



Australian Government

Australian Fisheries Management Authority



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

NPRAG 17 - 18 MAY 2011

## DRAFT MINUTES

Northern Prawn Fishery Resource Assessment Group (NPRAG) Meeting was held at the Novotel Brisbane airport on 17 and 18 May 2011.

### Attendees

#### Members

Dr Ian Knuckey, Chair  
Mrs Melissa Brown, AFMA Member  
Dr Cathy Dichmont, CSIRO  
Dr Rodrigo Bustmante, CSIRO  
Dr Tom Kompas, Economist  
Mr Michael O'Brien, Industry  
Mr Ron Earl, Industry  
Dr Norm Hall, Scientist Murdoch  
University  
Dr Malcolm Haddon, CSIRO  
Mr Josh Fielding, Executive Officer  
NPRAG

#### Observers

Ms Fiona Hill, AFMA  
Dr Trevor Hutton, CSIRO  
Mr Matt Barwick, NPFI  
Dr Eva Plaganyi-Lloyd, CSIRO  
Dr Sean Pascoe, CSIRO  
Dr Roy Deng, CSIRO  
Mr Robert Curtotti, ABARES  
Dr Rik Buckworth, CSIRO



## Preliminaries

### Agenda item 1.1 Welcome

The Chair opened the meeting at 9:00am, welcoming all members and observers to the meeting. He advised that the primary purpose of the meeting was to evaluate the tiger prawn assessment, the Management Strategy Evaluation (MSE) work and the Harvest Strategy for the NPF under output controls.

The Chair also recognised that this meeting represented a 'changing of the guard' for the NPRAG being the last meeting for Dr Cathy Dichmont before Dr Rik Buckworth took over as the NPRAG research member and the last for Melissa Brown before Fiona Hill took over as the AFMA member. The Chair formally thanked both Cathy and Melissa for their efforts in the RAG over a long period and recognised their valuable input.

### Apologies

Apologies were received from James Woodhams (scientific member), Annie Jarrett (permanent observer) and Ian Boot (industry).

### Agenda item 1.2 Adoption of agenda

Members adopted the agenda noting there were some minor changes to the original agenda to flow through the MSE, stock assessment and then Harvest Strategy items.

### Agenda item 1.3 Adoption of minutes of May NPRAG meeting

The final draft minutes from NPRAG October 2010 were accepted as a true and accurate record of the last meeting pending some minor typing changes.

#### Action NPRAG May 2011: 1 (NPRAG EO)

Minutes of NPRAG October 2010 to be amended as advised at the meeting.

#### Actions arising from previous minutes

Person responsible	Description of ACTION item	Deadline
1. NPRAG EO	Minutes of NPRAG November 2009 to be amended as advised at the meeting	Completed
2. NPRAG EO	To distribute the draft minutes to observers who present as well as RAG members for clearance.	Completed

<b>Person responsible</b>	<b>Description of ACTION item</b>	<b>Deadline</b>
3. NPRAG Chair, Scientific member and industry	To discuss via out-of-session and submit a holding paper that recommends allocation of funds for exploring methods of setting a banana prawn TAC.	Covered in agenda item 10 of this meeting
4. Dr Bustamante	Come up with costs and logistics of running effects of trawling model against the proposal put forward by the RAG for a system of MPA's.	On track
5. All RAG	RAG industry members to provide individual feedback on the report assessing fishing seasons for red-leg banana prawn in the JBG.	NPFI recommended to the March NORMAC meeting that the voluntary first season closure in the JBG be opened to allow targeting of red-legs in the first season. This recommendation was accepted by both NORMAC and AFMA.
6 Annie, Matt, Sean and Tom	NPFI to work together with Tom Kompas and Sean Pascoe to finalise the fields and devise the economic questionnaire/data collection method.	Completed
7. Eva Plaganyi-Lloyd	To use the natural mortality value from the red-leg banana prawn tagging study (0.045) in the assessment model	Covered in agenda item 6 of this meeting
8. CSIRO	Organise for the Venables species split data to be provided to Simone Valle de Souza for incorporation into the optimisation model for banana prawns.	Pending
9. NPRAG	Individual RAG members to provide Simone Valle de Souza with feedback to support the work she is conducting – a very real issue for the NPF	Pending The Chair noted that it is important to encourage relationships between the RAG and PhD students working in relation to the NPF.
10. NPRAG industry members	To attempt to define what business decisions will be made for the six season scenarios with decimation rates of 1.2 and 0.8, thinking in terms of a single boat owner	AFMA legal has advised that there are issues in terms of writing decimation into the new management plan. AFMA does not have the power to alter the value of property rights within a single season. Remove from action item list.
11. Annie Jarrett and Cathy Dichmont	To begin writing the harvest strategy to incorporate decimation	On track, covered in agenda item 7 of this meeting



Person responsible	Description of ACTION item	Deadline
12. NPRAG EO	Review the NPF harvest strategy and the bycatch report to determine if there are any contradictions. Prepare a paper for the next RAG meeting.	Complete Covered in agenda item 13 of this meeting
13. RAG Chair/RAG EO	The RAG to write to the authors of the NPF bycatch management report seeking some clarification on the method used to calculate the available biological catch of bugs and to run a re-calculation using 60mm as the minimum size limit.	On track, now an action item for the next NORMAC meeting in June 2011

The RAG discussed Action item 4. in detail, in light of the upcoming release of the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) release of the proposed Marine Protected Areas (MPAs). Dr Bustamante noted that as required by Action item 4, he has been working with Northern Prawn Fishery Industry Pty Ltd (NPF) on costs to re-run the model with different inputs. Dr Bustamante also noted that SEWPaC had communicated an interest in seeing the Commonwealth Scientific and Industrial Research Organisation (CSIRO) model to gain an understanding of the tool and its use. It was also noted that there has been some discussion with the Fisheries Research and Development Corporation (FRDC) in the exploration of funding to conduct this work.

