



Australian Government

Australian Fisheries Management Authority



**SESS Fishery Slope Resource
Assessment Group (SlopeRAG)
Meeting #2 October 2014**

Meeting Minutes

**Date: 30 October 2014
Venue: CSIRO, Hobart**

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 Tom Bibby	Industry member
Mr Simon Boag	Industry member
Mr John Jarvis	Industry member
Mr Ross Bromley	Executive Officer - AFMA
Mr Lee Georgeson	Invited participant, ABARES
Dr Malcolm Haddon	Invited participant, CSIRO
Mr George Day	Invited participant, AFMA
Mr David Power	Observer, AFMA
Dr Judy Upston	Observer, assessment scientist, CSIRO
Dr Jemery Day	Observer, assessment scientist, CSIRO
Dr Robin Thomson	Observer, assessment scientist, CSIRO
Dr Miriana Sporcic	Observer, assessment scientist, CSIRO
Dr Bruce Taylor	Observer, assessment scientist, RMIT
Mr Malcolm McNeil	Invited participant, industry
Apologies	
Mr Les Scott	Industry member
Dr Jeremy Prince	Scientific member

Minutes

1. Introduction and apologies

1. The Chair opened the meeting and welcomed members and other participants at 08:00, 30 October 2014.
2. The RAG noted apologies from Dr Jeremy Prince and Mr Les Scott
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**.
5. RAG members reported on outcomes arising from action items from the November 2013 and September 2014 meetings. A list of outcomes is provided in Attachment 4.



6. The RAG noted two small amendments and after incorporating them adopted the SlopeRAG September 2014 minutes.

2. Blue eye Trevalla

7. Dr Haddon reported on his work "*Blue Eye Fishery Characterization 1986 – 2013*". The paper is a result of questions from the AFMA Commission examining if the proposed Blue eye Trevalla (BET) TAC step down approach is still valid after considering new data.
8. The specific objectives of the report were to:
 - i. update the CPUE around the different identifiable fishing regions based on different specific fishing methods
 - ii. document how CPUE have been distributed among fishing methods and how this has changed over time
 - iii. document how CPUE have been distributed among different fishing regions and how this has changed over time.
9. The most recently accepted assessment of stock status uses the combined CPUE of the dropline (DL) and auto longline (ALL) fisheries to provide a time series of sufficient length to be used in the Tier 4 assessment. The new report deals with a finer spatial analysis of both trawl and non-trawl data.
10. Standardized CPUEs from the combined ALL and DL fisheries differ between Zones 20 and 30 and Zones 40 and 50. Although BET are considered to be one stock there appears to be some spatial differentiation in size distribution and catch rates in the individual zones and they may not be representative of whole of stock levels. Dr Haddon noted that effort was not spread evenly across the full geographic extent of the fishery with a number of known productive areas currently closed to fishing..
11. The time series from DL and ALL singly are not sufficiently long to permit application of the Tier 4 decision rule and allow an RBC to be calculated. The ALL method now dominates catches and took over from DL as the main method in about 2003. Prior to 2002 ALL data is not sufficiently numerous to be representative of the fishery and this plus the change in dominance from DL to ALL is why both methods are used in a single standardization. Currently combined ALL and DL time series are used to calculate the RBC.
12. Standardizing DL catch has proven difficult. CPUE is estimated as catch per shot because the fields in the logbooks recording the number of lines and the number of hooks was mixed up by some operators when filling in the logs, e.g. reports of 2000 lines of 5 hooks. Record by record examination and reversing the such details in those records that were most likely mixed gave more internally consistent estimates of the number of lines and hooks typically used. Previously noting this uncertainty in the data the way this was handled earlier was to not use hook and line numbers but instead using catch per day to calculate standardized CPUE. However, any changes in fishing practice, particularly the number of hook-sets per day, are hidden when using catch per day to calculate CPUE. Dr Haddon considered that the additional work completed on the early CPUE, especially the standardization against number of hooks set, is better able to capture CPUE trends.
13. After removing small numbers of DL reports that omitted the number of hook-sets per day the standardized DL CPUE remained noisy but relatively flat between 1998 –



2006. ALL catch rates which currently remain as catch-per-day, also remain noisy but flat from about 2002 – 2009 but in Zones 20 – 50 they exhibit a drop down to a lower but flat trajectory from 2010 – 2013. This drop a drop in in Zones 20 – 50 which may be a result of declining TACs and closures of several important BET fishing areas off eastern Tasmania and requires further consideration..

