



Australian Government

Australian Fisheries Management Authority

**Southern and Eastern Scalefish and Shark
Fishery Resource Assessment Group
(SESSFRAG)
Data Meeting**

Meeting Minutes

Date: 7 & 8 August 2017

Venue: Freycinet Room, CSIRO

Hobart

Attendees

Members	
<i>Dr Cathy Dichmont</i>	<i>SESSFRAG Chair</i>
<i>Mr Sandy Morison</i>	<i>SERAG and SharkRAG Chair</i>
<i>Mr Lance Lloyd</i>	<i>GABRAG Chair</i>
<i>Dr Sarah Jennings</i>	<i>Economics Member</i>
<i>Mr George Day</i>	<i>AFMA Member</i>
<i>Miss Georgia Langdon</i>	<i>SESSFRAG Executive Officer, AFMA</i>
Invited Participants	
<i>Mr Simon Boag</i>	<i>Executive Officer, South East Trawl Fishing Industry Association (SETFIA)</i>
<i>Mr David Stone</i>	<i>Executive Officer, Sustainable Shark Fishing Association (SSIA)</i>
<i>Mr Christian Pyke</i>	<i>Executive Officer, Great Australian Bight Industry Association (GABIA)</i>
<i>Dr Geoff Tuck</i>	<i>CSIRO</i>
<i>Dr Robin Thomson</i>	<i>CSIRO</i>
<i>Dr Malcolm Haddon</i>	<i>CSIRO</i>
<i>Dr Rich Little</i>	<i>CSIRO</i>
<i>Dr Jemery Day</i>	<i>CSIRO</i>
<i>Dr Miriana Sporcic</i>	<i>CSIRO</i>
<i>Dr Claudio Castillo-Jordan</i>	<i>CSIRO</i>
<i>Dr Ian Knuckey</i>	<i>Fishwell Consulting</i>
<i>Mr Kyne Krusic-Golub</i>	<i>Fish Ageing Services</i>
<i>Dr Brigid Kerrigan</i>	<i>Trawl Manager, AFMA</i>
<i>Mr Brodie Macdonald</i>	<i>Gillnet, Hook and Trap Manager, AFMA</i>
<i>Mr Chris Burns</i>	<i>Observer Coordinator, AFMA</i>
<i>Mr Dan Corrie</i>	<i>Trawl Management Team, AFMA</i>
<i>Mr Nick Mammides</i>	<i>Assistant Observer Coordinator, AFMA</i>

1 Preliminaries

1.1 Welcome & Apologies

1. The meeting commenced at 9:00am.
2. Dr Cathy Dichmont (SESSFRAG Chair) welcomed members and invited participants to the meeting. The Chair noted that no apologies had been received. Each of the participants introduced themselves to the rest of the group.

1.2 Declarations of Interest

3. Members, invited participants and observers provided declarations of conflicts of interest as prescribed in Fisheries Administration Paper 12 and incorporated updates from the previous meeting if required ([Attachment 1](#)).

Participants with specific conflicts of interest were asked to leave the room individually so that the RAG could discuss their participation under specific agenda items.

4. The attendance of all members and invited participants was supported for each of the discussions under each of the agenda items.

1.3 Adoption of Agenda

5. Some additional items were requested to be added to Agenda Item 3.2 Other Items including current research projects in the SESSF, data automation for Tier 4 assessments and standardisations, and CSIRO data services.
6. The RAG adopted the agenda ([Attachment 2](#)).

1.4 Action Items

7. The RAG reviewed and commented on the status of the actions from previous meetings as detailed in [Attachment 3](#). A list of new action items established at this meeting are listed in [Attachment 4](#).

Action Item #1 (Chair's Meeting 2015)

8. AFMA observers are now being placed on gillnet and auto longline boats as of the start of August 2017.

Action Item #7 (Data Meeting 2015)

9. The data summary now contains a plot showing CPUE versus total catch of all quota species combined, as well as CPUE versus total retained catch and a plot displaying the proportion of the total catch that is quota species.
10. The RAG noted that the non-standardised CPUE measure for all species combined is a very crude measure and questioned how meaningful the plot is given that standardised CPUE plots for individual species are also produced.
11. The RAG agreed to leave the unstandardized plots for individual species within the Data Summary, unless there is a better and more informative standardised time series available to include.

Action Item #5 (Data Meeting 2016)

12. CSIRO was asked to add an additional column to Table 1 of the ISMP Discard Estimates report which examines number of shots observed per stratum per year, or number of vessels, or number of months. The table presents the ratio of the actual number of shots observed per stratum against a three year average of the number of shots per stratum, as a measure of

how closely we are observing the fishery as a proportion of the fishing effort.

13. Mr Burns (AFMA) noted that ISMP targets are calculated on a five year average, rather than three and that some of the ISMP strata names are different between CSIRO and AFMA. The Victorian Inshore Trawl (VIT) strata has been dropped off the ISMP, and the Danish seine strata has been further broken down into inshore zone 60 and wider zone 20.

ACTION ITEM #1 – Dr Thomson talk to Mr Burns (AFMA Observer Coordinator) to ensure the strata within the ISMP are aligned with the strata used by CSIRO to develop the discard estimates report, as well as discuss the ISMP target calculations.

