



Australian Government

Australian Fisheries Management Authority



Northern Prawn Fishery Resource Assessment Group (NPRAG) Meeting

Meeting Minutes

Date: 18 May 2016

Location: Brisbane

Quest Breakfast Creek

Attendance

Name	Membership (type i.e. chair etc.)
Ian Knuckey	Chair
Michael O'Brien	Industry Member
Phil Robson	Industry Member
Ian Boot	Industry Member
Rik Buckworth	Scientific Member - CSIRO
David Brewer	Scientific Member - CSIRO
Tom Kompas	Economic Member - ANU
Shane Fava	AFMA Member
Renee Bowling	Executive Officer - AFMA
Annie Jarrett	Observer - NPFI
Adrienne Laird	Observer - NPFI
Trevor Hutton	Observer - CSIRO
Roy Deng	Observer - CSIRO
Sean Pascoe	Observer - CSIRO
Rob Kenyon	Observer – CSIRO
Michele Burford	Observer – Griffith University
Stephen Faggotter	Observer – Griffith University

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 main items were the Tiger prawn stock assessment and research projects relating to northern water resource development.

Apologies were received from Malcolm Haddon, Rob Curtotti and Eva Plaganyi-Lloyd.

1.2 Adoption of Agenda

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

1.3 Declaration of interests

The RAG followed the conflict of interest declarations as outlined in the revised Fisheries Administration Paper 12 (FAP12).

A list of the full conflicts of interest declarations made by NPRAG members for the meeting is provided in **Attachment 2**.

1.4 Minutes from previous meeting

NPRAG noted that the minutes from the March 2016 teleconference had been circulated and endorsed out of session.

The RAG recognised the high quality of work carried out by the previous Executive Officer Dr Don Bromhead who has since moved on to another area within AFMA. The RAG agreed to formally write to Dr Bromhead to thank him for his efforts during his time with the NPF.

Action: NPRAG Chair to write to Dr Don Bromhead thanking him for his efforts as the NPRAG EO.

Agenda Item 2 – Action Items

The NPF Manager gave an update on the list of actions noting progress made against each. The RAG agreed to remove all completed items and amend older items to reflect their updated status.

Actions:

- AFMA and CSIRO to upload research reports relevant to the NPF to the NPRAG Govdex site.
- AFMA to provide a written annual summary of observer monitoring that provides methods, results and spatial distribution (use SESSF report as a template).
- AFMA to notify NPRAG when NPF shapefiles are available online for downloading directly to vessels.
- AFMA to circulate main points from the ACIG review of the ERA/ERM framework to NPRAG.
- AFMA to circulate bug sizes spreadsheet.

Agenda Item 3 – Industry Update

Industry provided an update to the RAG on the 2016 banana prawn season to date.

Banana prawn catches are likely to be lower than 2015 catches and industry will struggle to catch 3,000 t. Industry acknowledged that low catches have been as expected given the lack of rainfall in the Gulf of Carpentaria and results of the pre-season survey. Industry reported that prawn sizes have been varied and some areas have disappointing catch rates (e.g. Weipa). It was, however, reported that the prawns are very high quality compared to last year.

A quality assessment template from Tropic Ocean Prawns Pty Ltd was provided to the group to outline the criteria assessed as part of a quality analysis. The assessment is used to grade the prawns to help inform the price and identify the most suitable market/buyer depending on what products the prawns are being used for (fresh, cutlets etc.).

The RAG noted that the Kimberley Prawn Fishery has also been disappointing as a result of the lack of rain. It was also noted that there has been little effort in the Joseph Bonaparte Gulf (JBG) to date and this is likely to remain the case for the 2016 tiger season if there are high catches of tiger prawns elsewhere. As at the time of the meeting, it was noted that there were no vessels fishing solely for tigers as they hadn't showed much promise.

The RAG noted industry concerns with the recent mangrove die off in the Gulf and agreed to discuss this issue under other business.

It was also noted that fuel prices are the lowest they have been in years (\$0.50 p/L) and remain stable.

Agenda Item 4 – Results from the Tiger Prawn Assessment

CSIRO gave the group an overview of the tiger prawn stock assessment using the 2015 fishery information. They acknowledged the work and assistance of everyone involved.