14. Dr Haddon noted that further work is required before he will have finalized his analysis of hooks per day in the ALL CPUE time series.
15. The early DL time series from 1997 are important to the combined CPUE analysis as the initial high CPUE in 1997 is influential on the perceived changes since then. Prior to the 2006 effort adjustment the frequency of single line (single hook-sets per day) used biased the analysis high and when these relatively few records are removed the CPUE series becomes noisy but flat.
16. Dr Haddon noted there are data of ALL catches from the GAB and under a single stock assumption these catches would be part of the fishery. GAB catches are included in the catch per day time series. Dr Haddon will explore their influence in his next tranche of work.
17. The trawl CPUE series has declined in Zones 10 and 20 over recent years but catches were more important in the early years of the fishery (late 1980s and 1990s). Data from these zones are not currently included in the CPUE time series and Dr Haddon will investigate their inclusion.
18. Mr Bibby informed the RAG that BET catches by trawl in the early nineties may have been constrained by a 500 kg trip limit on the trawl fishery.

Action item 1: AFMA

Investigate and confirm the existence and details of a 500 kg trawl trip limit for Blue eye Trevalla around 1991/92. Inform the RAG and Malcolm Haddon of the results.

Investigate and confirm the existence and details of any restrictions on quota transfer between sectors in the early 1990's and inform the RAG and Malcolm Haddon of the results

RAG recommendations

At this point the RAG noted conflicts of interest declared by industry representatives Mr Jarvis and Mr Bibby and decided that it was appropriate that they remain in the meeting and provided an industry perspective.

19. Dr Haddon noted that he thought the order of priority of work was in the order suggested: hook-based CPUE, the impact of closures on CPUE, and the impact of Orca depredation.
20. The RAG noted that CPUE for the hook sector was best calculated using the number of hooks as the measure of effort, that when this had been done for the DL gear it had a substantial impact on the standardized CPUE trend and reduced the decline early in the series, and that on this basis the RAG felt that the continuation of the current step down in TAC was no longer supported.
21. The RAG also noted that the same data grooming was needed for the ALL sector so that a combined CPUE series could again be constructed, but one using effort



expressed in numbers of hooks. That until this new CPUE was constructed it could not provide updated advice on a new RBC.

22. The **RAG recommended** that:

- i. the planned BET assessment be brought forward to next year
- ii. the planned TAC step down is paused at the 2014 - 15 TAC of 355t and does not proceed with further decreases
- iii. the 2015 – 16 TAC is set at 355t.

23. Dr Finn summarised the discussion and proposed some future steps:

- When setting the current three-year step down to the BET RBC, the AFMA Commission particularly noted the RAG's advice that the Tier 4 analysis did not account for Orca depredation and the impact of closures on CPUE, and so was conservative.
- Dr Haddon's additional analysis on early DL CPUE further suggest that the CPUE in the reference period appears inflated, resulting in further suggestions the Tier 4 is a conservative estimate of RBC.
- The RAG notes that it is still difficult to deal with the effects of closures on CPUE and work is required to resolve this issue
- Given the confirmation that the current Tier 4 is conservative in nature, and the additional work that Dr Haddon presented at this RAG, that the current step-down TAC be 'paused' for the following year, and the next assessment brought forward by a year to take advantage of the additional work being completed, including investigation of CPUE using hooks, the impact of closures, and the impact of Orca depredation.

