



**Australian Government**  
**Australian Fisheries Management Authority**



**SESS Fishery Shelf Resource  
Assessment Group (Shelf RAG)  
Meeting 1, September 2015**

**Meeting Minutes**

**Date: 22 - 23 September 2015  
Venue: Salamanca Inn, Hobart**

## Attendance

Name members	Membership (type i.e. chair etc.)
Mr Sandy Morison	Chair
Mr Robert Curtotti	ABARES economic member
Ms Sally Weekes	Member, AFMA trawl fisheries manager
Dr Geoff Tuck	Scientific member, CSIRO
Dr Ian Knuckey	Scientific member, Fishwell Consulting
Mr Tom Bibby	Member, industry
Mr Tony Lavallo	Member, industry
Mr Simon Boag	Member, SETFIA CEO, industry
Mr Malcolm Poole	Member, recreational
Mr Ross Bromley	AFMA, RAG EO
<b>Invited participants</b>	
Mr Lee Georgeson	Invited participant, ABARES
Mr Richard Green	Invited participant, ABARES
<b>Observers</b>	
Dr Malcolm Haddon	Assessment scientist, CSIRO
Dr Jemery Day	Assessment scientist, CSIRO
Dr Robin Thomson	Assessment scientist, CSIRO, Wednesday
Dr Richard Little	Assessment scientist, CSIRO
Dr Judy Upston	Assessment scientist, CSIRO
Dr Miriana Sporcic	Assessment scientist, CSIRO, Wednesday
Dr Kevin Rowling	Observer
Mr Daniel Corrie	Observer, AFMA

## Minutes

### Tuesday 22 September, 2015

#### 1. Preliminary

##### 1.1 Welcome and introduction and apologies

1. The Chair opened the meeting at 9:00 and welcomed members and other participants.
2. The RAG noted there were no apologies.



## 1.2 Declarations of interest

3. 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 ShelfRAG members and other participants is provided in Attachment 2.
4. Mr Bibby (SFR owner), Mr Boag (Board member of a fishing company) and Mr Poole (recreational fishing member) declared interests in the outcomes of RBC discussions. Dr Haddon pointed out that Tier 3 and 4 RBCs are derived from the harvest control rules and there is little room for discussion on the final outcome. The RAG agreed with Dr Haddon and agreed that all decision making must be impartial. The RAG agreed to deal with any conflict on a case by case basis.

## 1.3 Adoption of agenda

5. The RAG adopted the draft agenda (**Attachment 1**).
6. Mr Poole queried whether AFMA monitors quota trading following RAG and MAC meetings. The Chair queried if Mr Poole was talking about benefits to members from knowledge of changes to TACs following RAG or MAC meeting. Ms Weekes said to date AFMA had not considered this to be an issue and does not routinely monitor quota trading subsequent to RAG or MAC meetings. Ms Weekes further stated that this was a question for AFMA and not RAG business. The RAG recognized that this may be an issue but it is not an matter for the RAG

### 1.4 Action items from SESSFRAG and previous ShelfRAG meetings.

7. RAG members reported on outcomes arising from action items from the 2014 ShelfRAG meeting. A list of outcomes is provided in **Attachment 3**.
8. RAG members reported on outcomes arising from action items from the 2015 SESSFRAG meeting. A list of outcomes is provided in **Attachment 4**.

## 2. General updates

### 2.1 Manager's report on management issues

9. Ms Weekes presented the AFMA manager's report. The RAG noted the following:
  - The Harvest Strategy Policy, Bycatch Policy and overarching Fisheries Policy reviews are being led by the Department of Agriculture and Water Resources. They are still consulting within Government (AFMA and Environment) and expect to undertake public consultation over the next few months.
  - Observer market testing. Following market testing of the observer program AFMA has decided to conduct a limited tender process with those applicants who have been shortlisted. AFMA will now prepare the request for tender documents, evaluation criteria and associated material, prior to approaching the shortlisted applicants to submit their tenders.
  - Seabirds. Although seabird interactions are still an issue for the trawl fishery significant progress has been made over recent years. "Pinkies", made mandatory from trawl boats in 2014, have been shown to reduce interactions



by 75 percent. Industry is currently trialing two new alternatives to reduce this rate further.

- The Petuna/Sealord and Sanford blue grenadier winter spawning freezer boat fishery was granted MSC.

## 2.2 AFMA Commission's comments on 2015-16 TACs

10. Ms Weekes passed on the AFMA Commission's comments regarding 2015-16 TACs:

- a) Proposed changes to the SESSF HSF were supported:
- the small change limiting rule was removed
  - for multi-year TACs, the large change limiting rule may be applied for each year of the period until the RBC is achieved.

Ms Weekes explained that we would need a strong case to move away from these rules, and that would only occur by exception.

- b) Gemfish east
- this is a key species for the Commission and they want to see close monitoring of this species to get data to be used in an updated estimate of stock status.
- c) Redfish
- The Commission set a bycatch TAC of 100 t, noting the issue of stock availability and that the TAC was reflective of the current science.