Action Item #1 (Chair's Meeting 2017)

14. Kyne Krusic-Golub (Fish Ageing Services) summarised the process for storing otoliths and the costs involved. He cautioned that a duplication of effort needs to be avoided and to ensure that the processes for receiving and archiving samples (if a third party to FAS) are consistent.
15. Ian Knuckey reminded the RAG that there are tens of thousands otolith samples from fishery independent surveys (FIS) and orange roughy surveys available in his possession and the RAG needs to decide if there is value in processing these samples.
16. If the RAG decided that additional ageing data from the FIS would be useful to contribute to SESSF stock assessments, the RAG would need to find out from the stock assessment scientists as to what data could be used.
17. If archiving of these samples was to be undertaken, the cost would fall under the existing FAS contract, noting that the cost will come from the archiving and that the longer term storage costs are already considered in the existing FAS contract.

ACTION ITEM #2 – Ian Knuckey (Fishwell Consulting) to provide an inventory of all otolith samples in Fishwell Consulting's possession to the relevant RAGs. Each RAG is then to decide if the data and samples are required and thus to be transferred to the Fish Ageing Services to be archived or processed for inclusion in future stock assessments.

Action Item #3

18. The RAG agreed that the discussion on the 2018 pink ling assessment should be undertaken by SERAG.

Action Item #10 (Chair's Meeting 2017)

19. AFMA was unable to complete this action item in time for the meeting but committed to completing it as soon as possible. The RAG agreed to the

document being a simple spreadsheet broken down by sector to be considered and updated as necessary in the RAG meetings.

20. Participants were encouraged to provide any information they might have on the history of the SESSF to the SESSFRAG Executive Officer.

ACTION ITEM #3 – Dr Rich Little to provide a document on historic management events in the SESSF by Helen Webb/Tony Smith to the SESSFRAG Executive Officer to assist in developing the SESSF timeline. AFMA is to also ask Parks Australia within the Department of Environment for any information they may have relevant to the history of the fishery.

Action Item #11 (Chair's Meeting 2017)

21. The RAG agreed that as the species summaries get updated each year, any biological information for particular species that may require being updated, be identified in the data plan as work that needs to be done. Such work would not necessarily be identified in the Annual Research Plan

2 Review of 2016 Data

2.1 ISMP Report for 2016

22. Mr Burns introduced the 2016 summary report for the Integrated Scientific Monitoring Program (Agenda item paper 2.1)
23. The RAG agreed that it would be worth also looking at the current year's ISMP data in future ISMP updates.

ACTION ITEM #4 - Chris Burns (AFMA Observer Coordinator) to include an update for the current calendar year ISMP data for subsequent SESSFRAG Data Meeting ISMP updates.

24. Mr Burns noted that the 2016 sea days per strata summary is presented as a composite of two financial years.
25. The RAG noted that many ISMP targets were not met however 2017 is currently tracking better than 2016.
26. Mr Pyke raised concerns that sampling in the GAB is not spread out and does not reflect the spatial and temporal activity of the fleet. Dr Haddon noted that implementing a spread of data collection in the GAB is difficult. Mr Burns advised that some level of temporal spread was achieved as a GAB trip was undertaken in each quarter in 2016.
27. Danish seine achieved slightly more inshore days than offshore days, despite the target having indicated that more offshore should have been achieved.

This trend was largely a function of where the fishers tended to fish on the day when observers were present, rather than a function of planning.

If targets across the CTS were planned proportional to the amount of shots in the Danish seine fishery, the targets would be disproportionately high for Danish seine due to the high number of shots in the fishery.

28. The RAG noted the higher number of blue warehou east samples from Danish seine is largely from port sampled data.
29. Dr Knuckey noted that no spawning blue grenadier was sampled and questioned how this will impact the stock assessment. The RAG noted that there was very little fishing effort for this species in 2016.
30. Mr Pyke questioned if the same data could be collected through industry based sampling – CSIRO confirmed that, if the sampling protocols were adhered to, then it doesn't matter who collects it. CSIRO also noted that experience has shown us that industry collected data needs to be supplemented with an education and awareness program to ensure the quality of the data is consistent. Dr Haddon added that the GAB industry collected data is of a very high quality.
31. The RAG questioned why Table 4 of the summary report didn't contain any listed targets for GHAT gillnet length frequency collection. Mr Burns noted that there are targets identified but including them in the table does not change the information nor the way the data is collected in this particular instance as they are all port sampled.
32. The RAG recommended that a written target of zero should be stipulated for elephantfish and sawshark length frequencies, and that the ISMP should divert resources away from collecting length frequencies for these species.
33. Mr Boag suggested that for Table 14 on otolith collection, a traffic light system would be a useful way to report the data to illustrate the status of actuals versus targets.
34. The RAG agreed and suggested it would be useful for the ISMP summary report to be reported against targets on a quarterly basis.

ACTION ITEM #5 – AFMA Observer team to report on ISMP actuals versus targets on a quarterly basis, as opposed to annually, to the RAG using a traffic light system where appropriate.

35. The RAG noted some confusion over the eight zones listed for shark species in the gillnet sector (Table 16), which appear different from the three zones used by SharkRAG in the shark assessments and the SESSF Data Plan.

ACTION ITEM #6 – AFMA (GHAT Team) and SharkRAG to update the Data Plan with the correct zoning for school and gummy shark to be consistent with the on-board ISMP zones.

