



Australian Government

Australian Fisheries Management Authority



Northern Prawn Fishery - Northern Prawn Fishery Resource Assessment Group (NPRAG)

NPRAG 13 AND 14 SEPTEMBER 2012

DRAFT MINUTES

The Northern Prawn Fishery Resource Assessment Group (NPRAG) meeting was held at the Novotel Brisbane Airport Hotel on 13 and 14 September 2012.

Attendees

Members

Dr Ian Knuckey, Chair
Ms Fiona Hill, AFMA Member
Mr Michael O'Brien, Industry
Mr Ian Boot, Industry
Dr Norm Hall, Scientist Murdoch University
Dr Malcolm Haddon, CSIRO
Dr Rik Buckworth, CSIRO
Mr Simon Vieira, ABARES (13th only)
Dr Rodrigo Bustamante, CSIRO
Mr Brodie Macdonald, Executive Officer

Observers

Ms Annie Jarrett, NPFI (13th only)
Mr Matt Barwick, NPFI (14th only)
Mr Steve Bolton, AFMA (13th only)
Dr Sean Pascoe, CSIRO (13th only)
Mr Roy Deng, CSIRO
Dr Trevor Hutton, CSIRO (13th only)
Ms Emma Lawrence, CSIRO (13th only)
Ms Anna Farmery, UTAS (13th only)

Agenda item 1. Preliminaries

Day 1 - Thursday 13 September 2012

Welcome

The Chair opened the meeting at 9:00am and welcomed all members and observers. The Chair outlined the new process for handling conflicts of interest in Management Advisory Committee and RAG meetings, which was detailed in correspondence sent to all RAG members. While it was discussed that it was essential to declare pecuniary interests, members all considered the need to declare any broader interest throughout the meeting that may influence or bias discussions. The Chair noted that for some agenda items it may be necessary for some members to be removed from discussion. The Chair emphasised that AFMA is looking to refine this process to make it less intrusive to discussions.

Declaration of interests

Name	Position	Interest
Brodie Macdonald	NPRAG Executive Officer.	No pecuniary interest.
Steve Bolton	Senior Manager Northern Fisheries, AFMA	No pecuniary interest.
Fiona Hill	Manager, NPF	No pecuniary interest.
Ian Boot	Industry Member Director Austfish	NPF SFR holder (gear and boat) Active scampi operator Investments in WA fisheries
Annie Jarrett	Observer CEO NPF NORMAC Executive Officer	No pecuniary interest. Employee of NPF
Mike O'Brien	Industry Member	No pecuniary interest. Employee of Tropic Ocean Prawns which hold gear and boat SFRs and East Coast licences
Ian Knuckey	NPRAG Chair Director, Fishwell Consulting	No pecuniary interest. Paid Chair of NPRAG. Research interests in other Commonwealth and state fisheries including a few national projects. Interested in NPF Observer Tender.



Tom Kompas	Member	Currently undertaking paid work on an NPF funded project. Paid member of NPRAG.
Rodrigo Bustamante	Member	No pecuniary interest. Paid member of NPRAG. CSIRO Researcher
Rik Buckworth	Member	Currently undertaking paid work on an NPF funded project. Paid member of NPRAG. CSIRO interest in research projects. Director of company that acquires tissues from fish in situ.
Emma Lawrence	Observer	Currently undertaking paid work on an NPF funded project. CSIRO researcher currently working on banana prawn prediction model.
Malcolm Haddon	Member	No pecuniary interest. Paid member of NPRAG. Involved in review of Commonwealth Harvest Strategy Policy.
Trevor Hutton	Observer	Currently undertaking paid work on an NPF funded project. CSIRO researcher involved in stock assessment model.
Anna Farmery	Observer	No pecuniary interest. UTAS researcher working on CSIRO climate change adaption project.
Simon Vieira	Observer	No pecuniary interest. Active government researcher on Commonwealth fisheries.
Roy Deng	Observer	Currently undertaking paid work on an NPF funded project. CSIRO researcher involved in stock assessment model.
Sean Pascoe	Observer	No pecuniary interest. CSIRO researcher



Ayesha Plant	Observer	No pecuniary interest. Environment Officer A. Raptis & Sons (NPF SFR holder)
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Mr Bolton reminded the RAG that it was important for all members to give interests some thought at each agenda item and that if any conflict arises the Chair should be advised as soon as possible.

