RECORD OF MEETING v1

Meeting #36, 12 October 2022 Swan Bay room, Queenscliff

CHAIR: Ian Knuckey **MEETING COMMENCED:** 9:40am

1. PRELIMINARIES

Present	
Ian Knuckey	Chair
Toby Jeavons	Victorian Fisheries Authority (Executive Officer)
Klaas Hartmann	Institute of Marine and Antarctic Studies (IMAS)
David Reilly	Victorian Fisheries Authority
Lachlan Smith	Victorian Fisheries Authority
Alex Haberfield	Industry member
Ross Bromley	Industry member (Eastrock)
Gary Ryan	Industry member
Mathew Harry	Industry member
Zeb Johnston	Industry member
Ben Scullin	VRFish
Peter Galvin	Recreational fishing representative
Craig Starrit	Recreational fishing representative / VRFish
Guests	
Julian Tagell	Blackrock Under Dive Group
Apologies	
Lawrence Moore	Recreational fishing representative/ VRFish
Wayne Dredge	Industry member
Joanne Butterworth-	Seafood Industry Victoria
Chris Padovani	Seafood Industry Victoria
Matt Phillips	Industry member
Anthony Ciconte	Giant Crab Industry Member
Robert Timmers	Recreational fishing representative
George Brocklesby	Industry Observer
Rafael Leon	Institute of Marine and Antarctic Studies (IMAS)
Caleb Gardner	Institute of Marine and Antarctic Studies (IMAS)
Steven Rust	Institute of Marine and Antarctic Studies (IMAS)

1.1. Welcome

Ian Knuckey, as Chair, stated an Acknowledgement of Country and welcomed members and guests to the 36th meeting of the Victorian Rock Lobster and Giant Crab Resource Assessment Group (RLRAG). Toby noted the apologies to the meeting. All people present introduced themselves and registered any potential conflict of interest. Toby noted that Lachlan had provided a 'conflict of interest register' of which all members were to formally declare conflicts of interest and a register will be compiled and presented at the December RLRAG. Ian advised that discussion held at the RLRAG is confidential until released to public (via meeting minutes published on the VFA webpage) and that people may be asked to leave the room during discussions where a conflict of interest is identified.

1.2. Adoption of agenda

The agenda was adopted with two changes made – In Wayne Dredge's absence, he has asked industry members Matt Harry and Gary Ryan to update on his behalf on matters relating to the VRLC and SIV. Toby (VFA) also noted he would like to add an item to discuss governance arrangements for the giant crab fishery and how matters relating to that species can be best dealt with at the RLRAG, particularly given the current focus on rock lobster harvest strategy and the associated management plan review.

1.3. Minutes and actions from last meeting

Minutes from last meeting were accepted as true and correct. Toby ran through the action list and confirmed a number of the actions relating to the harvest strategy review have been or are being ticked off through this meeting.

In relation to the update on the giant crab research project, Toby noted that Wayne has helped with onboard trials. A progress report has just been submitted to FRDC. He noted that there has been challenges in image capture and workflow delays. The project is likely to require an extension and extra funding for the stereoscopic 3D camera to overcome these challenges.

Toby also noted the VFA is currently finalising the consultation process with giant crab licence holders on a draft Fisheries Notice that would see a trial of electronic monitoring in the giant crab fishery (for licences that are actively targeting the species). The VFA anticipates this being finalised prior to the fishery opening in mid-November.

Further actions arising from Meeting 36 and the status of existing actions are outlined in the attached 'Actions List' circulated with the meeting minutes.

2. Harvest Strategy review (for recommendation)

2.1 Review of upper and lower reference points – For recommendation

Klaas noted that the existing harvest strategy CPUE-TACC tables are based on an exploitation rate that increases from 0 at 0.25kg/potlift (Lower reference point 'LRP') to the upper reference point at 0.40kg/potlift. For the revised harvest strategy, the RLRAG previously recommended that the exploitation rate increase from 0 at the LRP (20% egg production) to the upper reference point to be set at slightly below the endorsed Target Reference Point (TRP) of 28% and 28.8% pre-fishing available biomass for the Western Zone and Eastern Zone, respectively.