2.2 Fish Ageing Services End of Financial Year Report

36. Dr Krusic-Golub provided a summary on the Fish Ageing Services project for the past three years. He highlighted the need to align all the data collection zones between the FAS, AFMA and CSIRO.
37. Slightly more deepwater flathead and gummy shark were available than originally estimated when the ageing plan was proposed.
38. 1273 samples of tiger flathead collected during 2016 are available to be aged. Only 14 samples of redfish from 2016 are available and are unlikely to be informative.
39. FAS was able to age all species except John dory due to time and resource restraints. The latest ageing data available for this species is from 2013. Only 87 unaged samples from 2014 are available; 238 samples from 2015 and only 213 samples from 2016.
40. A comparison of Tier 3 and Tier 4 assessments on John dory was suggested. Dr Haddon noted that the inter-annual variation is a big problem.
41. Mr Morison noted that until the RAG formally drops a Tier 3 assessment as an option, the ageing of available John dory otoliths needs to proceed for this year's assessment.
42. The RAG recommended that unless something indicates that the available otoliths are not representative, we will continue to age the available John dory samples and include them in the Tier 3.

2.3 Discard rate estimates

43. Robin Thompson introduced the draft SESSF ISMP discard estimates report (Agenda Item paper 2.3) highlighting the new methodology for calculating discard rates. The process has been updated and is far better automated.
44. Key Changes:
 - a) Whole shots are now attributed to a single ISMP stratum.
 - b) All recorded carcass weight to whole weights are converted to whole weight (the old method ignored the process type field in the database).
 - c) The new software performs all the processing, and can easily produce discard rates for any year.

- d) Rules have been applied in the past to judge whether or not a discard rate is 'valid'. Invalid rates are not made available, however the criteria for judging validity has been somewhat subjective. Clarification of these rules is underway.
 - e) The allocation of shots to the 'Unknown' stratum might have changed.
50. Dr Thomson noted that the rules originally used to calculate coverage statistics and their representativeness were not all quantifiable. She suggested instead of having blanks, where discard rates have been excluded from tables because they have not been representative, to include all discard estimates with a measurement against each quantifiable rule to indicate whether it had passed or failed that meta-rule. This would allow a more informed decision on whether or not to use certain discard rates for stock assessments and TAC calculations.
51. The RAG agreed that the uncertainties be included to better inform the RAG about the discard estimates.
52. Dr Thomson explained that the column labelled 'Prop match' is the number of observed shots in x stratum, divided by the suggested target (based on the 3 year average of fishing effort). The RAG agreed that CSIRO and the AFMA Observer team need to have a discussion to ensure the suggested targets are consistent.
53. Dr Thomson added that in Table 2, the calculations of CVs for the overall discards were unusually low values. The method for calculating the CVs is prescribed by Bergh et al, 2009, however there are two different methods outlined in the paper. She suggested that both methods be examined in future.

ACTION ITEM #7 – Robin Thomson to examine the two approaches for calculating the coefficient of variation (CV) in the Mike Bergh design and discern which one is more appropriate for future discard estimates.

54. The RAG expressed some concerns with the way the discard estimates were calculated, given that some values were greater than 1 which seemed implausible.

ACTION ITEM #8 – Robin Thomson to develop a method for calculating discard rates that ensures no result is a value greater than 1, and ensure the mathematics are adequately documented.

55. The Chair suggested a small group comprised of Robin Thomson, Miriana Sporcic, Ian Knuckey & Sandy Morison get together to look into the statistical aspects of mean and variance, the issue of values of greater than 1, as well as criteria for statistical coverage and whether estimates are included or not.

56. The RAG agreed that work on the above issues commence, with the development of an options paper to be completed by the end of the first week of September, and presented to SESSFRAG out of session for the RAG to make a decision ahead of the first SERAG meeting (20 September).
57. AFMA will arrange a teleconference (date TBC) with SESSFRAG members only, to make a decision. Invited participants may provide their thoughts and comments via email ahead of the phone hook-up.

ACTION ITEM #9 – Robin Thomson to coordinate a small group (including Miriana Sporcic, Ian Knuckey and Sandy Morison) to discuss the statistics and calculations associated with discard rate estimates, and to develop an options paper for SESSFRAG to consider and discuss via teleconference. The teleconference needs to occur before the first SERAG meeting in 2017 (20 September).

58. Dr Thomson suggested that in future the Data Summary will include the previous discard estimates as well as the new discard estimates to illustrate how they may have changed.
59. The RAG was reminded that under the revised Bycatch Policy, estimates of discards for species that are never retained will need to be calculated, and the same information will need to be included in the new Ecological Risk Assessments.

2.4 MYTAC Analysis and Data Summary

60. AFMA introduced the agenda item and provided a brief summary on the amended decision tree and the results of the different scenarios.
61. SESSFRAG recommended a modified decision tree ([Attachment 5](#)) with the following changes:
 - a) a review of fishery indicators would be triggered where less than 50 per cent of the TAC has been caught for solely operational reasons. The RAG noted that determining 'solely operational reasons' would rely on expert opinion and would not be able to be MSE tested in future. However, it was a useful addition until MSE testing on multi-year TACs has been undertaken. The RAG noted that the 50 per cent trigger point, although based on expert opinion, was supported by the fact that the large change limiting rule in the SESSF Harvest Strategy limited TAC changes to 50 per cent in any given year;
 - b) 'long-lived species' may still be required to be reviewed during a multi-year TAC period. This is a precautionary change however the RAG noted that removal of this indicator would have limited effect for species like orange roughy where changes to the stock are not expected to be observable over shorter time periods and there would be no (or very limited) data available to review the species between assessments; and

- c) a review would not be required where the stock biomass is 'above' the target reference point at the start of the multi-year TAC period. This replaces the trigger of being 'well above' target because 'well above' had not been quantified and the target reference point is already 20 per cent above the maximum sustainable yield reference point for most SESSF species. This was because its' stock biomass (45 per cent) was 'above' the target reference point (43 per cent), but not 'well above'.
62. The RAG noted that scenario testing this revised approach led to two additional species being considered by the RAG: silver warehou and jackass morwong, in addition to blue grenadier, oreo (smooth other), deepwater flathead and pink ling east.
63. Given these species' history and biology, the RAG considered:
- a) it was appropriate to review these species during the multi-year TAC period; and
 - b) that the revised decision tree approach to reviewing multi-year TACs provided an improved approach to the current 'break out rules'.