Apologies

Apologies were received from James Woodhams (ABARES) and Ron Earle. It was noted that Simon Vieira was attending in Mr Woodhams' absence.

Adoption of minutes of March NPRAG meeting

The draft minutes from NPRAG March 2012 were accepted with minor changes. Dr Hall raised the need to be explicit about the usage of the term "effort creep." Annie Jarrett brought attention to the decision of NORMAC 75 that the term 'effort creep' had been coined in the mid- 1980's in response to studies to define the "unaccounted increase in effort, relative to nominal effort, due to changes in technical efficiency and fishing practices (i.e. fishing power: technical efficiency gains, increased knowledge and fishing behaviour). It was noted that effort creep resulting from new technologies and fishing practices is not the same as input substitution. NPRAG agreed that the historical definition of the term effort creep should be adopted in the NPF for consistency.

Actions arising from previous minutes

Person responsible	Description of ACTION item	Progress
1. RAG EO	Minutes of NPRAG August 2011 and 7 March 2012 teleconference to be circulated.	Complete.
2. Tom Kompas	To investigate the use of an inter-annual variability factor and a value that might be appropriate.	Nothing to update.
3. Tom Kompas	To circulate the results from sensitivity tests around fuel and prawn prices to RAG members out-of-session.	Standard deviations are included on this year's price and exchange rate forecasts, as series averages. They are also available year-to-year.
4. NPMI	To circulate an update on the observer tender process to RAG members out of session.	Published on 12 September 2012.
5. Mike O'Brien	To send AFMA a list of locations where spatial closures coincide with king prawn habitat in the NPF.	Complete.
6. RAG EO	Write to the AFMA Commission requesting that the RAG Chair be allowed to attend the April Commission meeting to present the information from the RAG.	Complete. RAG Chair attended.
7. RAG EO	Produce a detailed Chair's Summary and clear through RAG to go to the April Commission meeting.	Complete.



8. CSIRO	Tiger prawn assessment under output controls - plot the CPUE time series against the mean rather than starting lines at the same point.	CSIRO agreed that this would be done for future plots.
9. CSIRO	Tiger prawn assessment under output controls - Redistribute the updated summary report to the RAG.	Complete.
10. NPF	Work with industry on clarifying some of the questions in the economic survey.	Complete. Updated survey tabled at meeting.
11. RAG	Discuss at the next meeting what sensitivity tests are needed for the tiger prawn assessment and when.	Discussed at Agenda Item 10
12. RAG	Discuss the timing of the pre-season surveys and the request from industry to potentially consider an earlier banana prawn season start date.	Discussed at Agenda Item 4
13. CSIRO	White banana prawn prediction project - produce prediction and milestone report to go to the April 2012 AFMA Commission meeting.	Complete.
14. RAG EO	Circulate the minutes and outcomes of the observer workshop to the RAG.	Distributed to members with agenda papers.
15. RAG	Discuss the future of the June/July spawning closure.	Discussed at Agenda Item 8.
16. AFMA	Alter the directions so the first season ends on 15 June.	Complete. Implemented in NPF Direction No.157
17. RAG	Discuss the spatial management in the NPF and specifically the use of the spatial MSE in management of the NPF when the MPA process is completed.	Discussed at Agenda Item 12

Management Update

Ms Hill presented catch statistics for the combined 2012 fishing season. The RAG questioned the usefulness of these statistics in the absence of any comparison data for the same period of previous years. It was agreed that in future the data would be split between the banana and tiger prawn fishing seasons and would include the two previous years of comparable data. Ms Hill also provided an update to the RAG on the policy work currently being conducted by DAFF and AFMA, including the review of the bycatch policy, harvest strategy policy and guidelines and the quota administration policy.