Klaas then presented an analysis so that the RLRAG could establish appropriate CPUE proxies for the LRP and the TRP in both zones. This would support the make-up of revised CPUE-TACC tables that utilise the agreed reference points and which seek to meet the rebuilding target by 2043.

Note: It was clarified that the endorsed TRP is not 30% and this was incorrectly listed in the papers for this meeting.

Limit reference point CPUE proxy

To support the discussion, Klaas showed the relationship between egg production and CPUE. He noted this has varied over time, due to numerous factors, including the notable change in recruitment that occurred in the late 2000s. The reference period likely to be most representative of the relationship in future years corresponds to the period 2007-2019 after the recruitment reduction. The cut-off year of 2007 was chosen as it is the year in which the most abrupt change in the relationship occurred and 2019 was chosen as the most recent year with reliable egg production estimates. Other periods ('pre-2007' and 'projection') and were shown for comparison. Klaas noted that the Eastern Zone projections did not line up with past relationships , and that this is a complicated combination of growth of large lobsters and changing sex ratios of catch.

The RLRAG endorsed the CPUE proxy for the LRP 20% of pre-fishing level egg production based on the 2007-2019 period with a 90% confidence interval. This equates to a LRP of 0.30kg/potlift for the Western Zone and 0.25kg/potlift for the Eastern Zone.

It was clarified that if the fishery ever got to the LRP, fishing would need to stop and this would apply to both sectors to allow the stock to rebuild. This use of a LRP is based on nationally agreed harvest strategy principles and is common practice in fisheries management. It was reiterated that the LRP is based on stock status and not economic considerations and that there are plenty of management levers that can be used to help ensure it does not get to that point.

Klaas also noted that while CPUE is correlated with biomass and egg production, it is not a direct measure of either. For instance, egg production is only influenced by mature females whilst CPUE is influenced by male lobsters and not influenced by undersize mature females. This limitation should be clearly kept in mind, particularly in future stock assessment years where the model-based assessment of biomass and egg production may differ from what the CPUE proxy indicates.

Target reference point CPUE proxy

A similar approach was taken to support a decision to be made on target reference points for each zone. As the target biomass has not been achieved in recent times, the data from 2007 onwards was combined with the projection data to determine a CPUE level corresponding to the TRP level of unfished biomass.

The previous RLRAG indicated that the exploitation rate should reach the maximum level below this proxy to avoid changes in the TACC as CPUE fluctuates around the TRP. Operationally this suggests that the biomass target should reach its maximum level at 1-2 bands below the CPUE TRP proxy.

The RLRAG endorsed the upper limit reference point (the point at which exploitation rate decreases below this) to be 2 CPUE bands before the target, to avoid changes in TACC as CPUE fluctuates around the TRP.

Note: The RLRAG then broke for morning tea so that Klaas could revise his analysis to reflect the endorsed TRP of 28 and 28.8% pre-fishing biomass (as opposed to 30%).

2.1 Review of upper reference points (continued)

Klaas presented the revised analysis for determining target reference point proxy and upper threshold (2 bands below the TRP).

The RLRAG endorsed:

- **For the Western Zone: The TRP proxy is 1.09kg/potlift, the exploitation rate should reach its maximum level in the 0.95-1.00kg/potlift band (or lower).**
- **For the Eastern Zone: The TRP proxy is 0.82kg/potlift, the exploitation rate should reach its maximum level in the 0.70-0.75kg/potlift band (or lower).**

Reviewing CPUE/TACC lookup table

Klaas noted that in adopting the harvest strategy criteria agreed to date (including the LRP and TRP endorsed today), whilst also transitioning from the current TACC (to avoid immediate significant impact to industry), it means there are limited options for considering how the new CPUE/TACC lookup table can be shaped. He presented three options.

