

**Rock Lobster & Giant Crab  
Resource Assessment Group  
RECORD OF MEETING**

**Meeting No.6  
25 October 2011  
DPI Queenscliff**

**Chair:** Ian Knuckey

**Meeting Commenced:** 10:00am

**1. PRELIMINARIES**

<b>Present</b>	
Ian Knuckey	Independent Chair
David McCarthy	Industry member – western zone rock lobster
Anthony Cicone	Industry member – eastern zone rock lobster
David Lucas	Industry member – eastern zone rock lobster
Lawrence Moore	Recreational member – VRFish
Terry Walker	Fisheries Victoria Snr Rock Lobster Scientist
Adrian Linnane	SARDI Senior Rock Lobster Scientist
Melissa Schubert	Fisheries Victoria Rock Lobster Fishery Manager RAG Executive Officer
<b>Observers</b>	
Rick McGarvey	SARDI
David Reilly	Fisheries Victoria Rock Lobster Research Program
Fabian Trinnie	Fisheries Victoria Rock Lobster Research Program
<b>Apologies</b>	
Gary Ryan	Industry member – western zone rock lobster
Shannon Churchill	Industry member – western zone rock lobster

**1.1 Welcome and apologies**

Ian Knuckey welcomed members to the sixth meeting of the Victorian Rock Lobster and Giant Crab Resource Assessment Group (RLRAG).

Apologies were received from Shannon Churchill and Gary Ryan.

It was noted that the aim of the meeting was to continue the review of the decision rules commenced in Meeting 5.

The minutes from the previous meeting were endorsed with several suggested amendments to Agenda Item 6 – Indicator and Reference Point Review. These amendments and associated concepts were revisited at this meeting.

Ian indicated that at the conclusion of the review, a report would be produced for dissemination to stakeholders that would include the RLRAG's analysis, reasoning and recommendation for the decision framework.

## 2. DECISION RULE REVIEW

In recapping the recommendations made in the previous meeting, it was agreed that:

- An appropriate reference year to replace 1951 is to use the year of 2001. In addition to quota being introduced in 2001, data from the fixed-site surveys and the on-board observer program was available around this time;
- The intent of the target and limit reference points (40% and 20% of  $B_{1951}$ ) should be retained and will be recalculated to be relative to the reference year of 2001;
- The 'biomass build window' should be replaced by the available biomass target of 40% of  $B_{1951}$  (recalculated for  $B_{2001}$ ) by 2021; and
- Spawning biomass, when compared with available biomass, is the most critical determinant with respect to the sustainability of the fishery, and the RLRAG agreed that this indicator should represent the limit reference. It was also recommended that a more accurate term for this measure is 'egg production', particularly as the model calculates the mass of eggs spawned per season.

Adrian Linnane noted that the method for measuring egg production is the same in South Australia and Tasmania and that there may be an opportunity to promote consistency across the south-east if Victoria also adopts this methodology. Victoria will investigate this as an option.

### **Action:**

- **FRB to examine the opportunity to use an approach of measuring egg production that is consistent with South Australia and Tasmania.**

## EGG PRODUCTION

The RLRAG discussed the wording of the spawning biomass indicator detailed in the Decision Framework. The existing wording: '*Are the zone indicator and the largest region (by spawning biomass) indicator both above the limit reference?*' is unnecessarily complicated and has the potential to result in divergent management responses within zones if, for example one region was below the limit reference point and one was above. Further, the TACC is currently determined on a zone-wide basis rather than regions within the zones.

The RLRAG agreed to recommend that the wording should be simplified to: '*Egg Production: Is the indicator above the limit reference?*'

In discussing the management response to be implemented if egg production is measured to be below the limit reference point, the group agreed to preserve the intent of the original wording: '*Adopt a TACC which returns the indicator to above 20% of  $B_{1951}$  within two years with 75% probability*' but replace 'adopt' with 'reduce or maintain'. The RLRAG was satisfied that ensuring egg production recovers to the limit reference within two years, with the existing risk constraints, would enable the required protection for the population.

The revised response is therefore suggested to be: '*Reduce or maintain a TACC that returns egg production to above 20% of  $B_{1951}$  (to be recalculated with  $B_{2001}$ ) within two years with 75% probability*'.

The primary strategy of the Management Plan is to achieve a target related to available biomass, not spawning biomass. The RLRAG therefore agreed that the target reference point for spawning biomass as described in Table 3 of the Management Plan (the spawning biomass target of above 40% of  $B_{1951}$  with a 50% probability) was superfluous.

**Recommendation:**

- The RLRAG agreed that the term ‘egg production’ should replace ‘spawning biomass’.
- The RLRAG agreed that the management response should be ‘reduce or maintain a TACC that returns egg production to above the recalculated 20% of  $B_{1951}$  within two years with 75% probability’.
- The RLRAG agreed to remove the spawning biomass target reference point.

## **AVAILABLE BIOMASS**

The RLRAG discussed whether a limit reference is required for the available biomass indicator or whether it generates further confusion around the application of the Decision Framework.