The RAG agreed that an attempt should be made for CSIRO to be supplied with SEWPaC's draft MPA's in their current form, with some confidentiality around the process, so that initial analysis of the effects can be conducted. The Chair noted that there was a very short time period for comments to be made once the draft MPA's are released for public comment (90 days). The short public comment period coupled with the potential impacts MPA's may have on upcoming management changes (move to Individual Transferable Quota's) the RAG thought that it was very important that SEWPaC is approached to try and get a copy of the draft MPA shapefiles to provide to CSIRO to run through the model.

**Action NPRAG May 2011: 2 (Dr Bustamante, Mike O'Brien and Melissa Brown)**

For CSIRO, industry and AFMA to liaise on contacting SEWPaC to try and get a copy of the draft MPA shapefiles to CSIRO to run through the model.

**Action NPRAG May 2011: 3 (Dr Hutton)**

For Dr Hutton to follow up on providing the information relating to Action item 8 to Simone Valle de Souza.

**Action NPRAG May 2011: 4 (RAG EO)**

Follow up with Rob Kenyon and Michelle Burford to check if the new proposal for the TRaCK project presented at the last RAG meeting has been accepted or rejected by FRDC and to assess if a letter of support from NOMRAC is required.



## **Agenda Item 2. Industry Report (Michael O'Brien and Ron Earl)**

Industry reported that they are very happy with how the 2011 banana prawn season is going. Ron Earl and Mike O'Brien reported that the catch landed to date would be close to the 6,000 t mark. The fleet experienced very good conditions in the first month, with patches of banana prawns very easy to find and very little competition between vessels to land large catches. It was noted that in the weeks leading up to the RAG meeting catches had somewhat slowed down. It was also noted that the average for the Raptis fleet for the 6<sup>th</sup> and 7<sup>th</sup> week would remain around the 1500 kg/day mark. The boats in the fleet with the largest catches were thought to have landed around 200 t each. Industry also believes that there would be very few if any boats in the Gulf region that had not landed greater than 100 t.

The Chair noted that there were reports that the quality of product was very good and that skippers and crew had been very careful to not overload boats so that product could be packed and frozen without losing quality. Industry replied that quality had been very good in the early season because there were so many prawns around that there wasn't a race between vessels to get their share of the boils. For that reason, crews were able to simply trawl through, take their catch and then spend time packing before putting the nets back in the water. It was also noted that one boat had reported leaving the codends on one side of nets open to avoid catching too much product. The RAG heard that the limiting factor for total catches for boats seemed to be their freezing capacity.

It was also noted by industry that there had been some issues with transporting product out of the Gulf region, with the roads to Karumba flooded during the early stages of the season. This, combined with the large catches, meant that the motherships had struggled to hold the amount of product the boats were landing.

The size of the product coming from the Gulf is typical of previous years, with the size getting better further west from Karumba and smaller product in the Weipa area. There seems to be two distinct size groups of 14/15 count per pound and 17/18 count per pound. The RAG had some discussion on why this might be and other than the suggestion that there were two distinct groups of recruits from different spawning events, no other conclusions were evident.

Regionally, some areas produced more product than others, with the south east of the Gulf producing very well. Weipa started slow and picked up after the first week, the Northern Territory region has been a bit slow and Gove has fished well. At this stage of the season boats are moving west of Karumba through Mornington and though to the Vanderlins and experiencing good catches of larger prawns. To date, no one has fished the Joseph Bonaparte Gulf due to tidal patterns and inclement weather.

It was noted that fuel prices continue to be high and the unique situation with the Australian dollar is translating to low prawn prices. Not much product has been sold yet but China has been paying around \$US 9/kg. Most of industry are waiting for Coles and Woolworths to conduct their bulk buying before they figure out what prices they might get, it was noted that Woolworths was carrying about 1200 t of banana prawn product at the start of the season.

Industry also wanted to recognise the great state that the NPF in terms of catch and the efforts that industry, scientists and managers in the room individually and as a team had made to get the fishery to such a state.



### **Agenda item 3. Managers Report (Fiona Hill)**

Fiona Hill of AFMA delivered the managers report, the RAG noted from this meeting forward, Fiona will be the AFMA member. First off the RAG noted that AFMA is not receiving e-log submissions from all vessels in the fishery. It was noted that there are some coverage issues in the NPF with the Next G system but AFMA is receiving reports from some boats but not others that are fishing in the same area. The RAG noted that NPFI will discuss the reporting concerns with their members and Matt Barwick undertook to follow up with boats individually.