The Chair outlined the need to consider how the Harvest Strategy Policy is implemented and suggested that this is where industry members need to be involved in the review. The RAG noted that there is currently limited opportunity and time for industry to contribute to the review. It was suggested that the RAG should advise Nick Rayns (Executive Manager, AFMA who sits on the review committee) that industry wishes to have greater involvement in the review of the Harvest Strategy Policy and that advice should be fed back to DAFF that an appropriate response time should be provided for comment periods.

Action Item 1 (AFMA) Catch data provided in management update data to be split between first and second season and include at least two years of historical data.
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Action Item 2 (AFMA) AFMA to advise through EM fisheries of the need for industry to play a greater role in the review of the harvest strategy.

Industry update

The RAG noted an update from Mike O'Brien and Ian Boot on catches so far in the second season. Overall catch levels have been reasonably low and it does not look like they will be significantly better than last year. It is hoped that some warmer weather forecasted for October might lead to better catch rates. The price for tiger prawns on the domestic market has started high this year and large amounts are being traded domestically. Not much product is being exported as the high Australian dollar is restricting the export market. The RAG also noted that there has been a noticeable increase in the catches of bugs compared to previous years. The Chair suggested that it would be useful to obtain size-frequency data for bugs given the increased catches being observed.

Annie Jarrett updated the meeting on work the industry has been doing as part of the consultation process on the draft Commonwealth Marine Reserve network proposal. The industry commissioned an investigation by Ernst & Young looking at the socio-economic analysis, Dr Daryl McPhee has undertaken a critique of the Regulation Impact Statement and NPF prepared a specific response on the proposed network in the NPF. Mr O'Brien also mentioned the recently-released management plan for the South-east Marine Reserve. He considered that it was a broad document and lacked substance, and was concerned that it would form a template for the management of all MPAs.

Action Item 3 (AFMA) Scientific observers to collect size-frequency distribution data for bugs.

Item 2 Discussion on response to Wang paper on NPF

The RAG discussed the paper *A Retrospective Evaluation of Sustainable Yields for Australia's Northern Prawn Fishery* by You Gan Wang that appeared in the Fisheries journal. This article was written specifically about the NPF and discusses targets, the buyout and effort changes, and makes several broad and unsubstantiated claims about the NPF. The RAG noted that a group including Sean Pascoe, Tom Kompas, Simon Vieira and David Carter were preparing a response to the paper. The RAG were concerned that if there is no response to the article then in the future some of the incorrect statements/assumptions in the Wang paper may be taken as fact. Some of the key issues identified with the paper were:

- the assumption that crew is costless;
- inclusion of licence fees as profits; and,
- refinement of the definition of MEY.

The RAG discussed the need to consider how to define Maximum Economic Yield (MEY) in relation to the NPF, e.g. do we want to maximise profits to the industry, processors or consumers? It was noted that MEY can be calculated using different objectives.



Dr Kompas informed the meeting that MEY, as currently defined for the NPF, does not capture the effect of catch on price, e.g. if the catch is higher prawn prices will be lower. Currently for MEY calculations, the price is considered to be independent of harvest. The RAG resolved that the definition of MEY ultimately becomes a policy issue and it is not the role of the RAG to determine for whom the benefits are maximised.

Action Item 3 (CSIRO) Sean Pascoe to provide the RAG with an update on the response to the paper.

Item 3 Potential impact of reduced June/July spawning closure

The RAG discussed the benefits and risks of extending the end of the banana prawn season past 15 June and/or bringing forward the opening of the tiger prawn season from 1 August in any fishing year. It was reiterated that the between season closure is in place to protect Tiger Prawn spawning, provide escapement of Banana Prawns and also to allow growth in Tiger Prawns.

The RAG resolved to maintain the status quo given the current uncertainties about the future management of the fishery (input versus output controls). More certainty is needed about Grooved Tiger Prawns and Brown Tiger Prawns and more modelling may be needed to determine the implications for the stock as a result of moving closure dates.

The RAG agreed to revisit this issue once the future management arrangements for the fishery are made clear. Once this is certain, it would be useful to model the effects of modifying the season dates under either input or output controls.