Gillnet, Hook and Trap Fishery

24. Mr David Power, AFMA, Gillnet, Hook and Trap Sector (GHAT) Manager gave the RAG a quick rundown on developments in the GHAT:

- development of electronic monitoring in the auto longline sector of the fishery for auditing catch composition and TEP interaction rates
- minimum ALL hook sink rates to reduce seabird interactions
- boat individual responsibility for seabird interactions
- development of a SESSF data monitoring plan covering all sectors of the fishery.

3. Orange Roughy, eastern zone Tier 1 assessment.

25. Dr Judy Upston presented the Orange Roughy eastern zone Tier 1 assessment.

26. Suggestions for some further work arising from the preliminary base case presented at the September SlopeRAG meeting were addressed in the assessment:

- analyse the reageing data and if necessary include the modified age error/bias matrices in the stock assessment. Done
- provide further details of the historical age samples from eastern zone spawning aggregations in the stock assessment. Done in part with a table to come
- complete sensitivity tests for the base case model including:
 - a) stock structure scenarios (Stokes 2009)



- b) steepness
- c) upper and lower limits of agreed catch history
- d) non-constant proportion spawning
- e) different stock recruitment function (Ricker).

Done

- MCMCs for the base case model will be completed by the end of November.

27. The model assumptions include the stock structure hypothesis; eastern zone spawning roughy and Pedra Branca non-spawning roughy

28. The September model inputs were updated and include:

- reaged otolith data from 1992 and 1994 following the 2010 protocol
- updated age error matrix
- catches from eastern zone and Pedra Branca
- male and female age composition
- abundance indices from acoustic sampling.

Fits to data

29. Acoustic towed body biomass estimates. The model estimated line of relative abundance is within the error bounds of the towed acoustic biomass estimates. The three most recent acoustic biomass estimates show some variability and the model fits these data but the most recent observations increasingly deviate below the model predictions .

30. The model shows acceptable fits to the age composition data with some deviations, however this is not unexpected as the Francis method of weighting used in the model down weights age data and gives more emphasis to the catch series.

31. The outcome of the assessment is sensitive to stock structure assumptions and across different stock structures gave depletion estimates that ranged from 21-48 percent of unfished biomass. Given the model sensitivities to stock structure, further exploration of stock structure should be undertaken in future. The stock structure assumption used in the 2014 base case (East plus Pedra Branca) gave the best fits to data.

Sensitivity tests

32. Sensitivity tests were run for the base case model and sensitivity models incorporating three alternate stock structure hypotheses (east plus south, east plus south and west and east only), higher early catches and including minor age bias. The RAG agreed that results from these analyses indicate that the base case provides a better fit to the data than the sensitivity models. See **Attachment 3** for table.

Reageing

33. 350 otoliths from each of the years 1992, 1995, 2001 and 2004 were selected at random within each year for rereading. An ageing error program was used to model ageing error and bias which can be incorporated into the stock assessment model if required. While there was evidence that some readers had a consistent (older or younger) age error of up to a year (for approximately 50 year old fish) there was no evidence of major bias, however this approach was adopted as a means of dealing with a bias should it exist. The RAG agreed that question of aging bias has been addressed and is no longer considered to be a significant source of uncertainty.



Base case results

34. The assessment estimated the 2015 female spawning biomass to be at 26 percent of unfished levels. The RAG noted that this result was consistent with results from Wayte 2006 in which using a 20:48:48 control rule she estimated that the eastern zone female spawning biomass would return to a level above 20 percent of unfished biomass by 2014.
35. The Orange Roughy workshop held in May 2014 recommended MCMC runs should be done to explore the uncertainty around the base case and give a probability of the stock being less than 20 percent of unfished biomass. Sensitivity to M would also normally be run. Dr Upston advised the RAG that a MCMC analysis will be attempted in the next week.
36. The RAG noted that Simon Boag declared a conflict of interest in discussions whether the assessment should be accepted as the base case and he took no part in these deliberations.
37. The RAG noted that because the catch series used in the assessment comes from both the eastern and southern zones i.e. eastern zone spawning and Pedra Branca non-spawning, the assessment does not fit in with current management boundaries. Given that it appears that Orange Roughy in the eastern zone (which was historically heavily fished) is above the limit reference point, the RAG asked whether the southern and western zones may also have recovered to a similar extent. However there have been no surveys in these areas and hence, without evidence, it is difficult to ascertain if any recovery is occurring.
38. The **RAG recommended** accepting the assessment as the Orange Roughy eastern zone base case.
39. Given the confidence in the assessment, the projected rising stock trajectory and that a new assessment next year would have little new data the RAG recommended that eastern zone Orange Roughy was suitable for a three year RBC. The RAG recommended a 3-year MYRBC based on the modelled projection of stock recovery:
- Year 1 RBC – 381 tonnes
 - Year 2 RBC – 512 tonnes
 - Year 3 RBC – 647 tonnes
- The RAG recommended 10 percent under catch and over catch provisions be applied.