## 2.3 ABARES Fishery status report 2015

11. Mr Georgeson gave a brief summary of the ABARES fishery status reports

- For solely and jointly managed fisheries overall, there is likely to be very little change from last year's reports. However, detailed information is confidential until the reports are released in late October 2015.
- Updated stock assessments for the SESSF (CTS and SHS), orange roughy eastern zone and redfish have implications for status determinations for these stocks.
- Based on the rebuilding of orange roughy eastern zone, an argument was made by reviewers about increasing uncertainty around the biomass status of southern and western zone orange roughy. Currently, there is little tangible evidence of an increase in biomass so the biomass status is unlikely to change. ABARES would welcome a RAG discussion on this issue.
- Difficulties in assigning a status determination were encountered for redfish (fishing mortality), blue-eye trevalla, eastern gemfish and pink ling (eastern zone).
- Overall the SESSF GVP is very similar to last year. Of note is the reduction in NER in the SESSF; in 2013–14 estimates (ABARES fishery economics reports).
- On a general level, ABARES is facing some new and ongoing challenges with the status reports:
  - assessing fishing mortality for stocks below BLIM remains difficult due to ongoing paucity of information
  - the move to MYTACS for a number of tier 4 species presents challenges
  - because ABARES reports status against the limit reference point (and discusses status in the context of target reference points), a lack of



- updated tier 4 assessments makes it more difficult to track CPUE in relation to the LRP and TRP from year to year
- issues around maintaining relevance of reports – there is a general push to reduce assessment and management costs across the board and it may be that in addition to the move toward MYTACS, the format of the annual status reports needs to be reconsidered.

Dr Knuckey joined the meeting at 10:00. The RAG noted Dr Knuckey's declared conflicts of interest (Attachment 2).

## 2.4 SESSFRAG update

12. The Chair gave a brief rundown on this year's SESSFRAG meetings:

- It is proposed to merge Slope RAG and Shelf RAG when the memberships of each RAG expire, i.e. 30 June 2016.
- SESSFRAG supported developing a better approach for reporting discards
- Tiger flathead Danish seine CPUE was higher than last year but still below the 95 percent confidence interval (CI). Trawl CPUE rose from being on the cusp of breaking out below the CI band to being within the CI band. SESSFRAG decided to continue with the current assessment.
- The RAG viewed the redfish CPUE forecast and noted:
  - an assessment was undertaken last year and redfish biomass was assessed as being below the limit reference point
  - the recent observed CPUE straddled the lower 95 percent CI but was trending up in line with model predictions
  - a rebuilding strategy is being developed and the current RBC is zero
  - there is little new data and a new assessment would not provide any additional management information.
- School whiting:
  - NSW state catches have been falling and Dr Upston will update the catches in the SESSF ISMP Discard paper
  - Dr Day advised the RAG that he had been doing some work looking at undertaking a pre-recruitment survey of school whiting and whether it is possible that the survey results may inform the assessment.
- Jackass morwong:
  - SESSFRAG noted that a Tier 1 assessment is scheduled for this year
  - combined, west and east standardized CPUEs are falling
  - the RAG requested Dr Thomson include monthly and yearly length frequency data by zone to identify if any recruitment is occurring in the zones.
- The CTS and GAB FIS have been put up for external review and AFMA is currently looking to engage a reviewer.
- Dr Fulton gave a PowerPoint presentation of her work using the Atlantis ecosystem model to test tiered harvest control rules. The Atlantis model was used to model six assessment tier levels, including those currently being used in the SESSF and the effect of metarules in mitigating risk. SESSFRAG recommended deferring any decision on removing metarules until Dr Fulton has published her paper.

## 2.5 Observer report

13. The Chair referred the RAG to the previously circulated 2014 ISMP Observer Report. The RAG noted:



- that only 13/33 length frequencies and 6/27 otoliths were collected
- western port sampling was below target. This has now been addressed
- overall sea day targets were met.

## 2.6 ISMP – SESSF Discard estimation 2014

14. Dr Upston presented the 2014 Integrated Scientific Monitoring Program for the Southern and Eastern Scalefish and Shark Fishery – Discard estimation 2014 draft paper and referred members to the paper previously circulated.
15. Dr Upston summarised the methodology used to design the ISMP sampling regime (Bergh et al 2009) and how discards were calculated. The RAG noted that discard proportions were sampled across 32 strata within the fishery and sample coverage was reported against Bergh.
16. Dr Upston informed the RAG that preliminary estimates of overall discard rates suggested that the discard rates of blue grenadier, John dory, mirror dory & silver trevally increased in 2014 compared to 2013. The RAG noted that discards of John dory increased to 7.3 percent and although this was unusual, John dory being a high priced fish, it was nothing out of the ordinary in the limits of history.
17. The preliminary estimates suggest that discard rates for blue-eye trevalla, gemfish west and ocean perch offshore decreased in 2014 compared to 2013. Dr Upston emphasized that these are “preliminary” estimates and the final estimates of the overall discard rate will be presented at the October RAG.
18. Dr Upston pointed out that the decision rule specifying a minimum of 10 shots in the stratum where the fishery most occurs was not met for; alfonsino, blue warehou east and west, deepwater shark east and west, orange roughy, oreodory basket and smooth oreodory. Consequently discard estimates were not calculated for these species.
19. At SESSF RAG the manager of the observer program, Mr Burns, undertook to update the 2016 ISMP targets to take recent effort into account when allocating sampling days to each stratum and circulate the revised ISMP program to the RAGs for comment.