Item 5 Update on the white banana prawn project - including the economic component

Additional declaration of interests

Name	Position	Interest
Phil Robson	Observer	Fleet Manager, A. Raptis & Sons Pty Ltd (NPF SFR holder)
Rob Kenyon	Observer	No pecuniary interest CSIRO researcher involved in NPF monitoring project

The RAG noted the presentation from Rik Buckworth on the progress of the White Banana Prawn Project. The RAG noted that the model predicts the potential catch – what’s there but not necessarily what’s caught. The intention of the ‘economic’ component of the project is to use price elasticity and cost information (to be provided by ABARES) to adjust the predicted potential catch to a TAC using MEY targets.

Ms Lawrence explained that the model includes two types of rainfall data (the 3 months after 1 June and 3 months prior to 1 March). Late rain (from March to May) is not included in the calculation due to the need to provide a figure to AFMA by early March (to set a TAC in time for the opening of the banana prawn season). The performance of



the model would likely improve if more months were included in the analysis to incorporate this late rain.

The RAG noted that since 2008 the model does not appear to be predicting potential catches well and agreed that there is a need to establish why the model has been less accurate in its predictions since this time. Annie Jarrett expressed concerns that if the model were to overestimate as predicted in some years that it may lead to economic overfishing and that any benefits from quota trading would be diminished.

The Chair questioned the need to consider if further work on the model is warranted at this stage and its value will be dependent on whether it will be used to set TACs in the fishery. Tom Kompas reiterated that it is necessary to incorporate the economic data into the model to determine the ability to set a TAC from the potential catch predictions.

The RAG noted that once a TAC is implemented it will bias the catch data used in the model and may compromise further ability to predict catches from rainfall data.

Action Item 4 (ABARES) ABARES to provide price and quantity data to Tom Kompas to assist in the calculation of a TAC using an MEY target. AFMA to assist in obtaining this data.

Item 7 NARP/FRDC Project Update

The RAG noted the presentations from Rodrigo Bustamante and Anna Farmery on the CSIRO/FRDC project looking at the impact on fisheries under the effects of climate change.

Ms Farmery invited input from industry members to feed into supply chain analysis to assist in conducting life-cycle analyses of seafood relative to terrestrial and imported food production.

Item 7 Update on the indices from the NPF Monitoring survey

The RAG noted the presentation from Rob Kenyon, which displayed recruitment indices collected for all species since the commencement of the NPF monitoring project. Trends vary greatly across all species though the trends are generally steady for brown and grooved tiger and blue endeavour prawns. Results for banana prawns are highly variable but this is because the survey was designed for tiger prawns.

The RAG discussed the impact of the proposed Commonwealth Marine Reserves in the gulf. Ms Hill indicated that AFMA had held discussions with SEWPaC about the importance of maintaining access to these sites given the historical significance of the surveys.

Item 8 Industry revised ITE management proposal

The Chair noted the conflicts of interest relating to this item from both AFMA and industry. It was established that while there is a direct conflict given the industry preference for maintaining the current system of input controls, this work is being undertaken at the request of the AFMA Commission and NORMAC, and the conflict of



interest should not restrict the deliberations of the RAG, and did not require anyone to absent the room.

The key points contained in the proposal are:

- boat days are not an effective measure for managing the fishery;
- a limited entry policy through the limit on (limit on quota SFRs);
- implementation of ITEQs in the form of gear quota SFRs;
- decision rules to monitor catches against trigger limits and implement real-time responses to close the fishery/fisheries if biological/economic trigger limits are not met; and,
- specific provisions to be hard-wired in the Harvest Strategy and the NPF Management Plan to address effort creep and adjustment.

The RAG discussed the ability to capture and control effort under an ITE system over the long term. Output controls provide an autonomous mechanism for addressing effort creep whereas there will likely be a lag in the ability of effort controls to respond to effort creep. Mr Vieira also emphasised that when you restrict one key input over time fishers will substitute for unregulated inputs (this being “input substitution”). The ongoing cost of effort creep and input substitution needs to be factored into any comparison with output controls.

The RAG determined that it was necessary for members to consider the NPMI proposal in further detail. It was agreed that members would provide comments back to AFMA by Thursday 20 September, so that the comments could be collated by AFMA for discussion via teleconference on Tuesday 25 September.