Overview of the 2015 fishery

Total catch of tiger prawns in 2015 was 3,169 tonnes, nearly double 2014 catches with a corresponding 18% increase in effort (6,041 boat days). The majority of the catch comprised grooved tiger prawns (2,405 tonnes). The 2015 tiger prawn catch was the largest since 1998 (3,285 tonnes) yet only required 1/3 of the nominal fishing effort (17,882 boat days in 1998 compared to 6,041 boat days in 2015). Predictions from the assessment show there is likely to be a higher abundance of brown tiger prawns in 2016.

White banana prawn catches were above average in 2015 and red-legged banana prawn catches were very low given the low effort in that component of the fishery. Catches of blue and red endeavour prawn catches were moderate during 2015.

Status of the tiger prawn fishery

1. Spawning stock size of both grooved and brown tiger prawns in 2015 was greater than that at Maximum Economic Yield (SMEY) and substantially greater than spawning stock size at Maximum Sustainable Yield (SMSY), for all scenarios considered in the assessment. This is substantially greater than the limit reference point of 0.5 SMSY. The spawning stock size of Blue Endeavour Prawns was estimated to be close to SMSY (78%), remaining significantly greater than the limit reference point.
2. Tiger prawn species and blue endeavour prawns are therefore **not considered overfished**.
3. With 2015 effort levels of 83% and 36% of that at EMSY for grooved tiger prawns and brown tiger prawns respectively, and an increasing trend in $S/SMSY$ for blue endeavour prawns **overfishing is not occurring** as defined by agreed performance indicator metrics.

Predictions for the 2016 fishery

CSIRO advised that to achieve optimal MEY as predicted, an overall increase in fishery effort was required with a short-term shift in effort from grooved tiger prawns to brown tiger prawns. Estimated total allowable effort to achieve MEY in the 2016 tiger prawn fishery is 8,305 boat days. This comprises 3,024 boat days directed at grooved tiger prawns and 5,281 boat days directed at brown tiger prawns. This equates to an increase in total effort of 37.5% over 2015 effort, and is calculated to be equivalent to a gear increase of 224%.

Discussion of stock assessment outputs

The RAG questioned how industry could make use of the temporary abundance of tiger prawns predicted by the model, acknowledging that there is a level of uncertainty in model predictions. The RAG noted that the need to utilise more effort to fish at MEY is a quality problem to have. They agreed that industry's capacity to achieve an effort increase of 224% was unlikely and could only realistically be effected through changes in gear, fleet movements and season length.

The RAG agreed that the gear configuration is currently close to an optimal level for the current fleet structure. With regard to a change in fleet structure, Industry stressed the "pain and suffering" endured through buy-backs to get industry to this fleet structure and were happy to keep it as such at present, acknowledging there is a level of unutilised effort in the fishery.

The other option of a change in season length was discussed. CSIRO noted the mid-season closure was established to protect brown tiger prawns and the impacts of extending the first season would

favour the take of brown tiger prawns. While this was possible, the Chair noted that it was outside the current harvest strategy options.

Ultimately, the RAG agreed to a precautionary response following this one-off event and not to amend any closures or explicitly change management options to increase effort. They acknowledged that the tiger prawn resource is likely to be underutilised during 2016 as a result.

AFMA noted that there are no rules about what decisions can be made when the fishery is operating below MEY effort levels and therefore the RAG should update the NPF Harvest Strategy to account for these scenarios rather than being discussed in an ad-hoc manner. Given the assessment is only completed every 2 years, the RAG agreed to reconsider management options following the 2016 fishing season.

Action:

- *NPRAG to review the NPF Harvest Strategy before the 2017 season to advise on inputs and decision rules ahead of making recommendations for the 2017 tiger prawn fishery season.*

Fishing Power

CSIRO provided an update of the fishing power analysis noting there had been a 9-10% increase in fishing power during 2015 relative to 2014. The use of quad gear when targeting tiger prawns increased from 90% (2013) to 94% (2015) and swept area increased by 3% compared to 2014. There were also marked changes in the spatial fishing pattern, with less effort in Weipa and West Mornington, and more effort in the Vanderlins and North Groote.