AFMA is currently undertaking a quota policy review. This process is reviewing broader quota policy issues across Commonwealth fisheries in relation to things such as reconciliation periods and over/under catch. The RAG noted that this document will be submitted to the next AFMA Commission meeting to gain approval to go out for public comment. A final draft will go to the Commission meeting in October for final approval. The RAG noted that this document will have implications for the new NPF management plan and as such is a key component in the process of producing the new plan.

The RAG noted that AFMA is funding a Management Advisory Committee (MAC) workshop in the coming weeks with all MAC Chairs and Executive Officers (EOs) to update them on the roles of MAC's, the Chairs and the EOs, and how information from MACs is included in the fisheries management decision making process.

AFMA outlined that in relation to some NPF-specific management issues that a service provider had been found to conduct the work of changing the datum for the spatial components of the fishery such as the seasonal and permanent closures and the coordinates of the fishery area. Although the amendments to the coordinates will be minor, it is a legislative requirement for AFMA to conduct this update.

The RAG also noted that AFMA and NPFI are working with the Northern Territory in relation to work they are conducting on management changes to the NT snapper fishery. As part of that process they are looking at adding two fishing areas to the snapper fishery. Comments have been provided by both AFMA and NPFI, and the process is continuing. Dr Cathy Dichmont noted that for Queensland fish trawl fisheries in the Gulf there was an agreed line in permit conditions that they did not fish below and the NPF did not fish above and questioned whether a similar arrangement should be made on the Northern Territory side of the Gulf.

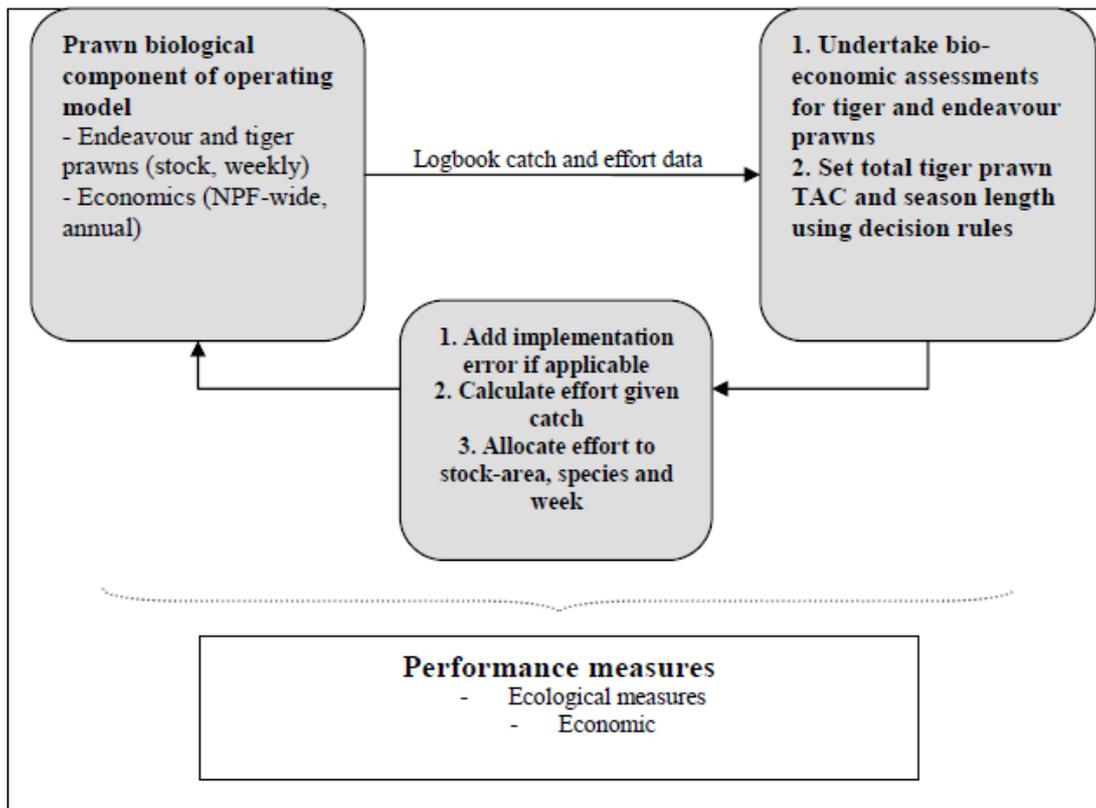
#### **Action NPRAG March 2011: 5 (Fiona Hill)**

To review the agreement with Queensland in relation to trawl fishing in the Gulf and feed this information into the consultation process with the Northern Territory.

### **Agenda item 4. Management Strategy Evaluation for tiger prawns (Dr Cathy Dichmont)**

Dr Dichmont gave a presentation on the MSE, reminding the RAG of what an MSE was and the inputs that are included in the MSE for the tiger prawn sub-fishery of the NPF under output controls. In the presentation Dr Dichmont also gave special thanks to Dr Roy Deng for his efforts on the MSE, as well as the rest of the assessment team.





**Figure 1.** Conceptual overview of the MSE for the NPF.

Dr Dichmont stated that the MSE is a set of rules that determine the management responses for the fishery based on the status of the stocks at a point in time based on a specified assessment procedure.