<p>Action Item 5 All (RAG) Members to provide comments on the NPMI proposal to the RAG EO by COB Thursday 20 September. RAG EO to collate for discussion at subsequent teleconference.</p>

Item 9 Timing of the pre-season surveys and the potential for an earlier banana prawn season start date (Action Item from April meeting)

Rob Kenyon outlined that the preference is to conduct the surveys in late February and early March, although the exact time is influenced by the moon phases, which can mean the survey might begin anywhere between early January or mid-late March, the latter of which would clash with a mid March season start date.

Dr Buckworth indicated that it would be difficult to get a TAC in place for White Banana Prawns if the season date were brought further forward, given the requirement for obtaining rainfall data. The RAG noted that 15 March is the earliest date that the TAC can be provided to AFMA.

The RAG agreed that under output controls, the banana prawn season cannot practically be brought forward given the need to calculate a total allowable catch based on the rainfall figures to the end of February.



Item 9 Update on components of a management strategy evaluation for White Banana Prawns

The Chair acknowledged that CSIRO has a direct conflict of interest in discussing this project as they receive funding to conduct the work. The Chair determined that this conflict was recognised, but CSIRO staff were required to enable proper discussion.

The RAG noted the update from Dr Buckworth on this project. This project will compare the performance of the current management system against the proposed ITQ system. It will run multiple simulations of the fishery and will compare the economic performance of different management strategies (ITQs compared to status quo). Dr Buckworth reiterated that this project cannot commence until Professor Kompas has completed his TAC calculation project using the Venables model.

The RAG discussed the need for a sensitivity analysis of changing catch triggers (when evaluating the current management system) because this may improve the strategy's economic performance. It was decided that this analysis would be useful in future if time allows, but that given the tight deadline of this project it may not be possible. Dr Buckworth also noted that given the absence of a clear stock-recruitment relationship it would not be possible to assess banana prawn escapement within the model.

The RAG discussed the concerns about the tight timeframes associated with completing this project. There was particular concern that given the importance of this work that more time should be allowed to ensure that the work is not rushed and to allow thorough consideration and evaluation of the results by both the RAG and MAC.

NPRAG members also raised concerns over the feasibility of this project in the absence of a robust TAC predictor (i.e. if the Venables/Kompas work cannot be used to set a TAC with a reasonable degree of certainty).

Item 10 Options for an early season update in the banana prawn season

The RAG noted the proposal from AFMA for an in-season TAC update for banana prawns, acknowledging that the potential catch prediction model (and corresponding TAC) calculation may be unreliable in some years. The proposed method (as used in the MRAG report) would be based on catch rates from weeks one to three (or somewhere in between) and would only be used to increase the TAC. Decision rules would be implemented into the harvest strategy to determine criteria for these increases to the TAC.

The proposed TAC setting model for the NPF differs from the MRAG proposal in that rather than having a fixed starting point, a variable starting point will be used (as determined by the potential catch prediction model). This update would also only be used in years when the model has not predicted potential catch well, rather than every year as is proposed in the MRAG report.

Dr Buckworth advised that the MRAG approach basically presents a regression of total catch on catch rates. Given that the fleet catches so much in the first few weeks of the season it is a fairly good measure of the available stock in a given season.



Members indicated that at previous management options workshops, the idea of a mid-season update had been rejected by AFMA and industry as it would erode the benefits of quota trading. Annie Jarrett expressed concern about the potential to fish the stock down when the model over predicts. Ms Jarrett considers that this could lead to overfishing which could affect the sustainability and economic performance of the fishery. Mr Robson also questioned how this impacts on the prediction if low catch rates are experienced in the first week or if there is a cyclone,

The RAG noted that if an in-season update was to be used to adjust TACs in the fishery, it would need time to analyse catch rates and process information to determine decision rules to allow increases in the TAC. The RAG also noted that if the option of an in-season update is pursued, then it will require minor amendments to the management plan.

The Chair closed the first day of the meeting at 6:00pm.



Day 2 - Friday 14 September 2012

The Chair opened the meeting at 8:00am.