<p><b>Action item 1 – AFMA – As soon as possible</b> Circulate the revised ISMP program to ShelfRAG for comment.</p>
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### *Morning tea*

20. The Chair reminded the RAG that it had yet to formally deal with declared conflicts of interest. Mr Bibby, Mr Lavelle, Mr Boag and Dr Knuckey each left the room in turn while the RAG considered their declared conflict of interests. The RAG agreed that Mr Bibby's, Mr Lavelle's and Mr Boag's expertise in the fishery warranted them being allowed to participate in the meeting however they may be asked to leave the room when formulating RBC advice. The RAG noted Dr Knuckey's interest in the FIS and observer tender however his scientific and general knowledge of the fishery warranted him being allowed to participate in the meeting. The RAG noted that that any RAG member can bring any perceived conflict to the Chair's notice and that the issue can be dealt with at the time on a case by case basis.



### 3. Summary of breakout species and resultant actions from SESSFRAG

21. SESSFRAG reviewed the triggers for ShelfRAG species, except for Royal Red Prawns and Silver Trevally, at their meeting in August 2015, and found no triggers were triggered. The triggers for Royal Red Prawns and Silver Trevally, both Tier 4 species on MYTACs, were considered by AFMA in September 2015 and found also not to have been triggered.
22. The RAG reviewed the standardized CPUEs for royal red prawns and silver trevally and found no cause for concern with either species.
23. Mr Poole expressed his concerns with the levels of silver trevally discards and that NSW have stated silver trevally are growth overfished. Mr Poole expressed his view that he did not agree with the RAG's opinion that there was no cause for concern and he wanted his dissenting view recorded. He further stated that the RAG continued not to deal with the issue.
24. The RAG Chair and members explained that:
  - observed discards are extrapolated over the whole fleet to give estimated discard rates and CVs indicate that there are errors around these estimates
  - growth overfishing is not a stock issue but a size issue and is about whether the stock is providing the best return possible
  - the TAC is under-caught
  - current catch rates over the last four years are above the target and these are used as the basis for the silver trevally assessment
  - silver trevally is in the second year of a three year MYTAC and although the standardized CPUE shows a decline it will be reviewed after three years. The next assessment is due next year.

### 4. Redfish Rebuilding Strategy (RRS)

25. Ms Weekes presented the previously circulated paper and directed the RAGs attention to the items AFMA is seeking ShelfRAG advice on:
  - a) the objectives and the monitoring and evaluation sections of the RRS
  - b) the prioritization of conducting a targeting analysis of redfish catches
  - c) analysis of state and Commonwealth redfish catches and discards
  - d) what may be an appropriate incidental catch TAC to cover incidental catch of redfish when targeting other species whilst preventing targeting and discarding of redfish?
26. The RAG noted:
  - redfish was estimated to be at 10.8 per cent of its unfished biomass in 2013 (Tuck 2014).
  - the Commonwealth Fisheries Harvest Strategy Policy 2007 (HSP) requires formal rebuilding strategies to be developed for all species below their biomass limit reference point. Consequently a rebuilding strategy has been developed for redfish
  - the EPBC Act and the HSP state that an adequate rebuilding strategy is likely to be one with the characteristics of a recovery plan that would provide for the research and management actions necessary to stop the decline of, and support the recovery of, the species concerned.



27. AFMA is seeking ShelfRAG advice on the appropriateness of the following objectives for redfish:

- to rebuild redfish in the area of the SESSF to the default limit reference point of 20 per cent of unfished spawning stock biomass (BLIM) within a biologically reasonable timeframe, being approximately 26.7 years (one mean generation time (16.7 years) plus 10 years)
- having reached BLIM, rebuild redfish to the maximum sustainable yield level of 40 per cent of unfished spawning stock biomass (BMSY) and
- once BMSY is reached, pursue the biomass level which aims to maximise net economic returns, currently 48 per cent of unfished spawning stock biomass (BMEY).

28. Based on the most recent biomass projections in 2014, the stock is predicted to recover to a biomass larger than its limit reference point by 2018 or 2019 under a catch of up to 150 t (Tuck 2014). Dr Knuckey pointed out that projections made using the model rely on average recruitment and this has probably not occurred for a number of years. Rebuilding times using this scenario are probably optimistic. The RAG recommended exploring the effect of different recruitment scenarios on rebuilding times. Dr Tuck advised that this could be possible subject to AFMA and CSIRO negotiating suitable funding and consideration of CSIRO time constraints.

**Action item 2 – AFMA/CSIRO – subject to funding**

Explore the effect of different recruitment scenarios on redfish rebuilding times.

29. Recognising the close relationship between recruitment and recovery time, the RAG recommended annual monitoring of size and age composition of redfish. The RAG also identified the need ensure that adequate redfish LF samples were obtained.

**Action item 3 – AFMA/CSIRO – ongoing**

Annual monitoring of size and age composition of redfish.

30. The HSP notes that a zero RBC provides the maximum possible recovery rate; however, achieving zero fishing mortality in a multi-species fishery is difficult. Recognising this the AFMA Commission determined an incidental catch TAC of 100 t for redfish for the 2015-16 fishing season.

31. Subsequent to discussions at the October 2014 ShelfRAG meeting, the RAG noted anecdotal evidence from industry that there are signs of a recruitment pulse coming through (as also seen in the latest CPUE data reviewed by SESSFRAG in August 2015).

32. AFMA is seeking ShelfRAG advice on:

- the prioritization of conducting a targeting analysis of redfish catches
- analysis of state and Commonwealth redfish catches and discards
- what may be an appropriate incidental catch TAC to cover incidental catch of redfish when targeting other species whilst preventing targeting and discarding of redfish?