In managing the tiger prawn fishery within the NPF there are actually three species that make up the catch composition: Brown Tiger Prawn, Grooved Tiger Prawn and the Blue Endeavour Prawn. The RAG noted that in managing the tiger prawn fishery the MSE will need to account for multiple stocks sustainably and move the harvest of these species towards Maximum Economic Yield (MEY) while using a single Total Allowable Catch (TAC). The RAG also noted that the base case assessment was made up of two different stock assessment models; the size structure model for the two tiger prawn species and the delay-difference model for the Blue Endeavour Prawn. The NPRAG discussed the fact the base case was originally the size-structured model for the two tiger species and the hierarchical biomass production model for the Blue Endeavour Prawn. Dr Dichmont outlined that the hierarchical biomass production model was very labour intensive and required constant monitoring to keep it running. The results between the delay difference model and the hierarchical biomass production model for the Blue Endeavour Prawn proved to be very similar and as such it was decided to use the delay difference model in the base case to allow the desired number of model runs to be undertaken within the allocated timeframe.

As discussed in the Harvest Strategy agenda item at the October 2010 meeting, the RAG agreed that in the case of managing the tiger prawn fishery, a TAC would be used



in the first instance to manage the harvest of the different species. If this did not control the proportional take of the two tiger prawn species, the RAG recognised that there may need to be a reduction in the season length to control the take of the tiger prawn species. *The RAG was asked to comment on when the use of the seasonal control should kick in and how severe the season reductions should be.*

As prawns are a short lived species and there is a large influence on recruitment events to the catch that is available in any one year the outputs of the stock assessment can see large fluctuations in the TAC. As such a maximum variation in terms of a percentage of the TAC can be used to control this fluctuation. A variation of 15% has been used in the MSE. *The RAG was asked to comment on the use of a maximum fluctuation variable and the magnitude of this value.*

Also of note, the recommended TAC from the stock assessment is larger than the quantity of tiger prawns that the NPF fleet currently lands. As such there are two methods to move towards the recommended TAC from the stock assessment: (a) move to the model towards the recommended TAC gradually over time, increasing at a rate equal to the fluctuation variable described above; or (b) in the first year the TAC is introduced, allocate the recommended TAC from the model. *The RAG was also asked to provide comment on the two options.*

Within the presentation of the MSE, in modelling the TAC and catch of the fleet, it was noted that with the current level of fishing effort in the fishery and the restriction to 52 boats, the model predicts that there will be times when the fishery is unable to catch the total TAC. Importantly the RAG noted that under this condition the industry should not be penalised for not achieving the TAC and as such rules should be set up to avoid this.

In summary, the RAG was asked to comment on the following;

**1. Season**

When to implement change to season – what value of  $S_V/S_{MSY}$   
Shape of the change to season – how severe a reduction

**2. Inter-annual variability in TAC**

Variability applied internally or externally of the model  
What should the value be?