MYTAC Analysis

64. The RAG examined the available data on each species that required a review of fishery indicators and noted the following points:

Blue Grenadier

- Low fishing effort as no boats fished the winter spawning fishery in 2016, therefore the TAC was considered undercaught due to operational reasons.
 - No recent age data available, however the historical ageing data is consistent.
 - Some concern that there is a waste issue with discards of smaller sized grenadier.
 - Due for assessment in 2018
65. The RAG agreed that there was no concern with the stock and no additional action be undertaken.

ACTION ITEM #10 – SEMAC to review a change in gear size in the blue grenadier fishery when there is evidence of a large amount of small grenadier coming through the fishery, particularly in light of the reworked discard calculations.

Deepwater Flathead (GAB)

- 54 per cent of the TAC caught in the 2016-17 season
- There is no recent index of abundance estimate from the GAB FIS as the survey has not been run for three years.
- Dr Haddon inferred that the fish are getting older because of reduced catches.

- Mr Pyke suggested the changes in fish size may be attributed to the completion of the seismic testing.
 - The standardised CPUE trend is relatively flat from 2005 onwards, although well below the long term average.
66. The RAG agreed that there was no concern with the stock and no additional action be undertaken.

Smooth Oreo (other)

- Catches have increased due to orange roughy fishing
 - 53 per cent of the TAC caught in the 2016-17 season
 - Discards are very low <0.2 per cent
 - No length frequency or age data available
67. The RAG noted that with very little data, it is difficult to interpret any potential issues or concerns with the stock. However, the RAG agreed that as there are large closed areas, and the small catches are linked to the orange roughy fishery, therefore there was no concern with the stock and no additional action be undertaken.

Pink Ling East

- Catch rates are trending downwards but relatively flat from 2001 onwards.
 - Discards are roughly the same as the historical maximum
 - Length frequency indicate there is not many small fish being observed.
 - Otolith collection targets were met in 2016, though have not been aged
 - Large differences between nominal CPUE and standardised CPUE, noting that the vessel factor is largely driving this trend. The removal of a large chunk of the fishery in terms of vessel numbers is due to structural adjustment, which constitutes a break in the time series.
 - The standardisation is working under the assumption that the fishing pattern and effectiveness of the boats fishing has not changed since 2002.
 - Technology creep is not considered in the standardisation.
 - Some concern if the CPUE index is reliable due to management changes and industry evidence.
68. The RAG agreed that despite some concerns with the CPUE standardisation, there was no concern with the stock and no additional action be undertaken.

Silver Warehou

- The RAG noted a low recruitment scenario had been used in the stock assessment to calculate the TAC.
- Catch rates are consistently declining. Other factors such as market demand may be influencing the trends.
- The RAG strongly endorsed the progression of a 2018 stock assessment and noted that this species is being considered in the undercaught TAC

project.

Jackass Morwong East

- Standardised CPUE is tracking down with some minor indication of an increase in the most recent year.
 - No age data since 2014
 - Port length frequencies do not show any striking trend, however there are slightly younger fish showing through.
69. The RAG agreed that there was no concern with the stock and no additional action be undertaken.

Approach to MYTAC Review

70. Overall, the RAG felt relatively comfortable with the MYTAC analysis decision tree process, although there are some data shortfalls, it is a critical process that needs to be undertaken.

2017 Assessment Species

71. The RAG agreed to then examine the available data for each of the species scheduled for assessment in 2017 and made the following comments.

Tiger Flathead

72. The RAG noted the following:
- 94 per cent of the TAC caught
 - No new age data in 2016 but otolith samples are available to be aged from 2016.
 - There is port sampled length frequency data and onboard length frequency data available, as well as FIS data.
 - Mesh size is inconsistent across the Danish seine fleet, with a lot of variance in the mesh size results from the 2017 Danish seine gear survey noting that selectivity is estimated within the model from the length frequency data
 - Mr Burns noted that the observer data could be used as an additional data source for mesh size.
 - Standardised CPUE is noisy but exhibits a generally flat trend for the eastern Tasmanian trawl
 - Around the year 2000, a suite of new vessels entered the fishery and there is some speculation that it signals new recruitment, however this would also be evident in the ageing data if that was true.
 - Total Danish seine catch has been increasing; catch by zone is reasonably steady; discards appear to be decreasing.
73. The RAG agreed that because only minor changes to the Danish seine gear seemed apparent, a new assessment was no longer required. This was

supported by the flathead stock assessment scientist Dr Jemery Day. Fish Ageing Services was directed to not age the available flathead otoliths this year, as it is not necessary to prioritise them over the species being assessed.

74. The RAG noted that if, no assessment was to occur, the management advice with regards to the RBC would be deferred to SERAG to look at the step down approach for developing a new RBC.

Eastern School Whiting (Tier 1)

75. The RAG noted the following:
- The changes between sectioned otoliths versus whole otoliths may have a significant impact on the assessment results.
 - The RAG agreed that the assessment for school whiting will go ahead for 2017 and the structure of the assessment will be discussed under agenda item 2.6.