The spawning and recruitment survey results show that CPUE provides a reasonable fit for grooved tiger prawns noting that recruitment has dropped back to a level consistent with a median year. Brown tiger prawns showed a noticeable increase in recruitment for 2016. Projections illustrate that growth in the fishery will result from effort towards targeting brown tiger prawns. The Economic Member noted that the economic data being used in the model is good quality but there are issues with boats entering the fishery and then dropping out. Therefore it was suggested that every 2 years (non-assessment year) the actual fuel and prawn price data for the previous year be used as a further sensitivity scenario, updating the economic parameters in the Base Case model of the previous year's assessment, to compare against the predictions.

Action:

- *CSIRO/Tom Kompas to conduct a sensitivity analysis of the 2016 model predictions using actual economic prawn price and fuel cost data which is collected during November 2016, with new economic information provided in March.*

Sensitivity analysis

CSIRO noted that the fishing power analysis has been subjected to various tests. Scenario tests have mainly focussed on assessing the sensitivity of the outputs to assumptions regarding the factorial components of the model: fishing effort pattern, fishing power estimates, model type, the 2013 RAG-specified fishing pattern, constraining (year-on-year) effort change during a seven year projection period and the lower effort threshold in the bio-economic model.

The results are relatively consistent across all scenarios for grooved tiger prawns (above MSY and MEY) except when comparing recommended TAEs. The scenario that optimises the amount and pattern of fishing effort, indicated substantially greater effort (by around 58%) than the base case would provide an improvement in profit, but by just 8%. Similarly, where the annual change in effort was constrained, substantially more effort was required to produce a similar amount of profit. The MSY for brown tiger prawns remained similar across the scenarios while the MEY was slightly lower for the scenario in which the effort pattern was fixed, and recommended effort levels were lower for

all scenarios in which effort could not be flexibly applied by the model (i.e. the Fixed effort pattern, Estimate pattern, Constrained effort change and Lower effort threshold patterns). Despite these various differences, total profit did not vary more than 8% from the Base Case for any scenario. The Chair drew attention to the graph of the bridge in the Harvest Strategy over management where the rule states that if the fishery is at 1.7MSY we would extend the season.

Action:

- CSIRO to send final tiger prawn stock assessment, supporting PowerPoint, fishing power analysis reports and presentation on the pre-season survey results.

Pre-season survey results

NPRAG noted a presentation from Mr Rob Kenyon (CSIRO) on the results of the summer 2016 recruitment survey in the NPF. Survey areas included Weipa, Vanderlin Islands, Groote Eylandt, Mornington Island and Karumba. Brown tigers showed a continued uptrend of strong recruitment in Mornington and good recruitment in Groote. Grooved tigers showed substantially less recruitment in Groote than in 2015; but with large year-old prawns in the Vanderlins and other regions in the western Gulf. Overall, the amount of grooved tigers was down on last year but brown tiger prawns were either consistent with previous years or higher in some areas. Banana prawn marks were encountered at Weipa. Banana prawn catches were low at the Vanderlins and Groote. Blue endeavour prawns were less abundant across the Gulf and were of low quality (not roed-up).

The correlation between recruitment indices and catch shows a strong correlation for banana prawns at 0.71. A poor relationship is evident for the brown tiger index and undifferentiated tiger prawn catch at 0.34, the relationship improves to 0.66 using the species split data from the assessment (reported in the NPF summary data). Grooved tiger prawns are around 0.57 (the correlation between recruitment index and catch) for both undifferentiated catches and differentiated species catch as reported in the NPF summary data.

CSIRO noted that the spawning survey was last completed in 2014 and is scheduled to be completed from 1-22 July 2016.

Agenda Item 5 – Northern Waters Impacts Update

The RAG welcomed Michelle Burford and Stephen Faggotter, both from the Griffith University to the meeting. NPRAG noted an update from CSIRO regarding the two main projects regarding northern waters impacts:

- Northern Australia Water Resources Assessment (NAWRA); and
- Proposed northern Australia water developments pertinent to the Northern Prawn Fishery: collation and review (desktop study)

NAWRA will look to identify potential water resources, storage options, soil types, and potentially economically viable activities making use of those resources. A small part of the project is to evaluate potential ecological impacts of development of water resources, particularly in the aquatic space. The study areas include the Fitzroy River (WA) catchment, the Darwin (NT) area catchments – those of the Finniss, Mary, Adelaide and Wildman rivers – and the Mitchell River (Qld). It is a 2.5 year project that began in 2016 and is scheduled to finish end June 2018.