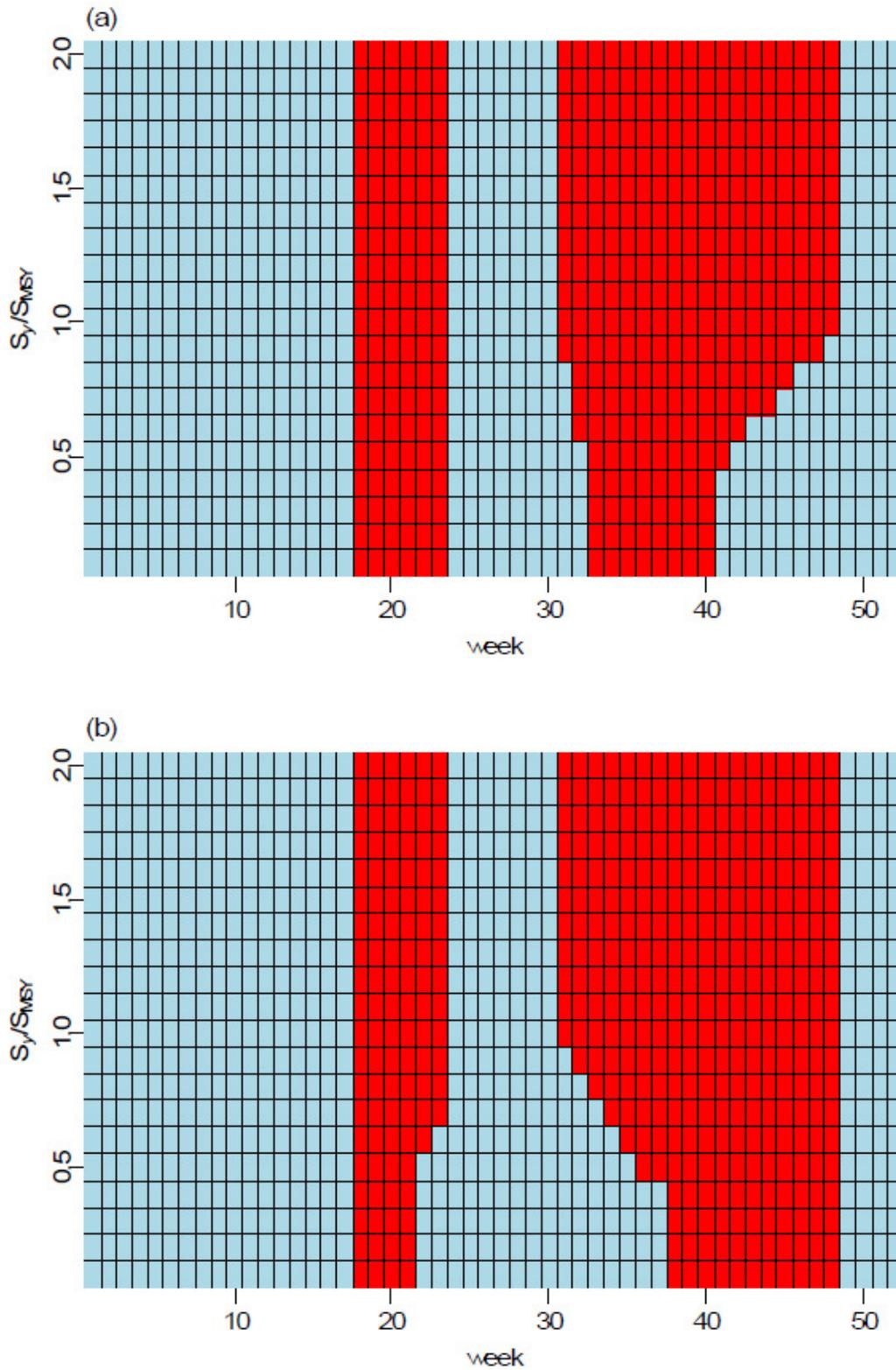
**3. Starting TAC**

Should the TAC value be restricted in the first year with a gradual increase to the TAC from the model based on the current catch?

**Action NPRAG March 2011: 6 (Dr Cathy Dichmont and assessment team)**

The MSE showed that the stock would not hit the limit reference point in the 7 year projection. As such the RAG requested that the stock be simulated to hit the limit reference point to assess how it recovers from that point (i.e. crash the stocks).





**Figure 2.** Weeks open to fishing as a function of size of the spawning stock size index relative to  $S_{MSY}$ , for (a) grooved tiger prawns and (b) brown tiger prawns.



The feedback from the RAG on the three topics for comment are detailed below;

### **1. Season**

Figure 2 shows the modelled reduction (based on historical range) of the tiger fishing season by week (red). The RAG noted that the limit reference point is  $0.5 S_Y/S_{MSY}$ , measured as a rolling five year average. The RAG noted that there is spatial and temporal variation in which tiger prawn species dominates the commercial catch. As such the RAG noted that;

- if there is an issue with the stock of brown tiger prawns then the season will be reduced at the end of the first season and at the beginning of the second; or
- if there is an issue with the grooved tiger prawn stock then the season will be reduced at the end of the second season.

The RAG decided that the best way to use the reduction in season to control catch was to assess the value of  $S_Y/S_{MSY}$  on a two year basis. If this value drops below 1.0 then no response is invoked at that point. If the value is below 1.0 for a second consecutive year then the reduction in season should correspond to the value for the second year. e.g. if in year x the value of  $S_Y/S_{MSY}$  for brown tiger prawns is 0.7, there is no response. If the value of  $S_Y/S_{MSY}$  for brown tiger prawns is 0.6 for the following year, then there will be a reduction of 1 week from the end of the first season and 4 weeks from the beginning of the second season (Figure 2). In order for the season to revert back to the original length, the particular stock will need to have  $S_Y/S_{MSY}$  above 1.0.

It was noted that in this case the species that has the lower value of  $S_Y/S_{MSY}$  will be the limiting factor for the total tiger prawn fishery.

The RAG was also asked to comment on the overall shape and severity of the season reduction from the MSE model. The RAG agreed that the figure presented by CSIRO was suitable. Noting that there is a greater reduction at the end of the season, where the RAG heard that removing a week at the beginning of the season would result in a bigger reduction in effort than a week at the end of the season, and as such, there should be a more dramatic reduction in weeks towards the end of the season, as seen in Figure 2.

It was agreed that there was no need to have the reduction during week 31 and 32 for concerns about grooved tiger prawns.

### **2. Inter-annual variability in TAC**

The RAG noted that use of an inter-annual variability factor was to aid the industry by reducing the fluctuation in TACs from one year to the next. This is not to compromise the setting of TAC's sustainably. The industry representatives were very supportive of including a factor enabling business certainty in reducing the variability in the TAC setting process. The RAG was presented results in which the variability factor was added inside or outside of the model. If added outside the model there seemed to be greater variance in the TAC that was set, as such the RAG agreed that the model seemed to handle this inter-annual variability with the use of an internal variability factor quite well and this method was more likely to confirm with the MEY target over the long term

The RAG noted that the variability in the TAC comes from the variability in recruitment events, which can fluctuate on large scales.

The maximum variability allowed the model is currently set at 15%, which is a value used in other fisheries around the world. The industry representatives were asked to



comment on this value. It was agreed by the industry representatives that a value not higher than 15% would be ideal but it was not clear what value might be ideal. Dr Tom Kompas agreed that he would be happy to have a closer look at this and see if he can come up with some scenarios.

**Action NPRAG March 2011: 7 (Dr Tom Kompas)**

To investigate the use of an inter-annual variability factor and a value that might be appropriate.