1) *Constrained CPUE-TACC table*
   First, Klaas presented analysis to show the result of the agreed RLRAG criteria and decision rules that would result in a constrained CPUE/TACC table that is in the same format in the current harvest strategy. The calculations show that the TACC jumps quickly from 0 to the endorsed TACC cap for each zone very quickly and would mean that there are sizeable TACC declines for CPUE bands below the current TACC. This is largely due to the requirement to obtain the current TACC from the current CPUE. A CPUE-TACC table that produces the current TACC from the current CPUE may be undesirable once some stock recovery has occurred. There was consensus from industry members that the table presented is not feasible.

2) *Transitionary CPUE-TACC table*
   Klaas then presented an alternative transitionary table that obtains the current TACC at the CPUE expected in 2025/26. This results in CPUE-TACC tables that spread the TACC changes over a much broader range of CPUE and would result in early precautionary reductions as CPUE falls. He noted that immediate application of these tables is unrealistic because of the magnitude of the TAC reductions this would necessitate, so application of this table would require a decision rule that delays transitioning to the new table until the appropriate CPUE point is reached (i.e once CPUE has recovered to the level corresponding to the current TACC, which is expected to occur in 2025/26). However, this has a shortcoming in that the transitionary table does not provide revised TACC reductions (if CPUE falls) before the new table is adopted (i.e once CPUE reaches the appropriate level). There was consensus amongst the group that this option still had potential for large TACC reductions and is too ambitious.

3) *Ratchet tables*
   Klaas presented the option of the ratchet table that provides a plan to get to the desired catch rate, whilst adopting the current TACC. This option 'rachets' up as catch rate improves with the outcome that we would respond quicker to future TACC reductions. In essence, this would mean adopting a new CPUE-TACC relationship (instead of altering the TACC) each time that CPUE increases into a new bracket. This is the ratchet component of this strategy, once a new CPUE-TACC table is adopted it is not possible to revert to an earlier one. If in a future year the CPUE increased further, then the relationship from the corresponding column would be adopted in line with decision rules. The intent of considering this approach is that we want to reach the target but not have a massive TACC reduction in the short-term.

If this were adopted for both zones, Klaas suggested that the CPUE-TACC table be re-evaluated once the end point is reached to determine whether the fishery is ahead or behind the rebuilding trajectory and what maximum TACC level could be used. He also advised that due to the natural fluctuation in CPUE there is a valid concern that the described process may result in adoption of a new CPUE-TACC table too early thus necessitating un-necessary TACC reductions. A couple of possibilities for mitigating this risk for consideration include:

i) Only adopt a new column once CPUE has been in the corresponding band for 2+ years (but for the Eastern Zone do not permit increases above 32t)

ii) Adopt a new column once CPUE is one band higher than described before (so that CPUE can fall by one band without necessitating a TACC reduction).

The Chair noted that we don't want to drop the TACC too soon after shifting to a new column. The advantage with the ratchet table is that as you move across the table, you are responding earlier to CPUE drops, rather than staying on the same column which would allow CPUE to drop multiple bands before responding.

An industry member suggested we broaden the green zone over 2 or 3 increments to increase the buffer and manage inter annual variability. **There was general support from the RLRAG that if the ratchet table were to be pursued, the fishery should only transition to the next column of the ratchet table after CPUE increases by 2 bands above the TACC cap in the current column for both the WZ and the EZ.**

An industry member suggested that given the significant reductions in the TACC tables, the need for PRI would be less important. Klaas agreed and noted that the PRI rules are mostly designed to prompt the RAG and hold back TACC increases if there does not appear to be strong recruitment into the fishery.