The RAG then noted a presentation from Prof. Burford regarding her project under the National Environmental Science Programme (NESP) and existing research gaps. The project aims to determine contribution of rivers to the fishery by assessing:

- habitat availability in the southern Gulf of Carpentaria
- post larval recruitment and juvenile densities

- environmental tracers
- hydrology of rivers

The project will receive \$200k/yr for 3 years which is considered insufficient to deliver on the objectives. Ms Burford identified the key knowledge gaps with the current project:

- banana prawn expertise in fieldwork – first trip scheduled for Nov 2016 to quantify juvenile prawns. Another field trip during wet season.
- model outputs for future scenarios of end-of-month river flows
- model outputs for banana prawn larval recruitment into estuaries in southern Gulf based on hydrodynamics.

The greatest risks to the project are environmental factors. Throughout the life of the project there may be years of no/low rain or high rain/high flow. This would affect the level of nutrients flowing from the river systems which may skew the rate or timing of banana prawn emigration from estuaries given they use salinity cues to determine when to leave.

Prof. Burford noted her highest priority to improve the project outcomes with respect to the NPF would be to get Rob Kenyon involved in the fieldwork and analysis component of the project given his expertise in banana prawn biology.

The NPRAG noted the importance of Prof. Burford's project to the future of the fishery and supported Rob Kenyon's involvement. Given the NESP did not agree to fund this additional component, the only option is to develop a proposal seeking FRDC funding. The Chair highlighted that agreement from industry to co-fund the project would be more likely to gain FRDC support as it would further emphasise the importance to industry. NPFI agreed to co-fund 50% with FRDC as a potential tactical research fund bid and agreed to develop a proposal (with CSIRO and Prof. Burford) and send to ComRAC for consideration.

NPFI said there is a need to confirm if there is a knowledge gap on impacts of hydrology flow on prawns in the NAWRA project scope. CSIRO agreed to ask the project leader (Dr Cuan Petheram) and then suggested NPRAG and NPFI write to the project leader noting further research would be very valuable for future decisions.

CSIRO noted they are discussing the development of a high level group to liaise and coordinate research in northern Australia involving James Cook University, Charles Darwin University, Department of Agriculture and Water Resources and the Department of the Environment.

Actions:

- *NPFI to co-fund the additional research component of the NESP project. NPFI, CSIRO and Michelle Burford to develop a project proposal for ComRAC consideration.*
- *CSIRO and Michelle Burford to meet with NAWRA project leader to discuss if knowledge gaps exist and whether data from the NAWRA project can be used in the NESP project. Report back to NPRAG.*
- *Depending on the above discussion outcomes: NPRAG/NPFI to write letter to NAWRA identifying the value of collecting this data to help inform future decisions.*

Agenda Item 6 – Research Project Priorities

AFMA identified the list of potential research projects that had been identified during the November 2015 NPRAG meeting for improving the NPF stock assessment. At the time the group did not commit to fund any additional research given the recent expense of the stock assessment.

AFMA noted there has been an error in the research budget which left \$20k unallocated. This is currently attached to the stock assessment project and therefore must be spent on a related project and acquitted back to industry through the end of year acquittal process. AFMA identified this as an

opportunity to fund another stock assessment related project using the priority rankings identified at the November 2015 meeting - that being the species split followed by inclusion of the economics of the banana prawn fishery in the tiger prawn assessment.

The Chair noted the importance of continually improving the stock assessment and noted that although the species split ranked highest, the revision of the banana prawn fishing power input data series and model might be a higher priority now given the assessment outcomes. Industry agreed that the fishing power analysis is more important than the species split but not as important as northern waters research. Industry suggested using the unallocated funds for Rob Kenyon's involvement in the NESP project. AFMA noted that this project is not linked to the stock assessment and therefore the funds would need to be paid back to industry.