33. Dr Knuckey gave a short presentation on the effects of mesh size on trawl net selectivity. He explained that small redfish are caught inadvertently in the course of fishing for other species and capture and discarding of small fish is a major source of mortality for this species. The best way to reduce size based discarding is to increase codend mesh size; however previous trials have shown that increased mesh size will



reduce flathead catches. Dr Knuckey said that increasing codend mesh sizes to 102 mm diamond mesh seems to be the most effective in reducing catches of 12 – 14 cm redfish while minimizing the effect on other species. (Reference: “Maximizing yields and reducing discards in the South East Trawl Fishery through gear development and evaluation. Knuckey, I.A. and C.J.T. Ashby. 2009).

34. Mr Boag pointed out that increasing mesh sizes would come at a cost through loss of production while redfish rebuilt and reduced quota values. He thought it would be beneficial to the decision making process if both these costs were able to be quantified.

#### *Lunch*

35. The RAG made the following suggestions and comments regarding the RRS:
- The RAG recognized redfish are caught as part of a multi species trawl fishery and it is difficult to set a realistic bycatch TAC without understanding what proportion of the redfish catch is targeted and what taken while fishing for other species. The RAG recommended undertaking an analysis of redfish targeting and trends.

**Action item 4 – CSIRO – as soon as possible**  
Undertake an analysis of redfish targeting and trends.

- The redfish assessment showed low recruitment is a key driver of stock decline and this should be included in the RRS.
- Size based discarding is an important source of mortality. The RAG recognizes that any increase in mesh size will reduce catches of some other species, principally flathead. Dr Knuckey suggested that flathead catches would drop in the short term (3-5 years) but would recover over a longer period and the fishery would be harvesting larger fish. Financial returns to operators should also be improved with larger fish attracting higher prices.
- A lower redfish TAC may constrain catches of other species caught with redfish.
- There are good redfish data that will support a periodic update of redfish assessments.
- If there is a need for management changes to rebuild redfish it is economically more sensible to target any changes towards areas where redfish occur instead of using a broad brush approach
- Mr Boag suggested that there is scope for SETFIA to participate in the RRS and advocated including SETFIA co-management with AFMA in the strategy.

**Action item 5 - AFMA/CSIRO - unspecified**  
Explore redfish rebuilding times under different selectivities and recruitment scenarios.

**Action item 6 – Executive Officer – immediately**  
Circulate Dr Knuckey’s paper “Maximizing yields and reducing discards in the South East Trawl Fishery through gear development and evaluation. Knuckey, I.A. and C.J.T. Ashby. 2009) to all members.

#### **TAC advice**



36. Given there are no new data available that would inform a change of decision the RAG recommended a TAC of 100 tonnes for redfish for the 2016-17 fishing season.

Species	Assessment	RBC (t)	TAC (t)	Discount factor	Under/over catch
Redfish	N/A	NA – rebuilding species	100 (incidental)	N/A	N/A

## 5. Tier I – Jackass morwong

### Industry overview

37. Industry member, Mr Lavelle, informed the RAG that morwong numbers had been stable over the last three years in the east. Mr Bibby said that morwong have never made up a large part of the total catch in the west and what grounds there were are now closed under the Upper Slope Dogfish Rebuilding Strategy.

### Assessment

38. Dr Tuck presented the jackass morwong east and west Tier 1 assessment.
39. The base-case model largely uses the same assumptions and settings as the last full assessment in 2011 with some small changes:
- include both port and onboard retained length frequency data
  - the 2015 assessment separates port and onboard length frequency data but estimates a single selectivity (for eastern trawl, Danish seine and Tasmanian trawl)
  - updates of data to the end of 2014
  - inclusion of FIS data for eastern and Tasmanian trawl.
  -
40. Details of the model structure can be found in the previously circulated assessment documents.

### Eastern zone

41. Results:
- the model fits well to the length data
  - recruitment has been less than average over the last few years
  - the 2016 spawning stock biomass is estimated to be 32 percent of 1988 stock biomass
  - spawning stock biomass in 1988 was 4184 tonnes, it is currently estimated to be 1340 tonnes.
42. The RAG proposed that the following work is undertaken before the next RAG:
- explore the lack of fit to Danish seine length data
  - check 2014 eastern trawl on board length data
  - refine the data weighting.

### Western zone

43. Results:
- the 2014 catch was only 13 tonnes
  - western morwong were mainly caught in depths > 150 metres whereas eastern morwong were caught in depths < 150 metres



- the base case is a good fit to the length data but a poor fit to the observed CPUE trend
  - there is a strong conflict between the CPUE and length data. If the model is tuned using the Francis method the CPUE does not fit the length data
  - the RAG noted low sample numbers within some data sets, namely; age frequency, discards and port length frequencies
  - the 2015 preliminary assessment concludes that the spawning biomass of the western stock of jackass morwong in 2016 will be 66% of the unexploited biomass. In comparison, the last full assessment in 2011 estimated the 2012 spawning biomass to be 67% of the unexploited equilibrium stock biomass. However, due to limited recent data, very low catches (only 13t in 2014) and the existence of a strong conflict between the length data and the catch rate data, the robustness of model results should be questioned.
44. Dr Haddon commented that he thought the conflict between the CPUE and length frequency series was a serious issue, however the standardized CPUE seems to fit the biology of the species and it also fits industry observations of what is happening with the stocks.
45. Dr Knuckey opined that the Tier 1 assessment takes all available data into account whereas the Tier 4 only uses CPUE which the RAG is not convinced is a reliable index of abundance.
46. The RAG suggested the following to investigate the data conflicts:
- explore alternative model structures
  - explore an alternative assessment that better reflects the CPUE index, eg Tier 4
  - down-weighting the age frequency data due to low sample numbers
  - using eastern growth parameters in the western assessment
  - restricting the data source to Zone 50
  - redo the CPUE series excluding the fishery closures.
47. The RAG will review the assessment and decide on a base case at the October meeting.

