Australian Government
Australian Fisheries Management Authority

SESS Fishery Slope Resource Assessment Group (SlopeRAG) Meeting December 2014

Meeting Minutes

Date: 15 December 2014
Venue: Teleconference

Attendance

Name	Membership (type i.e. chair etc.)
Mr Sandy Morison	Chair
Dr Marcus Finn	AFMA member
Dr Geoff Tuck	Scientific member, CSIRO
Dr Sarah Jennings	Scientific (economics) member
Mr Les Scott	Industry member
Mr Simon Boag	Industry member
Mr Ross Bromley	Executive Officer - AFMA
Mr Lee Georgeson	Invited participant, ABARES
Mr George Day	Invited participant, AFMA
Dr Malcolm Haddon	Invited participant, CSIRO
Dr Judy Upston	Invited participant, CSIRO, (attended Orange Roughy only)
Dr Ian Knuckey	Invited participant, (attended Orange Roughy only)
Mr David Power	Invited participant, AFMA
Mr Dan Corrie	Observer, AFMA
Ms Michelle Wilson	Observer, AFMA
Mr Ryan Keightley	Observer, AFMA
Mr Josh Cahill	Observer, AFMA
Dr Miriana Sporcic	Observer, CSIRO
Apologies	
Mr Tom Bibby	Industry member

Minutes

1. Introduction and apologies

1. The Chair opened the meeting and welcomed members and other participants at 09:00, 15 December 2014.

2. The RAG noted apologies from Mr Tom Bibby.

3. The RAG adopted the draft agenda (**Attachment 1**).

4. The RAG followed the conflict of interest declarations as outlined in the revised Fisheries Administration Paper 12 (FAP12). A list of the full conflicts of interest declarations made by SlopeRAG for the meeting is provided in **Attachment 2**.

2. Blue eye Trevalla - economic and biological implications of maintaining and pausing the TAC stepdown and indicators used to frame this advice

5. The RAG briefly reviewed previous discussions pertaining to Blue eye Trevalla (BET) and noted that:
    - the RAG had agreed to a three year step down to the RBC in 2013
    - at the October 2014 meeting the RAG agreed that the step down be paused at the first year TAC because:
        - additional work had been completed on the early part of the CPUE standardization suggesting that the early part of the CPUE series based on dropline catches appeared inflated when catch per day is used instead of catch per hook, and that the Tier 4 analysis was therefore conservative
        - the catch standardizations do not take into account Orca depredation and the effect of their presence when calculating catch rates
        - closures in the main areas of fishing in the east are likely to negatively impact on catch rates but are not accounted for in the Tier 4 assessment.
        - these factors have contributed to the Tier 4 outcome and RBC being overly conservative
    - the next BET assessment be brought forward to next year
    - Dr Haddon has completed a review of the dropline catch data and was able to standardize the catch using hook effort metric instead of days. Dr Haddon is still to attempt to undertake similar work for the auto longline sector.

6. Mr Scott gave an overview of the economic impact on the SESSF and the auto longline (ALL) sector if the TAC stepdown proceeded and referred the RAG to a paper he prepared, **Attachment 3.** NB this paper was subsequently amended based on SlopeRAG comments and questions to better reflect the gross costs to the fishery. Mr Scott pointed out that the ALL sector accounts for about 77 percent of the total BET landings and reducing the TAC by 53t would result in substantial loss of production for this sector. Mr Scott also pointed out that as there were only two operators in this sector the economic decline affected them disproportionately compared to the rest of the SESSF fleet. Mr Boag supported this view. The RAG agreed with Mr Scott's summary.

7. The RAG considered what indicators it had used to frame the BET TAC recommendation and provided the following advice:
    - the RAG used a CPUE-based stock assessment last year to frame its TAC advice. The RAG recognizes that it is becoming increasingly clear that the CPUE series used is conservative because early dropline catch rates used fishing days as the effort metric, apparently inflating catch rates in the reference period. This has the effect of making the decline in catch rates appear more severe than is likely the case.
    - changes in TAC's have led to changes in the spatial distribution of catches which may need to be integrated into the assessment
    - the RAG noted that there could be some spatial differentiation of adult BET. There is evidence of depletion in Zone 30, but details of spatial distribution means that the depletion may not be quite as bad as first thought, albeit still below what could be considered "good". The key point is, depending on BET stock structure, that Zone 30 does not represent the whole stock and stock status may be better than the CPUE index indicates.