The RAG previously questioned whether the banana prawn fishing power analysis for banana prawns could be done as an extension to the tiger assessment. CSIRO noted the data is quite different and would require significant resources (essentially same as doing another tiger prawn fishing power assessment). CSIRO agreed to develop a full cost breakdown for completing a fishing power analysis for banana prawns and reporting back to the NPRAG. The RAG agreed to reassess the priorities at the next face-to-face meeting and once CSIRO provides the cost breakdown. The Chair noted it would be strategic for industry to start committing to these projects (complete one every 2-3 years) to continually improve the information that is being used to manage the fishery. It was suggested that a time series should be developed to identify when the analyses were last completed to help inform how soon they need completing.

Actions:

- *CSIRO to estimate price for conducting a banana prawn fishery fishing power analysis and report back to NPRAG.*
- *AFMA to update the priority assessment research projects list to include when the topic areas were last completed.*
- *NPRAG to reassess the research priorities at the next face-to-face meeting to establish a schedule of improvements to be made to the stock assessment.*

Agenda Item 7 – Review of MSC Requirements

NPFI gave NPRAG an update on the MSC recertification process. It was noted that data required to assess bycatch as a percentage of the total catch is available through the scientific observer program. AFMA has agreed to begin analysing the data and seek assistance, if need be. It was suggested that NPFI contact the MSC auditor (Richard Banks) to confirm what scale they want the bycatch assessment completed (e.g. by sub-fishery, by region or total fishery etc.). The RAG noted the Bustamante and Pitcher (CSIRO) project would be useful in fulfilling the vulnerable marine ecosystem component of the recertification under MSC. Documentation to support the MSC reassessment (bycatch analysis), which is due by December 2016.

NPFI updated the group on sawfish research being conducted by Dr. Peter Kyne and Dr. Charlie Huvneers using electric pulses to deter them from being caught. The project funding bid was unsuccessful and as a result Dr. Kyne is seeking support as part of a larger NESP project. David Brewer noted that similar tests had been done using shark shields on trawl doors and had poor results.

Agenda Item 8 – Scientific Observer Program Update

AFMA provided an update on the Scientific Observer Program noting recent discussions with CSIRO had assisted in answering questions they had regarding information being collected. The RAG noted the observer protocols for data collection for each haul includes:

- all TEP species, sea jellies, sharks, rays, crayfish, benthos etc. measure and identify all sea snakes when possible.
- 10kg sub-sample: remove commercial prawn species and then count and weigh by species and record on catch comp form.
- collect a minimum 30 length/sex frequencies of each commercial prawn species.
- record retained catch by species for logbook verification.

Questions were raised regarding clarification of specific protocols including why information is being collected on sea jellies and benthos noting they are hard to identify to family and species level. David Brewer noted it could be worthwhile recording sponges that are +300 mm in size. AFMA agreed to review the protocols and update the RAG.

AFMA highlighted the lack of a distinct spatial pattern in sawfish distribution in the maps attached to the meeting paper. This gives reason to believe that closures would be ineffective at reducing catches.

Actions:

AFMA to:

- *confirm if observers are estimating the total codend weight or using the boxed weight recorded on logsheets.*
- *update observer manual to include most up-to-date handling and data collection techniques and send updated list of items recorded to NPRAG.*
- *clarify why species such as sea jellies and benthos are being collected and remove if not necessary.*

Agenda Item 9 – Banana Prawn MEY Catch Trigger

NPRAG noted an update from CSIRO regarding the banana prawn MEY catch trigger calculation process for 2016. CSIRO noted the use of a spreadsheet which has been established to calculate the level of catch which maintains boat level profitability. This spreadsheet is updated annually with Tom Kompas' survey data and economic data on fuel and prawn prices. The output of the calculation is a trigger catch rate. A 15% buffer has been placed on the trigger to restrict a large change in allowable effort from the original 500 kg/boat/day trigger.

At the November 2015 NPRAG meeting the RAG agreed to:

1. conduct a banana prawn fishery fishing power analysis (as part of an expanded tiger prawn fishing power analyses); and
2. review the trigger's potential impact on sustainability if the CPUE during the last fortnight of the fishery is below 500kg for three consecutive years.

The Chair asked industry how they were going with the process for estimating fuel and prawn prices. Industry explained that fuel prices are very transparent and prawn prices are agreed amongst NPFI Directors based on predictions. The RAG noted that industry made the estimates in May 2016 and that real values would be available in Nov/Dec 2016. The RAG agreed for a retrospective analysis to be undertaken when the values become available to determine how close the estimates are to actual values.