## 6. Bycatch grouping

48. AFMA is seeking RAG comments on the proposed non –quota species groupings for discards in the Commonwealth Trawl Sector. Mr Corrie from AFMA presented the paper previously circulated to the RAG. Most stock and risk assessments require accurately reported data and operators are currently required to provide this information. Reporting of discards is often inaccurate or incomplete and the aim of grouping species is to streamline reporting for operators with the intent of improving voluntary compliance of reporting discard tonnages while species composition can be obtained through the ISMP.
49. At its August 2015 meeting, SESSFRAG provided in-principle support to develop non-quota species groups for the purpose of reporting discards. A sub-committee made up of AFMA, SETFIA and Fishwell Consulting, have developed draft groups for non-quota species for consideration by Shelf and Slope RAGs.
50. The proposed groupings are:



- a) Major non-quota species – These species account 28 per cent of the discarded non-quota catch in the CTS. They are easily identified and are often retained
- b) Non-quota groups – These five groups account for 44 per cent of all discarded non-quota species.
- c) Other mixed species – Mixed fish and mixed sharks are made up of non-quota species that do not fall into any of the groups. These two groups account for the remaining 21 per cent of discarded catch.

51. The working group did consider species identified as high risk through AFMAs Ecological Risk Assessment (ERA) process and whether they should or shouldn't be grouped. Detailed catch and discard information for these species is important however identification is often difficult and some species are classified as high risk due to a lack of data. The working group currently proposes that discards of high risk species be reported to species level.

52. Industry members advised that they considered the proposed reporting to be too complicated and detailed and that it would be extremely onerous for operators to report bycatch to the level proposed. They thought the justification for reporting to this level was not well communicated or understood and suggested removing the non-quota species group bracket and including this in mixed fish and mixed shark.

53. The RAG referred the proposals back to working group for further work.

*The Chair adjourned the meeting at 17:10.*

## Wednesday 23 September

### 7. Bass Strait trawl closure

54. Ms Weekes presented a paper seeking the RAG's advice on the value of the Bass Strait Trawl Closure (the Closure) in protecting juvenile scalefish, in particular blue warehou.

55. The RAG noted that otter trawl logbook records indicate that less than 200 kg blue warehou was caught in the area of the closure during in the nine years prior to implementation of the trawl closure (2000 – 2008). Apart from one catch of 1770 kg, less than 100 kg has been caught by Danish seine in the closure area between 2000 and 2015.

56. The RAG provided the following comments:

- it is difficult to quantify any benefits in the form of biomass increases from closures without a lot of research as there are many variables in play. However you can quantify losses to fisheries production
- the data supplied shows very low catches of blue warehou have been taken from this area and there are other factors influencing blue warehou recruitment to a greater degree than this closure.

57. Mr Poole noted that blue warehou are under a rebuilding strategy and in his view any increase in area available to trawling needs to be carefully considered.



58. The **RAG advised** that opening the Bass Strait to trawl fishing would not pose any additional threat to blue warehou.

## 8. School whiting

59. Ms Weekes presented a paper seeking the RAG's advice on work identified by SESSFRAG to improve or develop a new Tier 1 school whiting assessment; specifically:
- Ageing. A comparative study is needed to determine the implication of this on the growth parameters and natural mortality used in the model. Differences in growth parameters between sexes may also be able to be identified.
  - Pre – recruitment survey. Is a pre-recruit survey a viable option for this species and consequently if it is worth investing in, and report to ShelfRAG.
  - Genetic work to determine stock structure
  - NSW to develop a standardised catch rate series for school whiting.
60. The RAG recognized that revising the ageing results can affect the age structure in the assessment however eight years of sectioned otoliths should be sufficient and there is no need to redo more.
61. Dr Day informed the RAG that he had started to look at a pre – recruitment survey but it was too early for results. He has been looking at whether the MSE undertaken by Sally Wayte could be adapted by including a pre – recruitment survey (fish < one year old) and seeing if this knowledge can inform the assessment while meeting the HSP standards and targets. The RAG was happy to wait for results from Dr Day's work.
62. The RAG opined that regardless of genetic stock structure it is more important to consider where catches are taken, fish movement and whether fishing intensity in one area affects the rest of the fishery. The RAG was of the view that the fishery should be assessed on a fishing stock basis and that may not necessarily be the same as the genetic stock (if there is any genetic stock delineation).

## 9. Rebuilding strategies

63. Mr Corrie presented the paper seeking the RAG's comments on if the Blue Warehou Stock Rebuilding Strategy and Eastern Gemfish Stock Rebuilding Strategy are on track to meet their objectives and provide advice on remedial action if not.

### *Blue warehou*

64. The RAG reviewed the data and noted:
- there were no log records prior to 1997
  - catches have been small and over the last few years below the incidental TAC
  - as a consequence of low catches there are little data
  - the number of shots containing more than 250 kg of blue warehou have declined over the last 10 years, with last year the lowest on record
  - catches of blue warehou by the top 10 boats has declined from 116 tonnes to less than two tonnes
  - the number of shots containing blue warehou have decreased
  - blue warehou range has contracted



- state catches are not included in the data summary. The RAG recommended including state catches in the data set.