Redfish (Tier 1)

76. The RAG noted the following:
- TAC levels and catches are trending down.
 - The FIS length frequency data is very variable.
 - There is no new ageing data for 2016, with very few samples available.
 - Earlier ageing data provides some indication of recruitments coming through.
 - There are some issues with catch data at depth, indicating some anomalies with a particular vessels' e-log data.
 - Redfish is currently under a bycatch TAC and assessed under a Tier 1
77. Redfish is likely to be in a similar situation to silver warehou, with a low recruitment scenario being put into the assessment.
78. Dr Rich Little suggested that perhaps an update of the assessment be undertaken rather than a full retuning of the assessment.
79. There is some disconnect between the age data and the standardised CPUE data. Dr Knuckey noted that there is no active avoidance of redfish because no one is catching them in the first instance.
80. The RAG agreed a new assessment will be undertaken on Redfish in 2017, and that the 146 otoliths available for ageing in 2016. The RAG also agreed to use a low recruitment scenario.

School Shark (Tier 1)

81. The RAG noted the following:
- School shark is currently managed under a bycatch TAC.
 - The gillnet time series is not reliable as school shark is avoided by gillnetters.

- Discards have been high, with the exception of 2016.
- Length data is available in all recent years, with good port sample sizes, noting that there is no on-board data in 2016 and 2017 since the introduction of electronic monitoring.
- There is only historical age data, but there are vertebrae available to be aged.
- The close kin data will be available by the end of the year, noting that running a Tier 1 assessment without the close kin, ageing or length data is not very valuable.

82. The RAG agreed that the assessment will go ahead with close kin, ageing and length data, noting that a constraint will be the timing of all these elements. The preferred option is to undertake the assessment by March 2018. If not, the alternative option will be to revert to the usual assessment cycle.

Orange Roughy East (Tier 1)

83. The RAG discussed the following points:
- No port sampling data, with some on-board sampling
 - Some survey age data that is available but is not included in the data summary
84. The RAG agreed to undertake an assessment in 2017.

Eastern Gemfish (Tier 1)

85. The RAG noted the following points:
- The issue of catch avoidance is a problem for the stock assessment; the fleet is behaving differently than they have done in the past and the main index of abundance has been lost.
 - There is very low catch of spawning Eastern gemfish in recent years.
 - CPUE standardisation is tracking down with very high discards.
 - Port length frequency data shows a slight shift to smaller fish in the last 4 or 5 years
 - On-board data indicates high discards of smaller fish, and some signs of older fish. Mr Boag noted it is a positive indication in terms of recruitment if industry are discarding lots of small fish.
 - Some length data is available for 2016 however otoliths remain under-sampled. No otoliths have been collected in zone 10 with reports of only a few boxes of gemfish through Sydney fish market.
 - Dr Haddon noted that we need to consider a different way to assess eastern gemfish.
 - The RAG was reminded that eastern gemfish is a listed species for the undercaught TAC project.
86. The RAG agreed that an assessment for eastern gemfish will not go ahead in 2017, but that it be considered in the undercaught TACs and non-recovering

stocks project which will consider alternative approaches to monitor the status of rebuilding stocks.

87. Given the lack of recent data, the assessment is unlikely to be informative.
88. Dr Thomson noted, however, that the data availability for eastern gemfish is not that different from some of the other species that we have decided to progress with, except that fishers are avoiding the species resulting in potentially mis-informative CPUE series. The last few years of age data is largely dominated by non-spawning fish.

John Dory (Tier 3)

89. The RAG noted the following:
 - TACs are undercaught.
 - FIS indices have CVs lower than 0.3.
 - Discards estimates are relatively low, around 7 per cent.
 - There is length frequency data available from port sampling and onboard collection
 - There is age data available to 2014 but nothing since then. Samples are available but have not been aged yet. Dr Krusic-Golub indicated that those samples can be aged in time for the assessment.
90. The RAG agreed that a Tier 3 assessment should go ahead given that the otolith samples will be aged and that CSIRO will look into whether a retrospective analysis of the Tier 3 can be undertaken to look at variability in RBC settings.
91. The RAG also agreed that a Tier 4 assessment will be undertaken.

Tier 4 species

92. Due to time constraints, the RAG agreed to examine the Tier 4 assessment species by exception.

Blue-eye trevalla

93. The RAG noted the following:
 - Due to newly identified changes to AFMA logbook codes in the latest year's data, CSIRO need to re-run the Tier 4 assessment for blue-eye.
 - The new stock structure report that has been published will need to be discussed at the first SERAG meeting before deciding how to proceed with the assessment.

Ocean Perch

94. The RAG noted the following:
 - The CAAB codes for inshore and offshore ocean perch are identical but the species is split at 250m depth range.

- The species identification is easily discernible, but the CAAB codes continue to be identical.
 - Need to get the discarded estimates of inshore ocean perch correct first as a priority.
95. Given the high level of discards and the uncertainty of the discard levels, the RAG noted that the CPUE will not be that informative.
96. The RAG recommended:
- c) to ensure the discard information for inshore ocean perch is corrected, and
 - d) to undertake a modified Tier 4 assessment in 2017 and compare it with a Tier 5, with AFMA and CSIRO to discuss how this will be possible including trying to identify an alternative way of examining species that have higher discards than retained catch.

Mirror Dory

97. The RAG recommended reviewing the discard estimates before a decision on how to progress the assessment can be made at the first SERAG meeting.