Action: *CSIRO and Tom Kompas to conduct a retrospective analysis of 2016 values using actual banana prawn price and fuel cost data available in November 2016 for the Banana prawn fishery.*

CSIRO also gave a progress update on a PhD project comparing the technical efficiency in three fisheries with differing management structures (i.e. economic objective (NPF), social objective (Vietnamese fishery) and social and economic objective (Queensland fishery). The project has received confirmation and the analysis stage has begun which is due in Sept/Oct 2016.

Agenda Item 10 – Update Reports

10.1 NPFI Bycatch Strategy Update

NPFI gave an update on the current status of industry bycatch reduction trials being carried out to achieve a 30% reduction in the capture of small bycatch. Three devices were trialled by Raptis in November 2015. Initial results were encouraging with the modified fisheye (Kon's Covered Fisheyes) showing a 19% reduction in bycatch compared to a net with a square mesh panel. Further testing of this device is scheduled for the first two weeks in June 2016 and will be carried out by two AFMA staff on a Tropic Ocean Prawn vessel. The NPRAG Chair recommended that a scientific report of results be drafted following the trials.

CSIRO noted the limited time remaining to achieve what the Bycatch Strategy set out to do. They suggested using AFMA resources and staff as effectively as possible to further meet the objectives. CSIRO recommended looking at what other countries have done and trial in the NPF. The RAG agreed for CSIRO to identify the top 3 bycatch reduction devices for further testing under the management of NPFI.

Actions:

- NPFI/AFMA to write a report including scientific analysis of results following trials of Kon's double fish eye in June 2016.
- CSIRO to identify the top 3 bycatch reduction devices to be further tested for effectiveness. NPFI to lead this project and Austfish to test 1 or 2 of these devices.
- CSIRO to send results from the PNG bycatch trials when finalised.

10.2 AFMA Update

The RAG noted a general update from AFMA Management. AFMA continues to market test the AFMA Observer Program with the request for expressions of interest finalised and a number of respondents having been rated as capable of providing the service.

AFMA has developed a draft Guide to ERA-ERM. The draft ERA-ERM Guide has been submitted for review to the ERA Technical Working Group which is meeting on 11 May 2016. Following revision of the draft Guide it will then be released to RAGs and MACs for consultation in late-May 2016.

Given the recent uptake of electronic monitoring in some fisheries, the AFMA Compliance team have observed a significant number of instances of untoward behaviour (or bycatch mistreatment). E-monitoring footage can be requested through the Freedom of Information (FOI) Act and can be released ensuring personal information is kept confidential. The Chair noted that there is an agreement in the Gillnet Hook and Trap Fishery where the footage is only available within six months of being recorded and asked that this be clarified for other fisheries. Industry noted that the normal procedure is to discard all large, heavy species first and suggested AFMA keep in mind human safety when further developing these guidelines. Industry also suggested implementing a Code of Practice as a first step then implement with penalties. The NPRAG Chair noted a shark handling guide video which he had developed with Barry Bruce and agreed to send a link to members.

AFMA noted that Officials from the US National Oceanic and Atmospheric Administration Office would be visiting in July 2016 to conduct turtle excluder device inspections. AFMA highlighted that there were a number of inconsistencies between our legislation which could impact on the current accreditation. Industry highlighted the differences between NPF operations and US trawling including that they tow slower than in the NPF and have smaller turtles. It was noted that NPFI drafted a report in 2014 (when the US last visited) to highlight the issues with adopting their regulations. Industry suggested that trials be undertaken to prove that adopting the US regulations for escape flap overlap would lead to prawn loss. CSIRO suggested working with the US guys when

they arrive to determine the best way forward. AFMA highlighted the importance of maintaining consistency between fisheries with overlapping stakeholders (i.e. QLD trawl and Torres Prawn) but acknowledged that there is a risk of losing US export certification for the NPF.

Actions:

- AFMA to confirm how long e-monitoring footage kept and able to be accessed through FOI.
- NPRAG Chair to send link for shark handling guide video to NPRAG.
- AFMA to discuss with Queensland Fisheries and Torres Prawn about why they aren't implementing the US recommended changes to the TED regulations.