8. The RAG considered advice from industry members and noted that according to his reckoning continuing the TAC stepdown would result in a GVP reduction of $500,000 in the auto longline sector. Note **Attachment 3**, “Economic Impact of a further 53t step down of the Blue Eye TAC from 335t to 282t”. Industry members also informed the RAG that a further reduction in BET landings will create a shortfall in local markets that would probably be filled by imports from New Zealand and it may be difficult to regain access to these markets when BET TAC increases to previous levels.

9. The RAG addressed the implications of pausing and maintaining the BET TAC step down and provided the following advice:
    - reducing the TAC would reduce catches however it would be difficult to predict where the change in fishing pressure would take place. The western area and the seamount area stocks appear to be less affected by fishing and there is no reason to reduce effort in these areas
    - although eastern areas have been more affected by fishing, catch rates in the east have likely been affected by interactions with Orcas (forcing the fleet to move away from preferred areas), and the closure of areas that have historically contributed eight to ten percent of the BET catch.
    - the RAG also noted that the closures of eastern areas that contributed eight to ten per cent of historical catches should provide areas of refuge for BET
    - if the TAC is too high it will take a longer time for the regionally depleted stocks to recover
    - a Tier 1 quantitative assessment of BET is not possible due to spatial and temporal variability in the data attributable to fish movement and behavior. A further exploration of catch rates is the only way to provide better advice

3.1 Orange Roughy, Eastern Zone Tier 1 assessment, MCMC analysis

10. Dr Upston and Dr Tuck presented the Orange Roughy Eastern Zone MCMC analysis:
    - 24 million iterations were run with the purpose of giving the RAG more confidence in the bounds around stock status and the RBC
    - the MCMC is conditional on the structure of the base case model (i.e. it manipulates key parameters of the base case during iterative runs, but does not explore alternative models).

11. The RAG considered the MCMC analysis and advised that it was confident that it was highly likely that the Eastern Zone female spawning biomass was above the limit reference point of 20% of unfished biomass and had a less than one percent chance of being below the limit reference point.

12. The RAG noted that RBC outputs from the MPD and MCMC differed slightly, but were well within the expected bounds of variability provided in model estimates; MPD (maximum likelihood estimate) estimated RBC at 381 t, MCMC estimated RBC 351 t. The RAG discussed the advantages and disadvantages of using each approach and noted that:
    - the MCMC gives a 95 percent chance of being between 170 – 571 t, the maximum likelihood estimated estimate confidence intervals cannot be used to make a probability statement

- it seems generally accepted practice internationally to use the MCMC median estimate once they are provided, but that to the RAG's knowledge only MPD estimates had been used to set RBCs in AFMA fisheries
- the harvest control rules are based on outcomes from maximum likelihood estimates and have been MSE tested, while no MSE testing has yet been done on the outputs of MCMC in the SESSF.

13. Mr Day advised that AFMA's position would likely be to use the MPD RBC as it had been MSE tested, was consistent with the harvest control rules and the MPD RBC estimate was inside the MCMC estimate. The RAG agreed with this approach to set the RBC and recommended that advice be sought from SESSF RAG to explore how results from MCMC analyses should be used in the future

Action item – AFMA
Noting the outcomes from the MCMC analysis undertaken in 2014 for the Eastern Zone Orange Roughy stock, SESSFRAG is asked to provide advice on how best to use the results from this analysis. Notably, whether it is best to use the RBC advice from the MPD (maximum likelihood estimate) or the RBC from the MCMC.

3.2 Cascade Plateau – review of target reference point and mean generation time estimate

Cascade Plateau Target Reference Point

14. AFMA sought SlopeRAG advice on whether there was any scientific evidence to support maintaining the current target reference point (60 percent of unfished biomass) for the Cascade Plateau Orange Roughy stock.

15. The RAG heard that anecdotally the reason for the current target was feedback from the Department of Environment prior to 2006 that precaution was needed when developing the Orange Roughy Conservation Program, and it was thought that given the uncertainty about stock structure there may have been a link between the depleted Eastern and Southern Orange Roughy Zones and the higher biomass Cascade Plateau stock. It was thought that if there was a link, stock on the Cascade Plateau may be able to replenish the stocks in the Eastern and Southern Zones.

16. The RAG agreed that available evidence suggested that the Cascade Plateau Orange Roughy was different from the eastern and southern stock in size, growth rates, length and general morphology.