**Action item 7** – Dr Knuckey and Dr Thomson – as soon as practicable Dr Knuckey to liaise with Dr Thomson to obtain then include state blue warehou catches in the data summary.

65. Dr Knuckey pointed out that there is definite evidence of an eastern and western stock:

- blue warehou east spawn in May to August which is a month earlier than the western spawn
- heavy fish down in the east did not affect the western stock.

66. Dr Haddon gave a short presentation on “Risk assessments on depleted species in the SESSF”. An issue is that depleted species are not recovering as predicted and two of the reasons for this may be that catches and discards are too high or recruitment success has declined. Dr Haddon proposed that the RAG can use Tier 1 projections to examine these questions by simulating different recruitment levels, different catch levels, or both. If the west was used as an example:

- using the average of highest recruitments the biomass should have rebuilt to be about 80 percent of unfished biomass (B80)
- using the average recruitment between 1987 and 2005 the biomass should be at B38
- using the lowest average recruitment the biomass should be about B20.

67. Dr Haddon concluded that:

- the Tier 1 assessment model is able to provide an estimate of the productivity of the western stock
- projections are possible with different assumptions (about mean recruitment [productivity] and catches).
- the failure of the stock to recover seems unlikely to be due to excessive current incidental catches
- a change in recruitment success could provide a sufficient explanation of a failure to recover.
- a change in reproductive productivity is possible but the RAG has no current mechanism to evaluate if this is the case

68. The RAG pointed out that current catches, even with low recruitment, should not be impeding recovery and catches would have to be substantially underestimated to have any effect. If low recruitment is main reason that stock is not rebuilding there is not a lot that can be done.

69. The RAG advised that as it did not consider catch a limiting factor it could find no reason to change its TAC advice

Species	Assessment	RBC (t)	TAC (t)	Discount factor	Under/over catch
Blue	N/A	NA – rebuilding	118	N/A	N/A



warehou		species	(incidental)		
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### *Eastern gemfish*

70. The RAG reviewed the data and noted:

- that 2014 was the first year that catches and discards totaled less than the 100 t TAC
- generally over half the gemfish catch is discarded, mainly due to small size
- the FIS data do not show these small cohorts however this is not unexpected due to the time of year the FIS is run. Dr Knuckey pointed out that the FIS was not designed to give good indications of gemfish abundance
- there was insufficient age data collected from NSW, however this may have been alleviated this year by the introduction of a targeted sampling program for gemfish
- there is little sign of older fish in the age frequencies
- Mr Poole informed the RAG that NSW are finalising a 2013-14 recreational fishing survey and asked what data would be useful to the RAG. The RAG advised Mr Poole that representative samples of length and age would be the most useful
- the number of shots containing greater than 250 kg has been declining since 2008
- eastern gemfish range does not appear to be contracting.

71. Dr Little discussed the eastern gemfish Tier 1 assessment proposed for next year. He informed the RAG that he could see nothing in the data to suggest that results from a new assessment would be any different to those of previous assessments. He suggested that a spawning survey may be required to give an index of abundance.

72. Mr Boag informed the RAG that SETFIA was happy to run a survey but needed to know the timing and requirements of the survey. Dr Little undertook to write a paper for the next RAG meeting exploring pre assessment requirements of a new updated eastern gemfish assessment, including a spawning survey.

#### **Action item 8 – Dr Little – October ShelfRAG meeting**

Dr Little to write a paper for the next RAG meeting exploring pre assessment requirements of a new updated eastern gemfish assessment, including a spawning survey.

73. The RAG advised that there is nothing in the data to suggest any change to the TAC and the RAG confirmed the TAC at 100 tonnes.

Species	Assessment	RBC (t)	TAC (t)	Discount factor	Under/over catch
Eastern	Tier 1	NA – rebuilding	100	N/A	N/A



gemfish		species	(incidental)		
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## 10. RAG RBC/TAC advice mirror dory

74. This agenda item was deferred until the October meeting.

## 11. ABARES - Financial and economic performance of the Commonwealth Trawl Sector

75. Mr Richard Green gave the RAG a short presentation on work done by ABARES to evaluate the financial and economic performance of the Commonwealth Trawl Sector (CTS). The RAG noted:

- At the fishery level, fishing income and operating costs have declined since 2002–03, but net economic returns has substantially improved since then.
- following a negative net economic return (NER) from the fishery during the period from 2001 to 2005, the NER for the fishery peaked in 2010–11 at around \$7 million, but has now retreated from that peak to a forecast level of \$1.4 million in 2013–14.
- total CTS landings of key species in 2013 are about half the landings in 2001-02
- real gross value of production has also declined by about half during the same period
- management costs per active boat have been slowly declining since reaching a peak in 2007. Management costs as a percentage of GVP have also been declining but increased in 2013-14. This increase has more to do with a decline in the fishery GVP (due to a large under catch in the blue grenadier fishery) than an increase in management costs.