**3. Starting TAC**

NPRAG unanimously agreed that at the beginning of quota management the TAC that should be set is that which comes out of the bioeconomic model, as opposed to a method which increases to this point over time.

**Agenda item 5. NPRAG tiger prawn assessment (Dr Trevor Hutton)**

Dr Trevor Hutton presented the tiger prawn assessment for 2011. Dr Hutton firstly wanted to officially thank Dr Roy Deng for his efforts in the assessment as well as the efforts of Mr Matt Barwick in collecting and collating data from the industry. The assessment team was especially thankful to Matt for the state of the economic data that was collected from the industry, which was both cleaner and more comprehensive than that in previous years.

Dr Hutton presented the assessment, again reminding the RAG of the model base case (as discussed in agenda item 4), and displayed sensitivity tests in the assessment and the results.

The RAG noted the fishing pattern used in the model, which was agreed to at the May 2010 NPRAG meeting. Interestingly the assessment showed that there has been an approximate 2% reduction in fishing power this year.

It was noted that a key component of the assessment and implementation of quota will be to understand the timelines for needing the assessment outputs so that the AFMA Commission can accept the TAC's in time for these to be determined and allocated prior to the fishing season.

**Action NPRAG March 2011: 8 (Dr Rik Buckworth, AFMA)**

To produce accurate timelines needed for both the assessment (Dr Buckworth), including the dates when data is required for the assessment, and for management for the TAC setting process.

The RAG noted that the assessment model shows that to achieve MEY this year there would be a need to increase effort by 26% (if wholly taken in gear this would result in an increase of 137%).

Dr Hutton presented the results of the sensitivity tests, and in so the RAG noted and discussed previous comments on conducting sensitivity tests around fuel and prawn prices. Dr Tom Kompas indicated that he was happy to have a look at this.

**Action NPRAG March 2011: 9 (Dr Tom Kompas)**

To look at sensitivity tests around fuel and prawn prices.



The RAG noted that the model indicated there was extra effort that could be expended in the fishery if the industry so chose to utilise it. As such NPRAG decided to assess the potential to increase the length of the season to determine if there were any sustainability issues in this occurring. It was noted that there was an increase in effort allocated last year and much of the industry had not taken up this effort.

The RAG brainstormed some potential increases in season length that could introduce and increase in effort to the fishery. It was noted that NORMAC had already requested an increase in the banana prawn season to 24 June due to the unique situation in terms of banana prawn stock that was accepted this year, which was subsequently accepted by the AFMA Commission. The RAG decided that the best scenario to test was that shown in Figure 3 (b), by assessing the maximum season extension, the RAG would be confident that any proposed amendments to season length which were less than that would be acceptable

Dr Roy Deng undertook an analysis over night which was presented back to the RAG. The results of the analysis showed that there was no sustainability issue in increasing the length of the season to the maximum described in Figure 3 (b).

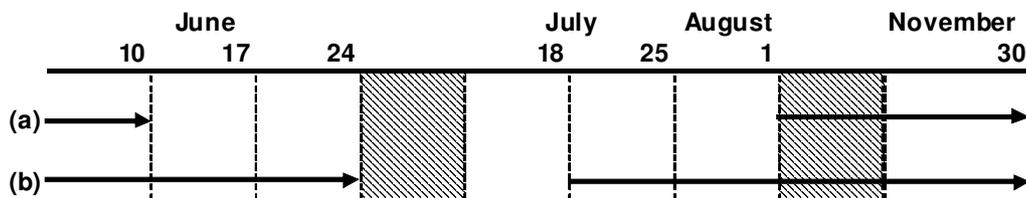


Figure 3. (a) shows the current base case for season length (ending on 10 June), (b) shows the extended season length as assessed by NPRAG for a possible effort increase in the tiger prawn fishery.

The RAG thanked Dr Deng for his efforts and agreed to put a letter to NORMAC advising that NPRAG was happy for the industry to make a recommendation back to the RAG on if and how they might wish to take an effort increase.

**Action NPRAG March 2011: 9 (RAG Chair)**

To send a letter to the Chair of NORMAC outlining the outputs of the assessment model state that to achieve MEY an effort increase will need to occur in the fishery, and the preliminary results of the analysis conducted by Dr Deng.

**Agenda item 6. Red-legged banana prawn assessment (Dr Eva Plaganyi-Lloyd)**

The RAG noted that Dr Eva Plaganyi-Lloyd had previously presented the red-legged banana prawn assessment in detail and that this presentation was an update of the model with preliminary TAC estimates for 2011. It was noted that the RAG had agreed in principle that the red-legged banana prawn assessment can and will likely be used to set a TAC for red-legged banana prawns for the JBG area.

Using the base case model a TAC of 525 tonnes was outputted for 2011. The RAG noted that an issue within the model was the fleet dynamics and how these may change under a quota management system. Mr Mike O'Brien outlined that for the current season it is likely that there may be 20 boats to operate in the area for 6 days in May and then another 20 boats potentially operating in the JBG for 12 days in June (based on boats only really being able to operate in the area on neap tides).



**Agenda item 7      Harvest Strategy under output controls (Dr Cathy Dichmont, RAG)**

Dr Cathy Dichmont prepared a draft Harvest Strategy for the fishery under output controls. The RAG noted this would be a working document but that some feedback and comment was required at this time.