Another industry member noted that this may bring about some arguments in the WZ as to why there is potential for such significant TACC reductions. The Chair advised that the answer to that is very clear, in that we took on a less precautionary harvest strategy when it was developed so we didn't impact industry's 2023 TACCs on transitioning to the rebuild strategy.

Action - Klaas to update the EZ ratchet table to ensure the first column must reach the TACC cap of 40t before allowing progression to the next column.

The group would like time to consider and discuss this over coming weeks. There was in-principle endorsement from the RLRAG to pursue the ratchet table but with a flatter step (i.e you would have to go down at least 3 bands after transitioning to a new column of the ratchet table for the CPUE reductions to occur). That is, the fishery would move to a new column on the ratchet table when CPUE increased by 2 bands above the TACC capo in the current column .

The Chair suggested that the RLRAG meet online in a few weeks' time to seek final approval on a revised ratchet table to be provided by Klaas.

Action – Revised ratchet table to be prepared by Klaas including scenarios demonstrating decision rules. Klaas to ensure the revised table also removes irrelevant TACC numbers below the 2nd blue row on each column which will assist in communicating how the table works.

Action – Toby and Klaas to prepare a draft revised harvest strategy outlining progress to date including the ratchet table for further discussion.

Action – Toby to schedule online catch up for RLRAG members in early November.

Considerations around recreational catch in setting annual TACC

An industry member raised that a current assumption of the TACC tables is that the rec catch is the same each year and questioned why we are not using these tables to generate recommended total take (i.e a TAC, rather than a TACC). Klaas confirmed that this is the assumption that has been made for the purposes of calculating the tables and is based on a recreational total catch for each zone from the tagging program in the 2018-19 season. He noted this is considered the most recent year of data that is reliable (noting the disruptions from bushfires, COVID and the data collection challenges from the recent transition to digital tagging).

Klaas advised that if future catches deviate, this could potentially be addressed by :

1. Deducting the excess recreational catch from the TACCs, or
2. Integrate recreational catch more formally using a CPUE-TAC table and obtain the annual TACC by deducting the best estimate of the likely recreational catch from the TAC.

The Chair advised first option may be better where we are not getting good estimates of rec catch (which is currently occurring) and noted that it would only be a one-year lag.

VRFish questioned the Chair as to what the best management measure is and what gives the most confidence. The Chair noted there is currently a mechanism for adjusting the commercial TACC effectively, but not for recreational catches as there is no formal allocation. He noted it is more of a resource sharing debate which has been discussed at length at the management plan review steering committee and is ongoing.

An industry member advised that there is a clear loss of commercial sector value if the recreational catch goes up and that if the TACC is deducted due to this then industry should be compensated. The Chair reiterated that there is no formal allocation policy. It was noted that Victoria is heading towards an indigenous Treaty and that may force the development of such a policy. The Chair suggested the resource sharing discussion can be continued over lunch and asked the group's advice on which of the two options Klaas presented should be endorsed.

There was general consensus to leave the tables as the status quo for now (i.e a CPUE-TACC table that applies to the commercial fishery). Toby noted there will still be opportunities to monitor and review recreational catch assumptions in the embedded 5-year check-in for harvest strategy effectiveness that is being built into the management plan. He noted the VFA is working to improve the robustness of the recreational tagging program data.

2.2 Reviewing CPUE band increments

Klaas noted that there is a linear relationship for exploitation rate between the lower and upper limit reference point in the existing harvest strategy. He advised that for the new harvest strategy, while it is possible to explore an alternative relationship (i.e. other than linear) and still meet the rebuild target, maintaining the linear trajectory and having a simple rationale may best the best approach.

Note: agenda item 2.3 'Comparative analysis of summer data subset' was not discussed due to time constraints. A paper was circulated to the RLRAG prior to the meeting and discussion on this can be picked up at the next meeting.

Agenda item 3 'PRI review' was deferred to later in the meeting by the Chair.