2.5 Recommended changes to ISMP & Data Plan

98. AFMA introduced the draft SESSF Data Plan and noted that only the species appendices were included as the preliminary text of the document had already been agreed to and did not need to be discussed further.

Duplication of data collection between the ISMP and the SESSF FIS

99. The RAG agreed that lengths collected from both the surveys and commercial data is useful noting there are some issues in separating surveyed age data from commercial aging data in the database.
100. The RAG also agreed that it is more important to obtain age estimates from the commercial fleet rather the FIS because the FIS is not temporally representative.
101. Dr Knuckey reminded the RAG that the temporal representation of the FIS surveys is reduced because the FIS in the SESSF only occurs every second year in winter.
102. AFMA suggested that every second year the ISMP collection targets could be supplemented by the FIS.
103. The RAG agreed to redirect FIS biological sampling to secondary and byproduct species, unless directed by the RAG to supplement the ISMP for target species. This will require good communication between the AFMA ISMP team and the FIS providers, noting that that the FIS providers need to

have some direction by June in the year of a FIS.

104. Dr Haddon highlighted some concern over this process because of the differences in the way the FIS operates; the FIS is a separate fleet with different selectivity.
105. The RAG noted that the inclusion of the FIS age data will contribute to our understanding of growth rates and recruitment cohorts, however it is unlikely to fundamentally change our understanding of these things.
106. The Chair reminded the group that if the data is being collected it should be fully processed all the way through and should not simply be collected and then stored somewhere without being used. As there is a significant amount of un-aged otoliths that have not yet been processed, the cost of doing so is not currently being borne, but is being accumulated.
107. For non-quota species, the assessment Tier should be driving the level of data collection. Dr Haddon agreed that biological information for some non-quota species is useful to understand, even if only a Tier 4 assessment is used.
108. The ERA process will be able to identify some biological uncertainties for certain species. For the species that we do not have any information on, having a snapshot of biological data can be very useful. Noting that often we revert to a Tier 4 assessment because of the fact that the ageing data and other indicators are highly variable.
109. Dr Jennings also reminded the RAG that some of these highly caught secondary species may not remain secondary species forever, and therefore collecting some biological information will be important in the future.
110. Mr Pyke reminded the RAG that the data needs are also underpinned by the cost of collection.

ACTION ITEM #11 – Fishwell Consulting to provide a list of the most caught secondary species captured during the winter FIS for SERAG 1 - 2018 to consider in conjunction with the updated ERA results, to determine which species may require additional targeted data collection.

Duplication of data collection between Acoustic Optical Surveys (AOS) and ISMP

111. The RAG noted the following:
 - The AOS provides a snapshot of orange roughy spawning grounds, while the ISMP has been collecting from the same areas.

- Very little sampling occurred in the Pedra Branca area.
 - The RAG questioned the need for 100% observer coverage during the orange roughly spawning season. Mr Boag reminded the RAG that the presence of observers in the ORMA was for management purposes.
 - The preference is data collected from the AOS.
112. The RAG agreed that for the eastern spawning aggregations, the ISMP no longer needs to collect otoliths, however outside of St Helens, there will be no changes to the current ISMP data collection targets.

2017 Assessment Species

113. The RAG agreed that the relevant RAGs for each species will consider the sampling targets following the stock assessment results and recommendations. This is to ensure that the assessment informs the sampling targets.

2017 Non assessment species

114. The RAG agreed to amend the process for reviewing ISMP targets, by deferring the review of targets to the relevant RAGs during the assessment process. However, the SESSFRAG will still need consider the overarching process to ensure that some targets or cumulative costs are not overlooked.
115. The RAG examined the targets for each species in the Appendix of the draft Data Plan individually and made live changes to the Data Plan as they were discussed.

Alfonsino

125. The RAG recommended redoing the simulation study on Alfonsino to re-determine the sample size required for age data.

ACTION ITEM #12 – Kyne Krusic-Golub (FAS) to provide some data on the inputs that were used in the original simulation study for Alfonsino. AFMA to look at the outputs from the original work.

ACTION ITEM #13 – Kyne Krusic-Golub (FAS) to provide a CV analysis of the age and length data reports for all species to AFMA.

Gemfish West

126. Mr Pyke noted that the industry is not catching this species.
127. AFMA noted that the collection of lengths and ages will need to be split in alternate years between the ISMP and the FIS.

Orange Roughy

128. The RAG noted the following relative to each orange roughy zone:
- Western zone;
 - If data is only collected opportunistically, it is unlikely to be of a high enough quality to be used in any stock assessment.
 - There is no target defined
 - The RAG agreed that ISMP resources may be better used in collecting other species such as pink ling.
 - Albany and Esperance zone;
 - Targets are detailed in the GABIA Orange Roughy research plan; samples are collected when boats are entering the research zones with a research allowance.
 - Cascade zone;
 - Opportunistic sampling will occur when the zone is fished
 - Southern zone;
 - The RAG agreed that no targets are required.
 - Pedra Branca zone;
 - This zone needs to be included as a separate line item in the Eastern Roughy section of the data plan.