In the draft circulated with the RAG papers there were a number of highlighted segments of the document that the RAG was required to give input to. The RAG provided feedback on all items which will now be incorporated into the document. The major components of discussion by the RAG are detailed below.

The Harvest Strategy contains a section on fishing seasons. The RAG discussed the potential for season to extend (as is being considered this year). As such it was felt that it would be pointless to explicitly specify the season dates as these were likely to change. It was also discussed that season in the NPF is actually managed by a series of closures. Thus, season, or the intention of this section, could be included in the closures section.

There was a large amount of discussion around the need to have minimum quota holdings and how this will work. As a part of this discussion the requirement to hold quota for all species was also discussed and the need for operators to maintain banana prawn quota for the second season. AFMA outlined that legislatively it is hard to allow operators to catch and land a quota species without holding or having the ability to lease quota for that species. Some RAG members considered that operationally it would be much easier to not have quota on banana prawns in the second season. Dr Cathy Dichmont outlined that she thought having a quota on banana prawns in the second season would encourage discarding, both to high-grade and to not inhibit fishing for tiger prawns. For at least an interim period Dr Cathy Dichmont advised no quota on banana prawns in the second season would be appropriate.

Another point of discussion was the reference point and decision rules for blue endeavour prawns. The RAG noted that we do have accepted reference points for blue endeavour prawn, aside from the limit reference point ( $0.5 S_Y/S_{MSY}$  on a five year rolling average). Blue endeavour prawns are included in the bioeconomic model for tiger prawns given their association with tiger prawns in commercial catches. It was also noted that although TAC's are grouped in the tiger assessment there are separate reference points for the three species, as such the lowest denominator will control the Harvest Strategy.

The RAG was asked to comment on the decision rules to account if the stock status of blue endeavour prawns was at or getting towards the limit reference point. The RAG agreed that given there is a high degree of uncertainty in the assessment for blue endeavour prawns then a different approach to that suggested for tigers should be considered. It was also noted that the assessment for blue endeavour prawns does not output a TAC and as such the RAG suggested that the use of season length should be used to reduce the take. It was noted that blue endeavour prawns are more strongly associated with brown tiger prawn catch and as such any reduction in season should occur at the beginning of the second season as would occur for brown tiger prawns. It was also suggested by the RAG that this be included in the re-run of the MSE to



simulate a crash in the stocks and see how blue endeavour prawn stock responds to the management responses.

The RAG noted that in relation to tiger prawns much of the discussions on decision rules was covered and agreed on under agenda item 4 MSE. These recommendations from the RAG will be incorporated into the document.

It was suggested by industry members of the RAG that CSIRO should consider producing a flow-diagram to assist in the explanation of the decision rules under the Harvest Strategy.

The RAG also suggested that given the consistently small proportion of king prawns taken in the NPF, it should be considered whether these are relevant to be considered in the Harvest Strategy. It was noted that ABARES may be no longer including king prawns in their fishery status reports. Based on this, NPRAG agreed to remove king prawns from the Harvest Strategy.

**Action NPRAG March 2011: 10 (Dr Cathy Dichmont)**

Update the Harvest Strategy in line with comments provided by the RAG in this agenda item and the MSE agenda item. To remove king prawns from the Harvest Strategy.

**Agenda item 8      Byproduct report and NPF Harvest Strategy for byproduct species**

The RAG was presented with a table outlining the mean Available Biological Catch (ABC) from the *Milton et al* report for bugs, squid, scallops and cuttlefish in the area of the NPF.

**Action NPRAG March 2011: 11 (RAG EO)**

Check *Milton et al* report to ensure that the mean ABC's are what is recommended as the ABC for each species and report back to RAG.

It was noted that there is a large difference between the recommended ABC's and that which has been landed in the NPF over recent times. The RAG did note that currently in the fishery there is a 500 tonne trigger limit for squid which is significantly larger than the 306 tonne mean ABC recommended in the report. Mike O'Brien outlined that he recalled that the 500 tonne trigger limit was implemented as part of a catch sharing arrangement with the Northern Territory. As such the RAG agreed that before considering changing the catch or trigger limit there should be a review of how this decision came about.

**Action NPRAG March 2011: 12 (AFMA)**

Review if there is a catch sharing arrangement for squid between the Commonwealth and Northern Territory for squid.

**Agenda item 9      Next years tiger prawn assessment**

Dr Rik Buckworth gave the RAG an update on next years tiger prawn assessment. Dr Buckworth outlined that the assessment next year would be in the same format as this year. In line with action items under the agenda item covering this year's assessment there will be some sensitivity testing around economic parameters.



It was also again outlined how important it will be to have a very good understanding of the timeline for implementation next year as the output of the assessment will be used to set a TAC (action 8 from this meeting). It was also noted that there is a bit of leeway given the management plan will not be implemented until after the first season and so the TAC does not need to be set prior to 1 May as it will in future years. However, the RAG agreed that the timeline for future years should be met in 2012 as a matter of principle.

The RAG endorsed the proposal to go ahead and noted that it will be circulated to the RAG out-of-session.