Species	Assessment	RBC (t)	Discount factor	Under/over catch
Orange Roughy Eastern zone	Tier 1	2015/16 – 381 t 2016/17 – 512 t 2017/18 – 647 t	N/A	10%

40. Given the long-lived nature of Orange Roughy and an expectation that there would not be large year-to-year changes to age structure that reflect stock size, and that CPUE was not considered an adequate indicator of stock status for aggregating stocks, the RAG could not identify breakout rules for eastern Orange Roughy. It also, however, did not see a strong need for such rules.



41. However, the RAG did recommended that an AOS survey should be completed within the three year MYRBC period to provide additional information for an updated assessment to be conducted at the end of the three year period.

4. RAG advice on appropriate Orange Roughy limit and target reference points

42. The RAG noted comments in a paper prepared by AFMA that the current proxies for limit and target reference points in the HSP are generally consistent with those used in other fisheries around the world
43. The RAG also noted that Cordue (2014) comments that even with constant fishing mortality New Zealand Orange Roughy mature biomass is prone to long term fluctuations. This is due to gradual recruitment and low natural mortality. He opined that 20 percent of unfished biomass is an appropriate limit reference point. He also noted that the large level of uncertainty in estimates of steepness as well as the form of stock recruitment relationship (Beverton-Holt and Ricker) created a degree of uncertainty in the estimates of B_{MSY} . He concluded that about 40 percent of unfished biomass is a suitable compromise for B_{MSY} estimates from the two relationships.
44. The RAG agreed that available evidence suggested the HSP default reference points of 20 percent of unfished biomass as a limit reference point and 40 percent of unfished biomass as a proxy for B_{MSY} are appropriate for Orange Roughy. The RAG deferred any debate on the appropriateness of 48 percent as a proxy for B_{MEY} until such time as stock status reached 35 percent of unfished biomass being the inflexion point in the 20:35:48 Harvest Control Rule.

5. Orange Roughy Rebuilding Strategy

45. Dr Finn informed the RAG that Orange Roughy Conservation Program was being replaced by the Orange Roughy Rebuilding Strategy and a draft would be circulated to RAG members for their comments. After considering RAG comments AFMA would be circulate the draft to other stakeholders, including relevant Government departments and industry.

The Chair thanked all for their participation and closed the meeting at 15:00



Signed (Chairperson):

Date:

List of Attachments

- 1) SlopeRAG October 2014 Agenda
- 2) SlopeRAG October 2014 Declared Conflicts of Interest
- 3) Orange Roughy: Table of sensitivity tests
- 4) Action item from this meeting
- 5) Action items from previous meetings



Attachment 1. Agenda**Southern and Eastern Scalefish and Shark Fishery Slope Resource Assessment Group (Slope RAG) Agenda**