11. Other business

Mangrove die-back

Industry raised concerns with the recent severe mangrove die-back in the Gulf of Carpentaria. They noted that it could be attributed to a number of factors (temperature, mine run-off, disease in ballast etc.). CSIRO noted there is a project officer seeking information on mangrove die-backs and agreed to ask them if industry information would be useful. Industry noted they would like to do a fly-over of the impacted areas but noted it's a costly exercise. CSIRO noted that the Australian Mangrove and Saltmarsh Network met in Darwin where preliminary observations were presented on the emerging issue.

The Chair suggested that NPFI take carriage of this rather than government or FRDC. Industry disagreed highlighting the connection with government-driven projects such as coral bleaching (\$76 million) and questioned why AFMA isn't raising this as an issue. AFMA noted that they will raise it with relevant departments but noted it is likely to be more effective coming from industry.

Action:

- AFMA to discuss the mangrove die-off with the Department of Agriculture and Water Resources and Premier and Cabinet. Confirm to whom it has been reported. Contact the Australian Mangrove and Saltmarsh Network of the James Cook University to see what results they got from the March/April 2016 testing they conducted and report back to NPRAG.

The Chair noted that a Chair's Summary would need to be drafted for NORMAC and closed the meeting at 5.10 pm.

Action: NPRAG Chair/EO write Chairs summary for distribution to NORMAC.

Signed (Chairperson): Ian Knuckey

Date:

List of Attachments

- 1) NPRAG Annotated Agenda
- 2) NPRAG Declared conflicts of Interest
- 3) Ian Knuckey Declared conflicts of Interest

Attachment 1

**Northern Prawn Fishery Resource Assessment Group
Agenda**

Quest Breakfast Creek Apartments
18-19 May 2016 (09:00am start)

Item	Responsibility	Paper
1. Introduction/ Meeting Management <ul style="list-style-type: none"> • Welcome • Adoption of agenda • Declaration of interests • Minutes from previous meetings 	Chair	Yes
2. Action items <i>Outcomes: RAG to note progress on action items and provide updates where appropriate</i>	AFMA	Yes
3. Update Reports <ul style="list-style-type: none"> • Industry <i>Outcomes: RAG to note the industry update</i>	NPFI	No
4. Results from the 2015 Tiger Prawn Assessment <ul style="list-style-type: none"> • Catch and effort data • Survey data (Rob Kenyon) • Fishing power series • Stock assessment <i>Outcomes: RAG to note the information provided on the 2015 tiger prawn stock assessment including catch and effort, the fishing power analysis, status of target species and estimates of optimal effort levels.</i>	CSIRO	Yes
5. Northern waters impacts update <ul style="list-style-type: none"> • CSIRO update on current research project • Grow North CRC • NESP <i>Outcomes: RAG to note updates and provide further advice on information gaps, project priorities, resourcing and funding needs for research into the impacts of Northern Waters developments.</i>	NPFI/CSIRO	Yes

<p>6. Research project priorities</p> <ul style="list-style-type: none"> • Priority assessment research projects • Alignment with existing 5 yr and 1 yr research statements • Next steps – ARC dates <p><i>Outcomes: RAG to note the priority assessment research projects, draft research budget 2016/17 and annual research cycles.</i></p>	CSIRO/AFMA	Yes
<p>7. Review of MSC Requirements</p> <ul style="list-style-type: none"> • Current usable data sets <p><i>Outcomes: RAG to note and discuss the MSC update, including timelines and resourcing needs to facilitate NPF MSC recertification.</i></p>	NPMI	No
<p>8. Scientific Observer Program update</p> <ul style="list-style-type: none"> • Protocols for data collection • Observer monitoring from 2015 including results and spatial distribution • Sawfish interactions in the NPF • <i>TBC: Observer presentation by Ben Liddell</i> <p><i>Outcomes: RAG to note the AFMA Scientific Observer Program data collection protocols and data from 2015 season.</i></p>	AFMA	Yes
<p>9. Banana Prawn MEY catch trigger</p> <ul style="list-style-type: none"> • PhD project • In-season trigger review <p><i>Outcomes: RAG to note the update regarding the outcomes and calculation process of the MEY trigger implementation in the 2016 season and discuss the catch rates and corresponding MEY trigger values for the three MEY trigger calculation processes from 2014-2016.</i></p>	CSIRO/AFMA	YES
<p>10. Update Reports (continued)</p> <ol style="list-style-type: none"> a. NPMI Bycatch Strategy update b. Science providers c. AFMA <ul style="list-style-type: none"> • Observer program market testing • ERA/ERM update • HSP and Bycatch policies update • Science standards overview/update • Bycatch mistreatment update • US TED inspections <p><i>Outcomes: RAG to note the updates provided by industry, CSIRO and AFMA.</i></p>	NPMI/AFMA/CSIRO	Yes