4. Data collection summary update

Dave presented current challenges with the dropping numbers of participants in the voluntary pot program. He sought the RLRAG's advice on whether the voluntary pot sampling program should replace some of the current mandatory reporting requirements of eCatch (whereby commercial rock lobster fishers are currently required to report information on lobster discards). This was first raised at a previous RAG where it was noted that similar information on discards is already collected by fishers measuring and reporting catch in three marked pots as part of a voluntary pot sampling program. This option would mean that data could then be scaled up to reflect seasonal totals for each zone. It would require an extensive trial before reducing the mandatory requirement to ensure continuity of data. He advised the pros and cons of this approach.

Other available alternatives include maintaining what we are currently doing while considering practical options to improve data collection (such an encouraging industry uptake) or to increase onboard observers (noting that this option would be an increased cost to industry).

Klaas advised that bycatch data collection is a key aspect of the Commonwealth fisheries harvest strategy policy and having good data would be important for potential MSC certification in future. The Chair suggested that the industry associations may also have a role to play in encouraging uptake.

An industry member suggested that greater incentives and combining it into e-catch would assist with uptake. It was noted that Tasmania have research pot incentives allowing them to carry additional pots if they report on every pot.

Consideration of tools to improve keeping track of numbers retained/discarded were also discussed such as a dally device or clicker or whiteboards.

The RLRAG endorsed continuing the current level of mandatory data collection while incentives to increase participation in the voluntary pot program continue to be explored

Action - David Reilly to explore developing and providing a practical 'clicker counter' that assists fishers to manage tallies under the various data collection requirements.

Action - David Reilly to raise future enhancement to Vic-eCatch to include area to report under voluntary pot program.

Note: the following agenda items were not discussed due to time constraints.

- *5.1 Considering a vessel efficiency factor*
- *5.2 Australian Lobster Model*
- *5.3 Considering weather impacts on catch rate*
- *5.4 Strategic plan for tag recapture program*
- *6.1 Harvest Strategy progress summary*

7. Management update

7.1 Recreational tagging project

Toby noted the history of the tagging program and achievements to date such as transitioning away from plastic, removing delays for fishers in receiving tags, reduced ongoing costs of the program (due to manufacture and distribution of tags) and the integration of the RL tagging app into the GoFishVic. Toby clarified that while tags used to be reported at the end of the season, we have brought this forward to a 7-day requirement.

Toby also noted the challenges experienced over the last year including a more complex reporting process, technical challenges with account creation in the app, reduction in number of participants registered and total tags reported, and difficulties with the tech provider. Toby presented data on the number of recreational tags reported over 2021-22 which has seen a significant drop and just over 1600 tags had been reported. A recreational industry observer expressed that there were less fishable days over the most recent season and this may explain the reduction in numbers of rock lobster reported. Toby explained that feedback throughout the season has indicated that transitioning to the new reporting platform, which has introduced a more complex reporting workflow, is the key reason why there has been a reduction in reported rock lobster catch. Toby then outlined the focus around improving the robustness of data collected under the program moving forward.

In line with the continual improvement principle in the current management plan, key next steps are to:

1. Engage new supplier to manage the GoFishVic app
2. Develop a simplified and more robust Account Creation
3. Develop a simplified catch reporting process
4. Review reporting timelines – e.g. consideration of requirement to report at place at landing

An industry member queried if there was information on how many inspections of recreational lobster fishers had occurred and if any has been fined for not reporting. Toby advised he did not have the information on hand, however there has been a strong focus on education during the most recent season to assist fishers in transitioning to reporting under the new platform.

Toby sought the RLRAG's endorsement for using the data from the second year of the program (2018-19 season for reasons detailed earlier in these minutes) as the estimated recreational catch to inform the upcoming assessment, particularly given this is similarly being used to inform future projections in the CPUE-TACC tables being discussed.