Additional declaration of interests

Name	Position	Interest
Matt Barwick	Observer	No pecuniary interest Project Officer, NPFI

Item 10 Options for an early season update in the banana prawn season (continued from Day 1)

Following overnight consideration of the Venables potential catch prediction model and the unreliability in recent years, Professor Kompas informed the RAG that in his opinion the concept of a mid-season update to the TAC works well, but not well enough. He reiterated that the Venables project is not trying to predict catch, it is a proxy for stock assessment. The model needs to incorporate relevant economic information to output an MEY catch.

The RAG concluded the following out of discussions over both days:

- need to identify if the model can set a realistic TAC or whether there is too much uncertainty, particularly as evidenced in recent years;
- need to improve the ability to set an appropriate TAC in the first instance, noting the in-season update may not work;
- need to ensure that the RAG has investigated all options for implementing ITQs in the fishery.

The RAG noted that it will take approximately six weeks to refine the outputs of the Venables potential catch prediction project. The RAG also raised concern that if the Venables prediction project cannot reliably set a TAC, is it worth progressing with the MSE project.

The RAG considered the timeline for delivering the outcomes of:

- 1) the banana prawn potential catch prediction project (including the economic component); and,
- 2) the MSE.

The RAG recommended that the RAG Chair write to the Commission to highlight the concerns outlined below relating to the completion of this work in time for the Commission meeting:

- 1) Risks to completion of Venables prediction project:
 - a. waiting on detailed price/quantity data from ABARES and industry;
 - b. without these data, the timeline for completion of the project will not be met.



- 2) If the Venables prediction project cannot be used to reliably set a TAC, the MSE project is probably not worthwhile.
- 3) The RAG position is that it is highly unlikely that the mid-season update could rectify any issue with the predictive capability of the Venables prediction project.
- 4) Given the importance of the outputs of the two projects and the implications for the change in management structure, the RAG position is that it is essential that the two projects are not rushed to ensure that the outputs can be analysed thoroughly by the RAG and MAC.

Action Item 5 (Chair) Chair to draft correspondence to the AFMA Commission outlining concerns relating to the completion of the banana prawn prediction and MSE projects.

Item 11 Review of Tiger Prawn assessment

The RAG noted the presentation from Dr Buckworth on the Tiger Prawn Assessment model. The RAG noted that there was a large difference between the catch predicted by the model and the actual catch during 2011, the potential reasons for which include:

- HUGE banana prawns season – ecological and operational significance;
- Reduced effort on tiger prawns, or a change in the temporal/ spatial distribution of fishing;
- The spawning stocks were lower than indicated by CPUEs (which were high in 2010);
- There was a data conflict in the model;
- A recruitment downturn that was not detected in the recruitment survey and/ or not accounted for in the assessment model;
- Post-recruitment survival was atypically low; and,
- There were availability and catchability effects that meant that, while the tiger prawns were there, they were more difficult than usual to locate and catch (e.g. cold water).

The investigation into this has led to some substantial refinements in the model.

Ms Hill questioned if the model re-calibrated for changes in fishing behaviour, given the catch rate time series may have been broken through the reduction in fleet size. Industry members also suggested that there are definitive changes in the way that fishers now behave. These changes have predominantly been in methods of communication and collaboration as well as a reduced ability to cover all areas of the fishery. The RAG recognised that it would be beneficial if the model could incorporate these behavioural changes.

Dr Bustamante posed the question of whether or not the effects of moon phases are incorporated into the model. Dr Buckworth advised that moon phases are not explicitly used in the model, but that the model operates on a weekly time interval. He thought this may be a useful concept that is worth exploring.

Action Item 12 (CSIRO) CSIRO to explore the influence of moon phases on the tiger prawn assessment model.



Item 12 Development of research priorities

The Chair noted that many RAG members (including the Chair) were active researchers in the NPF and other Commonwealth fisheries. It was considered that many had direct conflicts of interest in that they may benefit through research grants that arose out of setting research priorities. A decision was made that the discussion would benefit from the scientific members' involvement, and as such they were welcome to remain in the room.