17. The **RAG agreed** that there was no scientific evidence to link the Cascade Plateau stock with the other stocks and there was no justification for maintaining the stock at a target reference point of 60 percent of unfished biomass.

18. Following from this the RAG agreed that it was appropriate for the Cascade Plateau Orange Roughy stock to be managed in a manner consistent with the Harvest Strategy Policy and the **RAG recommended** that it was appropriate to use 48 percent of unfished biomass as the target reference point for this stock.

Cascade Plateau Mean Generation Time

19. The mean generation time (MGT) of a species is defined in the HSP (p 44) as "the average age of a reproductively mature animal in an unexploited population". The RAG noted that it was difficult to estimate the MGT of this stock without having a current Tier 1 assessment to inform the unfished age structure.

20. The **RAG agreed** that in lieu of a specific Cascade Plateau estimate it would not be unreasonable to use the MGT calculated for the eastern stock i.e. 56 years.

Simon Boag and Lee Georgeson left the meeting

4. Hagfish

21. Mr David Power (AFMA, Gillnet, hook and trap manager) presented a paper on targeting Hagfish (*Eptatretus cirrhatus*) in the SESSF using traps. AFMA sought advice from the RAG on any sustainability concerns and a potential catch trigger for Hagfish.

22. The RAG noted that research undertaken in New Zealand studying a commercial fishery targeting Hagfish indicated that the species has very low reproductive capabilities making it highly susceptible to overfishing. The paper recommended maintaining tight control over emerging or experimental hagfish fisheries, through permits, mandated escape hole sizes, and monitoring of catch rates and discards until additional biological and ecological data can be obtained.

23. The RAG also noted that the preferred habitat of Hagfish overlaps with a number of high risk species such as Harrison's and southern dogfish. However, it is likely that hagfish traps will not pose a significant threat to dogfish species due to the passive nature of the fishing method and the size of the trap entry holes.

24. The RAG noted that Hagfish trapping has not been undertaken in Australia and there are no local data available. Although a Sustainability Assessment of Fishing Effects (SAFE) has been completed for Hagfish the RAG recommended that additional data is collected to allow the SAFE to be updated.

25. The RAG commented that although it had biological data from New Zealand it was difficult to give informed advice due to the absence of relevant Australian catch data. However the **RAG recommended** that fishing with full observer coverage to gather data be allowed and that these data are reviewed after 12 months.

The Chair thanked all participants and closed the meeting at 10:25 AM.

Signed (Chairperson):

Date:

List of Attachments

1) SlopeRAG December 2014 Agenda
2) SlopeRAG December2014 Declared Conflicts of Interest
3) Blue eye Trevalla – economic impact, Les Scott
4) Action item from this meeting

Attachment 1. Agenda

Southern and Eastern Scalefish and Shark Fishery Slope Resource Assessment Group (Slope RAG) Agenda

Venue: Teleconference

Monday 15 December 2014

Time: 0900 – 10:10

Chair: Mr Sandy Morison

Time	Item	Presenter
9:00	**1. Preliminaries** 1.1 Welcome and introductions/apologies 1.2 Declarations of interest 1.3 Adoption of agenda	Sandy Morison
9:15	**2. Blue eye Trevalla** 2.1 provide advice on the biological and economic implications of continuing and pausing the Blue eye Trevalla TAC stepdown and the indicators used to frame this advice	Marcus Finn
9:40	**3. Orange Roughy, eastern zone Tier 1 assessment and Cascade Plateau** 3.1 review results of the eastern zone OR MCMC and provide advice/reconfirm on RBC 3.2 provide advice on the appropriate Orange Roughy target reference point for the Cascade Plateau fishery.	Judy Upston Marcus Finn
9:55	**4. Gillnet, Hook and Trap Fishery – Hagfish** 4.1 provide advice on appropriate catch triggers for Hagfish taken by trap. NB Confidential.	David Power
10:10	*Meeting close*	

