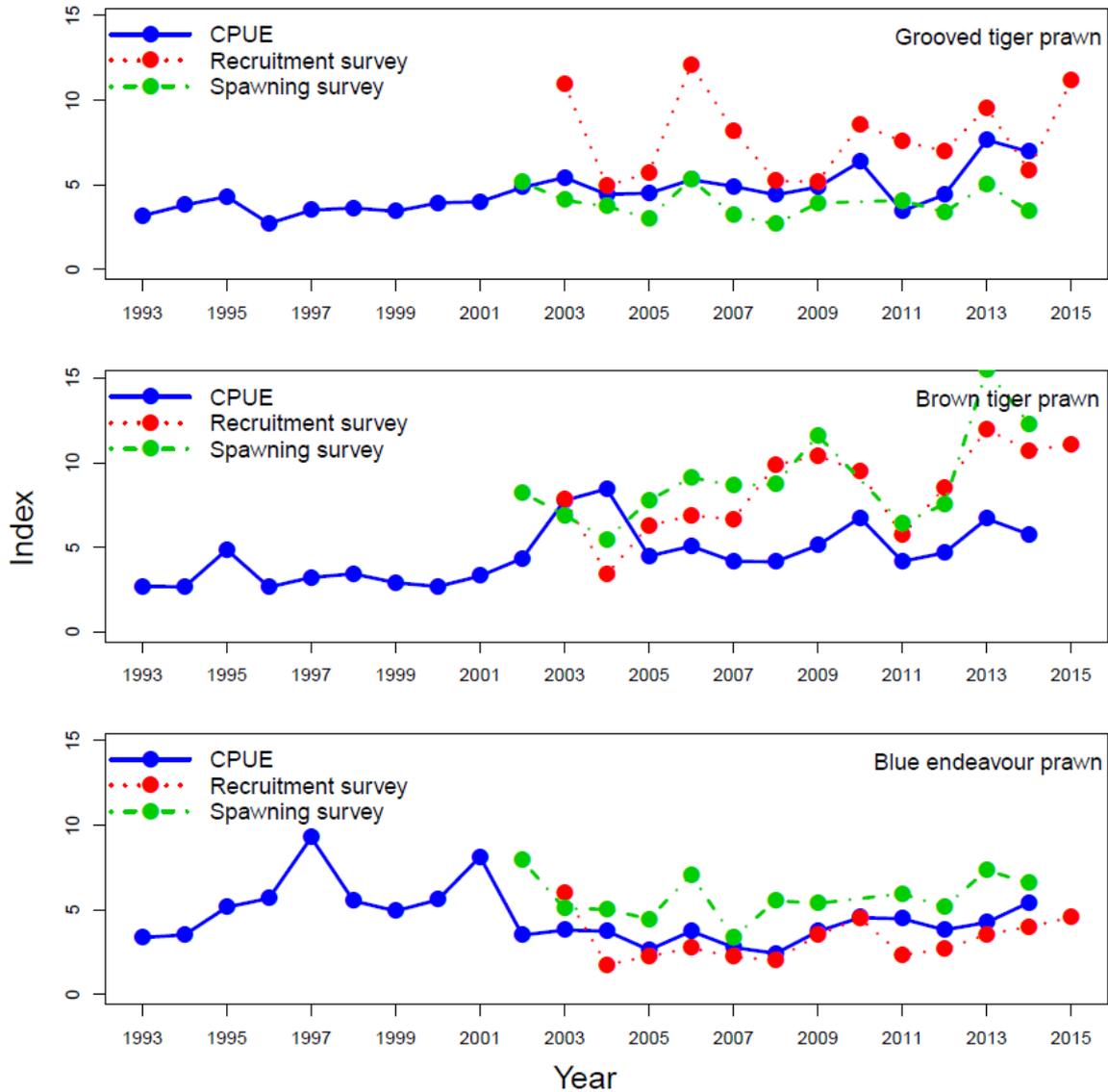


Figure 1. Catch-per-unit effort index from nominal and abundance indices from the surveys. Top-panel: **Grooved Tiger Prawns** middle panel: **Brown Tiger Prawns** and bottom panel: **Blue Endeavour Prawns** from 1993 to 2014, calculated using nominal effort. The mean survey recruitment and spawning indices are also provided for each stock (with an extension to include the 2015 recruitment survey indices).



Attachment 1

NPRAG Teleconference Agenda

20 March 2015

12:00pm – 1:00pm (Canberra time)

Phone in details

Toll Free Number: 1800 153 721

Participant PIN Code: 667768

Item	Responsibility	Paper
1. Introduction/ Meeting Management <ul style="list-style-type: none"> • Welcome • Adoption of agenda • Declaration of interests 	Chair	Yes
2. Red-legged Banana Prawn Assessment and HS <ul style="list-style-type: none"> • Assessment • Harvest strategy conditions and decision 	CSIRO	Yes
3. Tiger prawn <ul style="list-style-type: none"> • 2014 summary • Recruitment survey 	CSIRO	Yes
4. Other business		No

Confirmed attendees: *Ian Knuckey*
David Brewer
Phil Robson

Rik Buckworth
Don Bromhead
Mike O'Brien

Observers : *Shane Fava*
Roy Deng
Steve Bolton
Renee Bowling

Robert Curtotti
Trevor Hutton
Adrienne Laird

Apologies : *Malcolm Haddon*
Ian Boot
Tom Kompas



Attachment 2**NPRAG Declared Conflicts of Interest**

Name	Membership	Interest Declared
Ian Knuckey	Chair	Fishwell Consulting has applied (via EOI) to provide 8-10 observer days monitoring the tiger prawn fishery. Company is associated with electronic logbooks. Will review role as Chair should research applications be successful.
Rik Buckworth	Scientific Member - CSIRO	Research provider involved particularly in stock assessment research in NPF. Has in the past and may in future seek and receive funding for research in the fishery.
David Brewer	Scientific Member - CSIRO	Research provider. Has in the past and may in future seek and receive funding for research in the fishery.
Michael O'Brien	Industry Member	Employee of a company that owns statutory fishing rights (SFRs) in the NPF.
Phil Robson	Industry Member	Employee of A Raptis and Sons, responsible for managing 12 NPF vessels. Has provided charter for scientific surveys in NPF in the past and may in future.
Don Bromhead	Executive Officer a/g AFMA member	No pecuniary interest in the fishery
Steve Bolton	Observer - AFMA	No pecuniary interest in the fishery
Renee Bowling	Observer - AFMA	No pecuniary interest in the fishery
Shane Fava	Observer - AFMA	No pecuniary interest in the fishery
Adrienne Laird	Observer - NPFI	Employed as contractor by NPFI.
Roy Deng	Observer - CSIRO	Research provider involved particularly in stock assessment research in NPF. Has in the past and may in future seek and receive funding for research in the fishery.
Trevor Hutton	Observer - CSIRO	Research provider. Has in the past and may in future seek and receive funding for research in the fishery.
Robert Curtotti	Observer - ABARES	Economics research provider. No current pecuniary interest in fishery. Potential to seek and receive funding for research in the fishery in future.