One of the key considerations identified for the strategic plan was responding to recommendations or requirements stipulated by the Marine Stewardship Council. The RAG agreed that research in the Joseph Bonaparte Gulf (JBG) will need to be addressed as a high priority. It was also agreed that the area North of Darwin (outside the gulf) should be another area of focus for future research, but was not as high a priority as JBG.

The RAG discussed the impact of the Commonwealth Marine Reserves in the Gulf and the potential loss of pre-season survey sites. Dr Bustamante raised the possibility that the at-sea surveys could be extended to achieve ecological objectives as well and funding could be sought from SEWPaC to achieve this objective. Ms Hill informed the RAG that researchers would need to approach the FRDC or SEWPaC about funding opportunities for such work.

The Chair informed the RAG of the correspondence from AFMA regarding the revitalisation of the ERA/ERM process. Dr Bustamante suggested that this would be a useful opportunity to incorporate the range of assessment tools used in the NPF.

The RAG considered the research priorities that were put forward during the last call for research. These were:

- 1) NPRAG Assessments 2013/14
- 2) NPF Integrated Monitoring Program
 - a. Vessel charter
 - b. At-sea data collection
 - c. Data analysis
- 3) Analysis of data collected through the Crew Member Observer program

The RAG recommended that the same three priorities be put forward for the 2013/14 financial year, noting that additional working would be undertaken to develop a five year strategic research plan.

The RAG suggested that the research strategy group set up through NORMAC should be involved in the development of the research plan, and this would be led by NPF1.

The RAG recommended that the team consider the following matters for inclusion in the research plan (in addition to core business items listed above):

- public awareness / positive image of the fishery (noting this is outside the scope of the RAG)
 - stock assessment training / empowering industry
- recommendations stemming from the MSC certification process;



- develop a research bibliography for the NPF;
- Marine Protected Areas (MPAs);
- external review of tiger prawn assessment (desirable).

Action Item 13(AFMA) RAG EO to request that Vicki O'Brien liaise with Rodrigo Bustamante to discuss the tools that are available in the NPF.

Action Item 14(AFMA) Need to inform the RAG of the scope of the ERA/ERM project being undertaken by AFMA.

Action Item 15(AFMA) RAG EO to work with NPFI and industry members to finalise the research priorities.

Action Item 16 (NPFI) NPFI to work with NORMAC research strategy group to develop a five year research plan for the NPF.

Item 12 Development of three year NPRAG workplan

The RAG noted the update from AFMA that the current NPRAG work plan expired on 30 June 2012 and the need to develop and implement a new work plan to define key strategic objectives and deliverables for the RAG over the next three years. The work plan also establishes a baseline budget and reporting requirements to allow the NPF Manager to assess the performance of the RAG and its members.

The RAG agreed that the key outputs for the next three years will be:

1. Advice on inputs and sensitivities to the Tiger Prawn Assessment;
2. Review the information being collected and make recommendations;
3. Advice on revised effort patterns;
4. Review and advise on the harvest strategy on a regular basis;
5. Advice on components of the ecological risk assessments;
6. Provide advice on external matters affecting the NPF such as mining impacts and implementation of Commonwealth Marine Reserves;
7. Development of Annual and Strategic research and development plans; and,
8. Representation to the Commission on an as needs basis.

Action Item 17 (AFMA) RAG EO to update the workplan and distribute for consideration OOS, noting the need for an additional RAG meeting in 2013.

Other Business

Dr Buckworth discussed the need for a repository of assessment documents for the fishery. As AFMA are the owners of these assessments it was agreed that AFMA would update their website to include a catalogue of assessment documents.

Dr Buckworth advised the meeting of the passing of Arnold Baker, who worked extensively in the NPF during the 1970s and 1980s, including taking all photographs for the "Guide to Australian Penaeid Prawns".



Dr Buckworth advised the meeting of a project that he is working on to produce a digital atlas of management in the Australian marine environment. This will be contained on a website which will contain files of all closures, navigation and mining.

Action Item 18 (AFMA) RAG EO to work with Rik Buckworth & FRDC to maintain a collection of stock assessment documents on the AFMA website.

Action Item 19 (AFMA) AFMA to provide shapefiles of closures for inclusion in the digital marine atlas.

The Chair closed the meeting at 11:30am.