2.6 School whiting ageing data update

129. Dr Day presented the options paper (Agenda Item paper 2.6) on school whiting that had been disseminated to the group.
130. The school whiting assessment is needed as the ageing data has been updated and they are now thought to live longer than before (from maximum age 6 to 10). This may change the natural mortality estimate (M) which is currently estimated within the assessment.
131. Currently all Commonwealth catches and all State catches are included but only the Danish seine CPUE is used as an index of abundance.
132. Examination of Commonwealth logbook data found significant Commonwealth trawl catches along the NSW coast. The assessment should not ignore catches along the NSW coast at least up to the Barrenjoey line.
133. NSW State fisheries hold State catch data (large catches) and also age and length composition data. However, much of this data appears to come from well north of the Barrenjoey line. Not all of this data is available for use in an assessment.
134. Dr Day noted there are three options to progress the assessment (referred to as 4a, 4b and 4c).
- a) Exclude all State data north of the Barrenjoey Headland.

- b) Include all available State data: catch, age, and length composition, as well as a standardized CPUE series.
- c) Exclude all data north of the Vic/NSW border.

135. The RAG discussed the following points:

- There was no trawl fleet standardisation in the previous assessment, however this information is now available to be used and considered as a separate fleet.
- There are some issues with Commonwealth catch in zone 91 (NSW waters).
- The options presented will depend on the assumptions the RAG makes about stock structure.
- The historical data for NSW has changed due to some errors in reporting of stout whiting versus school whiting.
- The revised NSW State data now has some spatial resolution which wasn't included in the last assessment.
- Some members of the RAG considered that the option to exclude data from North of the Victorian border is not ideal.
- Dr Day noted that the NSW data is a bit patchy both spatially and temporally. In order to check the NSW data will require some significant time and resources for cleaning and working through, which may not be achievable in 2017.
- There is no preliminary evidence of a biological split at the Barrenjoey line.
- The NSW data is very limited in its precision, which makes it difficult to cut off data at particular latitudes.
- Industry has some concerns with the assessment options due to impending allocation issues with the developing NSW OCS arrangements.
- Dr Day recommended that the RAG should not consider the previous genetic study noting that it is weak and somewhat outdated, and the samples were not very representative.
- Option 4a is achievable in 2017; option 4b is going to require some substantial additional work.
- The new NSW data includes several years of length and one year of age data plus the potential for a new standardised CPUE series.
- The previous assessment had three fleets, with only one standardised CPUE index, however the new assessment could incorporate two standardised CPUE indices with the same three fleets.
- CSIRO would be best placed to undertake the standardisation but it is unclear as to who would cover that cost. Only data from the NSW central zone from 2010 onwards would be used.
- A bridging analysis would be undertaken between versions of the assessments with new information being added in in a stepwise fashion to assess the impact of the changes.

136. The RAG agreed that there is insufficient evidence of a stock structure split, and that a new genetic study would be required to determine this.

137. The RAG recommended that the base case for the Eastern school whiting assessment should be determined by SERAG at their September meeting, and is dependent on the NSW data that is available.

2.7 State and recreational data for quota species

138. Dr Thomson presented Information Paper 2 – Catch Summary 2017 which attempts to collate all catch data from State, Commonwealth and recreational sources.
139. A new addition to this paper is in Table 37 which summarises recreational catch for quota species by State.
140. The RAG was concerned with how the State recreational data might be included into an assessment model, noting that the Harvest Strategy Policy stipulates that recreational catches should be included.
141. CSIRO proposed that it is worthwhile maintaining this recreational table as more data becomes available through the various States, with the suggestion to include a comments column to provide some qualitative information to support the data.
142. The RAG agreed to remove the data column that makes a comparison of the reported recreational catch relative to commercial catch as it may be misleading.
143. It was suggested that the discard rates of recreational should also be considered. CSIRO agreed to check whether the current recreational data table includes total catch or retained catch only.

ACTION ITEM #14 – CSIRO to check whether the current recreational data table 37 includes total catch or retained catch only as well as checking and adding the CVs

144. The RAG agreed that table 37 would be included in the catch paper each year, and be discussed at the relevant RAG if new data became available.

3 Other Business

3.1 Upper slope dogfish project

145. Mark Green and Franzis Althaus from CSIRO introduced themselves to the RAG and provided an overview of the new project on research to support the Upper-slope Dogfish Management Strategy (Agenda item paper 3.1).
146. The participants of the RAG agreed it would be best to hold the first workshop of the upper-slope dogfish project on the back of the SharkRAG meeting in November 2017.

ACTION ITEM #15 – AFMA to confirm the costing split for the upper slope dogfish project between South East Trawl and GHAT as outlined in Information Paper 3 on current research projects in the SESSF.

3.2 CSIRO Data Services

147. Dr Thomson presented some information on how money is spent within the Data Services contract and provided an overview of the processes that are involved in data processing, cleaning and corrections.
148. The RAG noted some future work to be completed under the Data Services Contract:
 - merge discard report generation, coverage statistics, and selection of valid rates
 - document database processing
 - automate translation of State data into input files depending on the format that States continue to provide their data
 - improve communication with AFMA in terms of notification of new codes / tables in the database.
149. Dr Tuck thanked Dr Thomson and her team for the enormous amount of work that goes into the data processing and congratulated them on some very successful work.
150. AFMA informed the RAG about the developing ICT Strategy that will have some impacts on data processing and transfer. AFMA will ensure to keep CSIRO informed of any changes as they occur.

3.3 Data automation for Tier 4 stock assessments and CPUE standardisations

151. Dr Haddon provided an overview of the new automation processes being used to produce the CPUE standardisations and Tier 4 assessments.
152. The new automation allows for more time to consider the results rather than spending time on producing the results and is a significant improvement to the RAG process.
153. Dr Haddon sought some clarification from the RAG on the following points:

Oreo dory (mixed)

154. The list of species included in the SESSF Management Arrangements Booklet for mixed oreo basket does not include oxeye dory, nor the generic oreo dory.