### **Agenda item 10      Banana prawn TAC (AFMA)**

NPRAG was given an update on where management is at in terms of finding a method to determine a TAC for common banana prawns. AFMA has been internally investigating simplistic methods in line with direction from the AFMA Commission. AFMA described that the most probable method they had discussed was the use of a base TAC with an in season update around the second or third week based on the average catch rates of the fleet.

As well AFMA had received a proposal from CSIRO for Dr Bill Venables to conduct data analysis on the survey index data and rainfall data to assess if a predictive model could be devised from this. The proposal was a reasonable cost (~\$20K) and the RAG agreed that although high risk, it could represent exceptional value for money if a potential solution to setting a banana prawn TAC could be developed. They considered it was well worth investing in the skills and experience of Dr Venables to tackle the problem. Industry members of the RAG expressed some concern at the how this model was going to take into account environmental variables for the entire area of the Gulf given that there is not river flow measuring devices throughout the entire Gulf region.

Dr Tom Kompas outlined that the use of an in season update had been investigated as part of the MRAG Cost Benefit Analysis that was conducted for the fishery. Dr Kompas outlined that a large amount of time was spent analysing data to find a way for an in season update to work and that they were unable to find a method to determine a TAC for banana prawns.

The RAG was unanimously supportive of the Venables proposal being funded and the project going ahead.

### **Agenda item 11.      NPF management plan (AFMA)**

The RAG was given an update on where the new NPF plan timeline is at and when it is timed to come into effect. The AFMA Commission and Executive are still very keen to have the plan implemented in mid-2012. At the last NORMAC meeting there was some concern at the risk to implementing quota in mid-2012; given the potential for fishing of tiger prawns to occur in the first season which would be outside the quota system. The RAG did not have any issues with the management plan beginning in mid-2012 provided AFMA could account for the take of tiger prawns in the first season. The RAG suggested two possible approaches to this:

1. Do not permit fishing of tiger prawns in the first season;



2. 2 tiered option – either take a % of the TAC off before allocating to allow for what is caught in the first season or take away the actual catch if data is supplied in sufficient time

The RAG also noted that legislatively AFMA cannot implement a quota decrementation system as was discussed at the last NPRAG meeting, where there would potentially be a different decrementation rate for tiger prawns in the first and second season.

**Agenda item 12. NPF outsourcing the scientific observer program trial (Matt Barwick)**

The RAG was given a presentation from Mr Matt Barwick from NPF on the project that they are undertaking to investigate the potential for the industry to manage the scientific observer program. The project is well underway and it is envisaged that as part of the trial the industry will be managing the program for the upcoming tiger prawn season and the banana prawn season in 2012.

Matt asked the RAG for feedback on the protocols for the program, which are the same as those from the AFMA observer program. The RAG provided some minor comments on the data collection around the data that was collected in relation to some bycatch species given issues that are going on in other fisheries. As well the RAG made some comments on being careful exactly how observers are collecting data, specifically in relation to random samples and their ability to meet the scientific needs.

**Action NPRAG March 2011: 13 (NPRAG)**

To supply Matt Barwick with more detailed comments on the observer data collection protocols out-of-session.

**Agenda item 13. NPF Bycatch management project, future management of bugs – recommendation to NORMAC (RAG Chair)**

The RAG noted that the RAG Chair has requested further information from the authors of the byproduct report to run further analysis with different size limits on bugs to see what the ABC comes out as. When this information is received it will be circulated to the RAG before going to the June NORMAC meeting.

**Agenda item 14. Other business**

**NPF Strategic Assessment**

The RAG noted the need to conduct a strategic assessment with the change in management arrangements for the NPF. The RAG was asked to comment out-of-session on the draft document and provide comments back to the RAG EO.



**Action NPRAG March 2011: 14 (NPRAG)**

To supply RAG EO with comments on the NPF strategic assessment out-of-session.

**NPF Bycatch and Discarding Workplan**

The RAG noted that the current bycatch and discarding workplan expires at the end of the current financial year and thus we are required to form a new one. The RAG agreed that it would be ideal to hold a face to face meeting to deal with this. It was noted that documents such as this are scrutinised externally and it is important to put time and effort into this process. It was agreed that this meeting could be held in conjunction with the next NORMAC meeting with most of those people required for a meeting to discuss the bycatch and discarding workplan present at NORMAC.

**Updated SAFE assessment for the tiger prawn sub-fishery**

The RAG noted that the SAFE assessment for the tiger prawn sub-fishery had been updated in line with recommendations from the last strategic assessment.

**Gear Survey**

The RAG noted that a fishing power planning day is being scheduled. AFMA was asked who the most appropriate person would be for this day and it is understood that Narelle Williams from the AFMA data section is likely to attend. The RAG agreed that as with last year the pre-fill should occur to make it easier for industry to complete the survey. The RAG noted that if there are any items that members want on the agenda then they should contact Margaret Miller at CSIRO.

**Closing**

The Chair again noted the departure of Dr Cathy Dichmont and Melissa Brown from NPRAG after this meeting and again thanked them both for their longstanding contribution to the RAG.

**Next meeting**

It was noted that the RAG will need to again review the Harvest Strategy document prior to the September NORMAC meeting, however, it was agreed that this could happen out-of-session.

The Chair closed the meeting at 1:00pm