Attachment 2**NPRAG Declared Conflicts of Interest**

Participant	Membership	Interest declared
Ian Knuckey	Chair	See Attachment 3
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.
Ian Boot	Industry Member	Managing Director of Austfish, a company which operates NPF vessels. Has a commercial interest in the fishery.
Phil Robson	Industry Member	Employee of A Raptis and Sons, responsible for managing NPF vessels & an NT demersal fish trawler. Has provided charter for scientific surveys in NPF (none of which are in JBG) in the past and may in future.
Tom Kompas	Economic Member - ANU	Research provider. Has in the past and may in future seek and receive funding for research in the fishery.
Shane Fava	AFMA Member	AFMA employee, no pecuniary interest in the fishery
Renee Bowling	Executive Officer (AFMA)	AFMA employee, no pecuniary interest in the fishery
Annie Jarrett	Observer - NPFI	CEO NPFI and a member of the MSC Stakeholder Council. Some research items are of relevance to NPFI
Adrienne Laird	Observer - NPFI	Employed as a contractor by NPFI. Some research items are of relevance to NPFI
Trevor Hutton	Observer - CSIRO	Research provider. Has in the past and may in future seek and receive funding for research in the fishery.
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.

Attachment 3

Dr Ian Knuckey – current interests	March 2016
<p>Positions:</p> <ul style="list-style-type: none"> Director – Fishwell Consulting Pty Ltd Director – Olrac Australia (Electronic logbooks) Chair / Director – Australian Seafood Co-products (seafood waste utilization) Chair / Director – ASCo Fertilisers (seafood waste utilization) Chair – Northern Prawn Fishery Resource Assessment Group Chair – Victorian Rock Lobster and Giant Crab Assessment Group Agent – Olrac Australia electronic logbooks Scientific Member – Northern Prawn Management Advisory Committee Scientific Member – SESSF Shelf Resource Assessment Group Scientific Member – Great Australian Bight Resource Assessment Group Scientific Member – Scallop Resource Assessment Group Scientific Member – Squid Resource Assessment Group Invited scientific participant – South East Management Advisory Committee <p>Current Projects and funding:</p> <ul style="list-style-type: none"> Principal Investigator – Survey for Black teatfish in the Queensland Sea Cucumber Fishery (East Coast). Principal Investigator – Fishery Independent Survey of shelf resources in the Great Australian Bight Trawl Fishery 2015 Principal Investigator – Improved understanding of economics in fisheries harvest strategies. Principal Investigator – Realising economic returns of reducing waste through utilization of bycatch in the GAB Trawl Sector of the SESSF Principal Investigator – The social drivers and implications of conducting an ecological risk assessment of both recreational and commercial fishing - a case study from Port Phillip Bay Principal Investigator – Review of Monitoring and Assessment in the SESSF Co-Investigator – Optimising processes and policy to minimise business and operational impacts of seismic surveys on the fishing industry and oil and gas industry. Co-investigator – SESSF Continuation of fishery independent surveys for the Southern and Eastern Scalefish and Shark Fishery Co-investigator – Bird mitigation in the SESSF trawl sector Researcher – Various fishing industry liaison projects for oil and gas industry Researcher – Review of mammal mitigation for a Seafish Tasmania pelagic trawler Scientific Advisor – GABIA, SETFIA, SSIA, Gulf St Vincent Prawn Fishery Licence Holders MSC Auditor –Falklands Is 2016 Surveillance Audit MSC Reviewer – WA West Coast Deepsea Crab Fishery Facilitator – WWF shark traceability workshop Facilitator – SPC Tuna Data Collection Committee 	