VRFish advised that the 2018-19 tagging data in terms of weight is contentious amongst some in the recreational sector, mainly due to the weight to number conversion used. Because any lobsters under 900g were based on a mean weight and they do not believe this is appropriate for continued use. Toby clarified that the method used for estimating annual catch (weight) was derived from the average weight reported by citizen scientists, multiplied by the total number of lobster reported. This has been considered the most robust approach given that this utilises actual data reported by recreational fishers, rather than assumptions.

Following lengthy discussion and noting that there were concerns raised regarding the weight calculations from the recreational sector, there was consensus to accept reliance on the 2018-19 data until a different methodology is reviewed by the RLRAG for the purpose of inputting a figure for rec catch in the upcoming stock assessment.

3 PRI review (for recommendation)

3.1 Review new PRI based off revised reference period that considers now managing TACC at lower levels

Klaas advised that the current PRI threshold for the Victorian Rock Lobster Fishery is based on a normal distribution fitted to a reference period from 2005 to 2014. The threshold level is set at the 40th percentile of this distribution, which means that if future PRI values are similar to those in that reference period, then twice in every 5 years the PRI would be below the threshold level and the harvest control rule would prevent a TAC increase (if this were permitted by the CPUE).

With the adoption of a more precautionary CPUE-TACC table and consequently lower exploitation rates, this reduces the importance of the PRI component of the Harvest Control Rule. Consequently, whether to maintain the existing precautionary PRI threshold or shift to the less precautionary threshold based on the more recent reference period can be considered. The RLRAG recently requested considering revising the PRI reference period to match that proposed for the recruitment period for the proposed biomass rebuilding target reference point, which was 2008-2015. Klaas presented PRI analysis to the group. He noted that in using this potential revised reference period, we have experienced lower than average years of recruitment. Therefore, average recruitment through this time is lower and thus less precautionary.

The RLRAG supported the use of the new reference period (2008-2015) and revised PRI threshold, while maintaining this be set at the 40th percentile of the distribution.

3.2 Review new PRI '2 year' response rule

At RLRAG 35, the group proposed altering the PRI rule to be more precautionary. The proposal was as follows:

1. A TACC increase permitted by the CPUE-TACC table may only occur if PRI has been above the threshold level for the last two years (noting that TACC increases in successive years are still permitted if the PRI has remained above the threshold).
2. If the PRI has been below the threshold level for two or more years this will need to be investigated by RLRAG and assessment team to consider if the current TACC remains appropriate and a reduction may be required.

Klaas noted that the impact of this change on meeting the rebuilding target is difficult to evaluate. There are only a few TACC changes forecast in the rebuilding period. Delaying these will result in a slightly faster rebuild. But this is likely a modest impact. As the reaction to low PRI is not well defined this is also difficult to model. Consequently, whilst adoption of these measures is a sensible precautionary strategy, the impact is likely small except in the situation where future recruitment is well below expectations and what is modelled. In this scenario the proposed measures provide an additional safeguard.

Multiple industry members agreed that if we are to pursue the ratchet table, there would be less importance on PRI and therefore shouldn't really need two continuous years above the PRI for a TACC increase.

There was consensus from the RLRAG to revert back to the single year rule for PRI where it relates to a TACC increase. That is, a TACC increase may only occur if the PRI is above the threshold as indicated in the latest stock assessment year.

There was also consensus to maintain the previously agreed rule, which stated that if the PRI has been below the threshold level for two or more years, this will trigger investigation by the RLRAG and assessment team to consider if the current TACC remains appropriate and a reduction may be required.

Note: agenda item 3.3 Exploring PRI weighting – clarifying comparisons with industry observations was not discussed due to time constraints.

The Chair closed the meeting by thanking members for their efforts in joining for this discussion and concluded the 36th Rock Lobster Resource Assessment Group meeting.

Action – VFA to include all agenda items not discussed at RLRAG#36 for next meeting.

Action – Lachlan to send out calendar invite for next meeting (planned for February 2023).