76. Mr Poole left the meeting at 12:05 during the above presentation.

*The RAG Chair thanked members and other participants for their involvement and closed the meeting at 12:10.*



**Signed (Chairperson):**

**Date:**

**List of Attachments**

- 1) Shelf RAG September 2015 Agenda
- 2) Shelf RAG September 2015 Declared conflicts of Interest
- 3) Action items from Shelf RAG 2014
- 4) Action items from SESSFRAG 2015 relevant to ShelfRAG
- 5) Action items from September Shelf RAG 2015
- 6) Data needs identified at this meeting



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

Venue: Salamanca Inn, 10 Gladstone St. Hobart

Day 1: Tuesday 22 September 2015

09:00 – 17:00

Chair: Mr Sandy Morison

Time	Item	Presenter
09:00	<b>1. Preliminaries:</b> 1.1 Welcome and introductions/apologies 1.2 Declarations of interest 1.3 Adoption of agenda 1.4 Action items from October/December 2014 meetings	Sandy Morison
09:30	<b>2. General updates:</b> 2.1 Manager's report on management issues 2.2 Commission's comments on 2014 SESSF TACs 2.3 ABARES Fishery Status Report 2014 2.4 SESSFRAG update 2.5 Observer report (tabled) 2.6 ISMP discard report	Sally Weekes Sally Weekes Lee Georgeson Sandy Morison Judy Upston
10:30	<i>Morning tea</i>	
10:50	<b>3. Summary of breakout species and resultant actions from SESSFRAG</b> Outcomes from SESSFRAG (for information).	Sally Weekes
11:30	<b>4. Redfish – draft rebuilding strategy:</b> 4.1 RAG comments sought 4.2 TAC recommendation	Sally Weekes
12:30	<i>Lunch</i>	
13:15	<b>5. Tier 1 assessment - Jackass morwong</b> 5.1 overview of recent data 5.2 update on the fishery from an industry perspective	Robin Thomson Simon Boag CSIRO



	5.3 preliminary 2015 stock assessment 5.4 discussion	
15:00	<i>Afternoon tea</i>	
15:20	<b>6. Bycatch grouping</b> – RAG comments sought regarding reporting requirements for bycatch and discards in the trawl fishery.	Dan Corrie
15:50	<b>7. Bass Strait Trawl closure</b> - Seek ShelfRAG advice on whether the Bass Strait Trawl closure provides protection to juvenile scalefish, in particular blue warehou.	Sally Weekes
17:00	<b>Adjourn meeting</b>	

## Day 2: Wednesday 23 September 2015

### 8:30 am – 12:15 pm

Time	Item	Presenter
8:30	<b>8. School whiting:</b> 8.1 review of SESSFRAG advice re proposed Tier 1 assessment in 2016 8.2 what next?	Sally Weekes
9:30	<b>9. Rebuilding strategies, ShelfRAG annual report and incidental TAC setting:</b> 9.1 eastern gemfish: a) report b) TAC recommendation 9.2 blue warehou a) report b) TAC recommendation	Dan Corrie/Sally Weekes
10:30	<i>Morning tea</i>	
10:50	<b>10. RAG RBC/TAC advice sought for Tier 4 species: mirror dory</b> 10.1 overview of recent data 10.2 update of the fishery from an industry perspective 10.3 Tier 4 mirror dory assessment and discussion	Robin Thomson Simon Boag CSIRO
11:20	<b>11. Results from ABARES recent survey of the Commonwealth Trawl Sector.</b>	Robert Curtotti
11:40	<b>12. Chair's summary and close</b>	Sandy Morison
12:00	<i>Close meeting</i>	



**Attachment 2; ShelfRAG Declared Conflicts of Interest**

<b>Members</b>	<b>Position</b>	<b>Declaration of interest</b>
Mr Sandy Morison	Chair	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.
Ms Sally Weekes	AFMA member	AFMA. Manager of Commonwealth and GAB Trawl Fisheries section. No pecuniary interest.
Mr Ross Bromley	RAG, EO	Executive Officer AFMA. Demersal and Midwater Trawl Fisheries section.
Dr Geoff Tuck	Scientific member	CSIRO. Involved in Stock Assessments. Interest in obtaining funding for future research. Principle investigator on the SESSF stock assessment project and marine closures project.
Dr Ian Knuckey	Scientific member	Director Fishwell Consulting Pty Ltd Involved in –Fishery Independent Survey (FIS) SESSF and GAB PI of the SESSF Strategic Monitoring and Assessment Project Range of research interests in relation to South East fisheries including the GABTF, SESSF and auto-longline sector. Agent for Olfish Electronic Logbooks NPF RAG Chair, Scientific member on NORMAC Member on GABRAG, ScallopMAC and SquidMAC Provides research advice to various industry associations: SETFIA, GABIA and SSIA Fishwell Consulting has been short listed for the AFMA observer program
Mr Robert Curtotti	Economic member	ABARES. Interest in obtaining funding for future research. Also member of SquidRAG. No pecuniary interest.
Mr Simon Boag	Industry member	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. Commonwealth Marine Reserve review panel member for the Temperate East. Member Victorian fisheries advisory council. Other unrelated committees and groups.
Mr Tom Bibby	Industry member	Commonwealth Trawl Sector boat and quota SFR holder. Chairman of SETFIA.
Mr Tony Lavalle	Industry member	Commonwealth Trawl Sector boat and quota SFR holder. Member of SETFIA board.
Mr Malcolm Poole	Recreational fishing member	Recreational Fishing Alliance of NSW - Committee member RECFISH Australia - Treasurer and Board member RFANSW - NSW Recreational Fishing Safety Officer Member of Australian Recreational Fishing Foundation (ARFF) Member NSW DPI Baitfish Working Group. Recreational member on SEMAC NSW Fish Habitat Partnership Treasurer No pecuniary interest or otherwise.
Mr Richard Green	Invited participant	ABARES economist. No pecuniary interest.
Dr Kevin	Observer	No pecuniary interest.