Attachment 2 Declarations of interest

Name	Interest Declared
Mr Sandy Morison	SlopeRAG and ShelfRAG Chair, member of SEMAC and SESSFRAG. Consultant with an interest in funding for research purposes. Conducts fisheries related work consultancies for industry, companies and other Government departments. Had been recently engaged by an environment non-government organization to review an MSC pre-assessment of Orange Roughy in New Zealand.
Dr Geoff Tuck	CSIRO. Involved in Stock Assessments. Interest in obtaining funding for future research. Principle investigator on the SESSF stock assessment project and marine closures project.
Mr Simon Boag	SETFIA CEO, CFA vice-Chair, runs a consultancy firm. Sits on boards of Commonwealth Trawl Sector boat and quota SFR holding companies as a non-beneficiary director.
Mr Les Scott	Managing Director: Petuna Sealord Deepwater Fishing P/L an Australian resident company which holds various fishing rights in, and operates vessels in the SESSF, GHAT, East Coast Deepwater Fishery, Coral Sea and International fisheries operating a vessel under an Australian Flag; Managing Director: Australian Longline P/L an Australian resident company which holds various fishing rights in, and operates vessels in the SESSF; and Advisor to PG & UM Rockliff – Petuna Fisheries who hold various fishing rights in the SESSF, GHAT, Commonwealth and State (Tasmania) Scallop Fishery, Small Pelagic Fishery, East Coast Tuna Fishery, Off Shore Fisheries and Tasmanian State Fisheries. RAG / Other Memberships • SEMAC • Sub-Antarctic RAG • Threat Abatement Plan - (Sub-Antarctic demersal longline member) • Industry representative - Australian Delegation to CCAMLR. Fishing Associations • Director of CFA;
Dr Sarah Jennings	Resource Economist at the University of Tasmania. Interest in obtaining funding for future research. No pecuniary interest.
Dr Marcus Finn	AFMA. Manager of Commonwealth and GAB Trawl Fisheries section. No conflicts of interest pecuniary or otherwise.
Dr Ian Knuckey	Director Fishwell Consulting Pty Ltd Chair – Northern Prawn Fishery Assessment Group

	Chair – Victorian Rock lobster Assessment Group Chair – Australian Seafood Co-products Agent – Olrac Australia electronic logbooks Scientific Member – Northern Prawn Management Advisory Committee Scientific Member – SESSF Shelf Resource Assessment Group Scientific Member – Great Australian Bight Resource Assessment Group Scientific Member – Scallop Resource Assessment Group Scientific Member – Squid Resource Assessment Group Principal Investigator – SESSF and GAB Fishery Independent Survey Principal Investigator – Research projects in Vic, SA and Qld Strategy Project Member – Review of Monitoring and Assessment in the SESSF Project Member – Bird mitigation in the SESSF trawl sector Project Member – Various fishing industry liaison projects for oil and gas Scientific Advisor – GABIA, SETFIA, SSIA
Dr Judy Upston	CSIRO, Assessment scientist. Acquiring funding for research purposes
Dr Malcolm Haddon	CSIRO stock assessment scientist. Member of SESSFRAG, Northern Prawn RAG and sub-Antarctic RAG. No pecuniary interest.
Mr Lee Georgeson	ABARES. Interest in obtaining funding for future research. No pecuniary interest.
Mr Ross Bromley	AFMA. Demersal and Midwater Trawl Fisheries section. No pecuniary interest or otherwise.
Mr David Power	AFMA. Manager Gillnet, Hook and Trap Fisheries section. No pecuniary interest.
Dr Miriana Sporcic	CSIRO, Assessment scientist. Acquiring funding for research purposes

Attachment 3

Blue Eye Travalla

Economic Impact of a further 53t step down of the Blue Eye TAC from 335t to 282t

1. GVP reduction SESSF fleet based on last 6 months average beach price

Kilos	Av Beach Price per kilo	GVP decline
53,000	10.80	572,400$

2. Landings by gear type

Sector	tonne	%
Trawl Sector	29	9%
Line Sector	47	14%
Autoline	259	77%
Total	335	100%

3. GVP decline Autoline sector

Kilo lost (77% 53t)	40,976
Value per kilo (refer note 5)	36.50
G/P Impact 2 autoliners	1,495,628$

5. Impact on autoline sector

The autoline fleet is made up of two operators who operate vertically intergrated businesses (catch to retail). Blue eye is a feature retail species as such a reduction in supply would have a dirrect impact on Gross Profit at retail price (1,495m)

Attachment 4 Action items from this meeting

No.	Action item	Action person	Time frame
1	Action item – AFMA Noting the outcomes from the MCMC analysis undertaken in 2014 for the Eastern Zone Orange Roughy stock, SESSFRAG is asked to provide advice on how best to use the results from this analysis. Notably, whether it is best to use the RBC advice from the MPD (maximum likelihood estimate) or the RBC from the MCMC.	AFMA	Prior to first Slope RAG meeting in 2015