As referred to above, the primary strategy of the Management Plan is to rebuild the available biomass of rock lobster stocks to 40% of  $B_{1951}$  by 2021 and as the sustainability of the stocks is protected by the egg production limit reference indicator, the RLRAG considered that the limit reference for available biomass could be removed. It was therefore agreed that both the limit reference relating to available biomass, as described in Table 3 of the Management Plan, and the available biomass criteria in the Decision Framework could be removed.

The RLRAG agreed to recommend that the target reference point remain as a target that achieves, with a 50% probability, an available biomass of 40% of  $B_{1951}$  by 2021 (recalculated for  $B_{2001}$ ).

**Recommendation:**

- The RLRAG agreed to remove the available biomass limit reference.
- The RLRAG agreed that the target reference point remain as a target that achieves, with a 50% probability, an available biomass of 40% of  $B_{1951}$  by 2021 (recalculated for  $B_{2001}$ ).

## **BIOMASS BUILD RATE**

The concept of the biomass build rate has led to considerable stakeholder uncertainty in the application and the complexity of the ‘build rate window’ is in contrast with the simple primary strategy in the Management Plan. There has been a general lack of confidence in the ability of the stock assessment model to accurately generate available biomass projections into the future, a premise upon which the ‘build rate window’ is based.

During the previous meeting, the RLRAG agreed to remove the build rate window thereby doing away with the associated components in the Decision Framework; namely:

- *If the five-year available biomass projection is below the build rate window, the TACC must be set to bring the projections above the 50% build rate within five years; and*
- *If the build rate projection is above the 50% mid-point for two consecutive years, the TACC may be increased by up to 10% providing the build rate remains above the 50% cent line.*

By removing the build rate window, the RLRAG has given further support to having the sole target that achieves, with a 50% probability, an available biomass of 40% of  $B_{1951}$  by 2021 (recalculated for  $B_{2001}$ ).

**Recommendation:**

- The RLRAG agreed to remove the build rate window.

Industry representatives indicated a level of apprehension with being constrained by a potentially unachievable target. Environmental constraints or irreversible alterations to rock lobster population structure may have the effect of preventing the management target from being reached within in the time frame.

Comparisons were made with South Australia where managers and industry convene to deliberate over potential reasons that may have prevented the full TACC from being taken. These discussions are open and transparent and determine whether reasons are biological (i.e. the stocks are not there to catch) or economic (e.g. beach prices are too low to be viable, or the export market has been saturated by product from other countries).

Ian asked the RLRAG for opinion on whether setting a CPUE target was a viable option for each zone as has been done in South Australia. The advantage of a CPUE target is that industry is comfortable with the concept of catch rates.

Adrian noted that South Australia uses the harvest rate to set the TACC, but also uses stock assessment modelling to enhance understanding of stock dynamics.

Industry expressed concern with the concept of relying solely on a model output to set the TACC, particularly with regard to the ability to detect a problem or inconsistency with model prior to the determination of the TACC for the season. Terry noted that all available information is used in the new stock assessment model, and that this should inspire a level of confidence in the model output.

The RLRAG discussed whether presenting a series of secondary indicators would assist in assuring stakeholders that the model output was accurate. The intent is that these indicators would be used to provide a 'check list' rather than being able to influence a proposed TACC. The group agreed to recommend the use of:

- Length-frequency data;
- Catch rates;
- Pre-recruit data; and
- Puerulus data.

**Recommendation:**

- **The RLRAG recommended the addition of secondary indicators to be used to verify the accuracy of the stock assessment model outputs. These indicators will be length-frequency data, catch rates, pre-recruit data, and puerulus data.**

Industry reiterated concern with being locked into a TACC that is generated by model predictions when the model is unable to incorporate external influences such as the environmental effects on the status of the stock.

In response to this, the RLRAG agreed to recommend that an additional phase be included in the stock assessment process to enable the RLRAG to provide a level of quality assurance over the model outputs. The RLRAG will determine if the model outputs are consistent with the CPUE trends from the season; if consistent, the stock assessment report will be recommended for distribution to stakeholders. If the model outputs and the CPUE trends are inconsistent, the RLRAG will recommend an adjusted TACC.

**Recommendation:**

- **The RLRAG to provide quality assurance over the stock assessment model outputs by determining whether there is consistency between these outputs and the CPUE trends from the season. If there is an inconsistency, the RLRAG will recommend an adjustment to the TACC suggested by the model.**

The RLRAG asked that in a future meeting, Terry provide a description of how the new model uses recruitment data and a determination of the appropriate time series for this information.

**Action:**

- **Terry to provide a description of how the new stock assessment model uses recruitment data and a determination of the appropriate time series for this information.**

Fisheries Victoria had requested that the RLRAG develop a Decision Framework that would achieve the available biomass target in a five year time frame, in addition to the original ten-year timeline. The RLRAG considers that the proposed simplified version of the Decision Framework currently proposed could be applicable to any time frame.