Rowlings		
Dr Rich Little	Invited participant	CSIRO, assessment scientist. No pecuniary interest.
Dr Malcolm Haddon	Invited participant	CSIRO, assessment scientist. No pecuniary interest.
Dr Jemery Day	Invited participant	CSIRO, assessment scientist. No pecuniary interest.
Dr Robin Thomson	Invited participant	CSIRO, assessment scientist. No pecuniary interest.



**Attachment 3 Action items****Table of action items from ShelfRAG 2014**

<b>No.</b>	<b>Action Item</b>	<b>Person Responsible</b>	<b>Timeframe</b>	<b>Outcome</b>
1.	Complete a specific Redfish targeting analysis	CSIRO	First ShelfRAG meeting in 2015	Not done. Not included in the CSIRO contract. Low priority in the rebuilding strategy
2.	AFMA to review ISMP plan for Redfish and decide if it is suitable, noting there should be 80% sampling coverage in Zone 10 and otolith collection.	AFMA	ASAP	Completed
3.	Conduct an analysis of state and Commonwealth discard and catch rates of Redfish.	CSIRO	First ShelfRAG meeting in 2015	See item 1
4.	Review the rationale for continuing to assess Mirror Dory as two separate stocks.	CSIRO	First ShelfRAG meeting in 2015	Not done. To be discussed when dealing with mirror dory at these meetings
5.	Provide a list of current SESSF research projects.	AFMA	ASAP	A report from AFMA will be available for the October meeting

**Attachment 4****Action items from SESSFRAG 2015 relevant to ShelfRAG**

<b>No.</b>	<b>Action item</b>	<b>Person responsible</b>	<b>Timeframe</b>	<b>Outcome</b>
1.	Jackass morwong, east – The RAG noted some 50 +cm fish in the onboard length frequencies (LF). These may be from the Gascoyne Seamount (outside the AFZ). Robin Thomson will impose an easterly boundary on the	Robin Thomson	As soon as practicable	Done



	definitions for SEF zones 10 and 20 to prevent the inclusion of high seas catches in the dataset.			
2.	Jackass morwong, east - include yearly and monthly LF by zone to see if we are picking up any recruitment in the different zones.	Robin Thomson	As soon as practicable	Dione
3.	The RAG resolved that seeing as over 95 percent of the flathead catch consisted of tiger flathead and that only tiger flathead were considered in the assessment not use 'mixed flathead' as the descriptor and to retain the name 'tiger flathead'. Dr Thomson undertook to amend the data summary document.	Robin Thomson	As soon as practicable	Agreed - done
4.	Blue warehou - provide crew collected blue warehou data to Robin Thomson.	AFMA	As soon as possible	AFMA – Sally Weekes to follow up
5.	Individual SESSF RAGs to provide any comments on the data plan template to AFMA.	RAGs	In the course of the 2015 meetings	
6.	A sub - committee of Sally Weekes, Simon Boag and Ian Knuckey to use catch data to investigate "grouping" of by product catch and discards.	Sally Weekes, Simon Boag and Ian Knuckey	September RAGs	Done, see agenda item 6
7.	School whiting – noting reports of falling school whiting catches reported from NSW Judy to clarify the catches as reported in the SESSF ISMP Discard paper.	Judy Upston Ross Bromley to get NSW data	By July 2016 (or prior to an assessment for school whiting if it gets pushed back until 2017)	Judy Upston has the NSW state catches. The analysis will be completed for the October meeting.
8.	School Whiting. Dr Day to undertake preliminary work to ascertain if a pre-recruit survey is a viable option for this species and consequently if it is worth investing in.	Jemery day	ShelfRAG	Nothing to report. The project is externally funded, so although the RAG can encourage Dr Day it cannot impose



				timeframes.
9.	Research – AFMA will investigate integrating examining reasons for falling CPUEs and lack of species rebuilding into the existing research project	George Day	As soon as possible	Rich Little reported that nothing had been submitted yet but a workshop is planned to see if the this project can be incorporated into the existing under-caught TAC project.

#### Attachment 5 Action items arising from this meeting

No.	Action item	Person responsible	Timeframe
1	Circulate the revised ISMP program to ShelfRAG for comment.	AFMA	As soon as possible
2	Explore the effect of different recruitment scenarios on redfish rebuilding times.	AFMA/CSIRO	Subject to agreement with AFMA re funding
3	Monitor size the LF sampling and size composition of redfish.	AFMA/CSIRO	Ongoing
4	Undertake an analysis of redfish targeting and trends.	CSIRO	As soon as possible
5	Explore the effect of different recruitment scenarios on redfish rebuilding times.	AFMA/CSIRO	Subject to funding and time constraints
6	Circulate Dr Knuckey's paper "Maximising yields and reducing discards in the South East Trawl Fishery through gear development and evaluation. Knuckey, I.A. and C.J.T. Ashby. 2009).	Ross Bromley	As soon as possible
7	Dr Knuckey to liaise with Dr Thomson to obtain then include state blue warehou catches in the data set.	Dr Knuckey and Dr Thomson	As soon as practicable
8	Dr Little to write a paper for the next RAG meeting exploring pre assessment requirements of a new updated eastern gemfish assessment, including a spawning survey.	Dr Little	October ShelfRAG meeting



**Attachment 6. Data needs identified at this meeting**

<b>Species</b>	<b>Details</b>	<b>Timeframe</b>
All species	Increase sampling in western Bass Strait	As soon as possible