Venue: Freycinet Room, CSIRO, Castray Esplanade, Hobart

Day 1: Thursday 30 October 2014

8:00 am – 4:00 PM

Chair: Mr Sandy Morison

Time	Item	Presenter
8:00	1. Preliminaries 1.1 Welcome and introductions/apologies 1.2 Declarations of interest 1.3 Adoption of agenda 1.4 Adoption of minutes from the September 2014 meeting 1.5 Action items from September 2014 meeting	Sandy Morison
9:00	2. Blue eye Trevalla 2.1 Update of CPUE around the different fishing regions 2.2 How catch and effort – separately – have been distributed among different methods and regions and how this has changed through time 2.3 Provide advice about whether the proposed TAC step down is still considered to be appropriate 2.4 RAG recommendations for future work 2.5 Update BET species summary	Malcolm Haddon
10:15	<i>Morning tea</i>	
10:35	3. Orange Roughy, eastern zone Tier 1 assessment 3.1 Preliminary stock assessment 3.2 Results of re-aging data of OR east 3.3 Comparison of 2006 assessment stock trajectory with this assessment 3.4 Exploration of sensitivities; doubling of catch, stock structures 3.5 MCMC results	Judy Upston



	<p>3.6 Future biomass/catch projections</p> <p>3.7 RAG recommendation of Base Case</p> <p>3.8 RBC recommendation (if applicable)</p> <p>3.9 Update OR species summary</p>	
12:30	<i>Lunch</i>	
13:15	Orange Roughy - continued	
14:30	<i>Afternoon tea</i>	
14:50	<p>4. RAG to provide advice on appropriate limit and target Orange Roughy reference points.</p> <p>In providing advice the RAG should consider whether MEY or MSY are appropriate management targets for a fishery that harvests a part of the stock that is highly aggregated.</p>	Marcus Finn/ Sandy Morison
15:30	<p>5. Orange Roughy Rebuilding Strategy – for RAG comments out of session</p>	Marcus Finn
16:00	<i>Finish meeting</i>	



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 Tom Bibby	Commonwealth Trawl Sector boat and quota SFR holder. Chairman of SETFIA.
Mr John Jarvis	South East Trawl boat and quota SFR holder
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.
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 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 George Day	AFMA. Senior Manager 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 Jemery Day	CSIRO, Assessment scientist. Acquiring funding for research purposes
Dr Robin Thomson	CSIRO, Assessment scientist. Acquiring funding for research purposes



Dr Miriana Sporcic	CSIRO, Assessment scientist. Acquiring funding for research purposes
Dr Bruce Taylor	RMIT, Assessment scientist. Acquiring funding for research purposes
Mr Malcolm McNeil	Employed by Sealord Group Limited as Contract Resource Manager of Petuna Sealord Deepwater Fishing. An Australian resident company which holds various fishing rights in the South Eastern Shark and Scale Fishery. Pecuniary interest is limited to the extent of engagement with PSF and Sealord.



Attachment 3

Summary of results for base-case model and sensitivity tests, including sequential models for the 2014 base case model specification and data inputs. Lower total NLL (negative log-likelihood) values indicate a better fit to the data for comparable models. Models with different weighting and data are not comparable. Q prior for Towed: N(0.95, 0.3), Hull: N(0.95, 0.92)

Model	FEMALE SPAWN BIOMASS						NLL NLL Main components				Estimated ParmS					
	SBO	SB2014	SB2014/B0	SB2015	SB2015/B0	RBC ₂₀₁₅	RBC ₂₀₇₀	Total	Survey	Age_comp	Recruit	SR_LN(R0)	Selectivity_infl.	Selectivity_Width	Q3_Towed_rel	Q4_Hull_rel
Base-case Model 0	38,931	9,470	0.24	10,185	0.26	381	1,534	210.32	-17.61	134.89	12.67	9.05	35.77	1.00	1.32	1.78
Sensitivity Model A: Stock Structure E + S	47,295	9,398	0.20	10,225	0.22			347.98	-15.67	274.37	9.10	9.25	35.3698	1.00	1.27	1.65
Sensitivity Model B: Stock Structure E + S + W	51,325	9,954	0.19	10,832	0.21			434.95	-16.70	364.08	7.78	9.33	34.9905	1.00	1.10	1.53
Sensitivity Model C: Stock Structure E	37,560	17,483	0.47	18,200	0.48			249.90	-12.38	180.77	1.23	9.02	35.1045	1.00	0.69	1.62
Sensitivity Model D: Higher early catches	43,061	8,937	0.21	9,652	0.22			619.73	-14.49	536.59	18.03	9.15	33.8039	1.00	0.91	1.28
Sensitivity Model E: Minor Age bias	38,842	9,528	0.25	10,244	0.26			212.12	-17.65	136.40	12.88	9.05	35.8951	1.00	1.36	1.82
Sequential Models associated with Base-case Model 0																
Model #1: Prelim Base-case Model 0 RAG1	38,727	9,223	0.24	9,887	0.26			210.88	-17.70	135.18	13.05	9.05	35.6974	1.01	1.32	1.76
Base-case Model 0: Update age error & recent catches (as above)	38,931	9,470	0.24	10,185	0.26			210.32	-17.61	134.89	12.67	9.05	35.765	1.00	1.32	1.78

Attachment 4 Action items from this meeting

No.	Action item	Action person	Time frame
1	Investigate and confirm the existence and details of a 500 kg trawl trip limit for Blue eye Trevalla around 1991/92. Inform the RAG and Malcolm Haddon of the results.	AFMA	End of November 2014
2	Investigate and confirm the existence and details of any restrictions on quota transfer between sectors in the early 1990's and inform the RAG and Malcolm Haddon of the results	AFMA	End of November 2014

Attachment 5 Action items from previous meetings**November 2013**

No.	Action item	Action person	Result
4	Geoff Tuck to explore the appropriate + age group for the Blue Grenadier model.	Geoff Tuck	Completed
7	AFMA to request observer section to and industry to continue to collect data on Orca interactions	AFMA	Completed
10	AFMA will develop a proposal for a project to identify the existence of straddling stocks of Alfonsino and Orange Roughy. AFMA will include the proposal in a submission to the ARC and subsequently CommFRAB.	AFMA	Not developed

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No.	Action Item	Person Responsible	Timeframe	Result
1.	AFMA Manager to work with Malcolm Haddon on identifying what Blue-Eye Trevalla data is missing from logbooks	AFMA Manager	By October 2014 SlopeRAG meeting	Completed
2.	AFMA Manager to request the AFMA Observer section to take samples of juvenile Blue-Eye Trevalla if sighted	AFMA Manager	By October 2014 SlopeRAG meeting	Completed
3.	Malcolm Haddon to design	Malcolm	By October	The



	analyses for the impact of marine protected areas on the stock assessment project that relate to closures affecting Blue-Eye Trevalla and associated species and provide to SlopeRAG	Haddon	2014 SlopeRAG meeting	analysis has been designed but the work has not been done. It has been noted in the Blue eye Trevalla future work paper.
4.	Les Scott to provide the last two years information on orca depredations to Malcolm Haddon	Malcolm Haddon	By October 2014 SlopeRAG meeting	Not done. Les Scott did not attend this meeting
5.	Judy Upston to provide re-aging data of Orange Roughy Eastern Zone to the RAG out of session	Judy Upston	When complete	Completed, to be presented at this meeting
6.	Judy Upston to include in the final Tier 1 for Orange Roughy Eastern Zone : <ul style="list-style-type: none"> - 2006 assessment trajectory for comparison - run sensitivity around doubling the agreed catch history - run different stock structures as sensitivities through to MCMC (East and Pedro Branca; East and South; East only) 	Judy Upston	By October 2014 SlopeRAG meeting	Completed, to be presented at this meeting
7.	AFMA Manager to confirm with AFMA Executive as to what timeframes they would like for determining future projections in relation to Orange Roughy Eastern Zone	AFMA Manager	By October 2014 SlopeRAG meeting	50 years
8.	SlopeRAG to consider other questions raised by AFMA Executive at the October SlopeRAG in relation to Orange Roughy Eastern Zone	SlopeRAG	By October 2014 SlopeRAG meeting	To be considered at this meeting and advice provided to AFMA