155. AFMA noted that oxeye dory was not specified as being part of the quota basket. CSIRO will remove oxeye from the list included in the oreo dory (mixed) group.

ACTION ITEM #16 - AFMA to include the CAAB codes for each species, in the SESSF Management Arrangements Booklet for next year.

Ocean Perch

156. Dr Haddon questioned why inshore and offshore ocean perch are separated in the assessment by a 250m depth delineation. AFMA reconfirmed that they are two separate species and that industry do recognise the different species in their logbook recordings. E-logs require that species are recorded separately.

3.4 Current research projects in the SESSF

157. AFMA provided a brief overview of Information Paper 3 – Current research projects in the SESSF. This table was an outcome of a previous action item to collate basic information on all of the current projects underway in the SESSF, funded by both AFMA and FRDC.
158. The RAG recommended that as projects come to a close, a presentation on the outcomes of the project to be made to various RAGs.
159. AFMA will be responsible for tracking which projects are finishing up, and liaise with the principal investigator to arrange a presentation to the relevant RAG.

ACTION ITEM #17 - AFMA to add in the climate change project and other projects that are not currently listed in the table. RAG members are encouraged to send through any projects not already listed in the table to AFMA to be included.

4 Next Meeting

160. The RAG agreed that the next SESSF RAG Meeting (chair's meeting) will be scheduled for the week of 12th of March 2018; provisional meeting dates Tuesday 14th and Wednesday 15th March, most likely in Canberra, at the AFMA office.

5 Close of Meeting

161. The chair closed the 2017 SESSF RAG Data meeting on Tuesday 8 August at 1.45pm.

Attachments

- 1) List of declared conflicts of interest
- 2) Final adopted agenda
- 3) Status of previous action items
- 4) New action items as of end of meeting

DRAFT

Declared Conflicts of Interest

Member	Declared Interest
Dr Cathy Dichmont	<p>Proprietor of Cathy Dichmont Consulting. Chair of TT RAG. Leads a FRDC funded cross cutting project with some links to SESSF. Contracted by various State and Commonwealth agencies to undertake various reviews and consultancies not related to SESSF. No pecuniary interest in the SESSF.</p>
Mr George Day	<p>Employed by AFMA; Senior Manager of Demersal and Midwater Fisheries. No interest, pecuniary or otherwise.</p>
Mr Lance Lloyd	<p>GABRAG Chair. Member of GABMAC and SESSFRAG. Director; Lloyd Environmental Pty Ltd. Research Fellow; Federation University Australia</p>
Mr Sandy Morison	<p>Director of Morison Aquatic Sciences. Chair of SharkRAG, SERAG and the Tropical Rock Lobster Working Group. Scientific member on SEMAC. Contracted by government departments, non-government agencies and companies for a range of fishery related matters including research and (by SCS Global Services) for MSC assessments of AFMA managed and other Australian and international fisheries. No pecuniary or other interest in the SESSF.</p>
Dr Sarah Jennings	<p>Economics member on SERAG. Economics coordinator, FRDC Social Science and Economics Research Program. Member of AFMA Economics Working Group. Independent economics consultant. No pecuniary or other interest.</p>
Miss Georgia Langdon	<p>Employed by AFMA, Executive Officer of SESSF RAG. No interest, pecuniary or otherwise.</p>
Invited Participant	Declared Interest
Mr Simon Boag	<p>Executive Officer South East Trawl Fishing Industry Association (SETFIA). Non-beneficiary Director of two fishing companies in the SESSF. Member Victorian Fisheries Advisory Council. Industry member on SERAG. SETFIA receives funding from various bodies to complete projects.</p>

	Involved in the delivery of industry training courses through East Gippsland TAFE. Undertakes contracts as an independent consultant. On the Commonwealth Fisheries Association Board.
Mr David Stone	Executive officer of Sustainable Shark Fishing Incorporated
Mr Christian Pyke	Executive Officer of the Great Australian Bight Industry Association
Dr Geoff Tuck	Employed by 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 Malcolm Haddon	CSIRO stock assessment scientist actively involved in the development of new methods and processes. Actively making research proposals for obtaining funding for research deemed of high priority by the RAGs and MACs. Member of GAB RAG, Northern Prawn RAG and sub-Antarctic RAG; also scientific member of the sub-Antarctic MAC.
Dr Robin Thomson	CSIRO, Assessment scientist. Acquiring funding for research purposes PI on data services contract and close kin project for school shark.
Dr Rich Little	CSIRO, Assessment scientist. Acquiring funding for research purposes
Dr Miriana Sporcic	CSIRO, Assessment scientist. Acquiring funding for research purposes
Dr Jemery Day	CSIRO, Assessment scientist. Acquiring funding for research purposes
Mr Claudio Castillo-Jordan	CSIRO, Assessment scientist. Acquiring funding for research purposes
Dr Ian Knuckey	Director Fishwell Consulting Pty Ltd Involved in –Fishery Independent Survey (FIS) SESSF and GAB 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 Scallop MAC and SquidMAC Provides research advice to various industry associations: SETFIA, GABIA and SSIA
Mr Kyne Krusic-golub	Director – Fish Ageing Services
Mr Brodie Macdonald	AFMA, Gillnet, Hook and Trap, High Seas and Norfolk Is Manager. No interest, pecuniary or otherwise.
Dr Brigid Kerrigan	AFMA, Trawl Manager, Coral Sea Fishery Manager. No interest, pecuniary or otherwise.
Mr Chris Burns	AFMA, Observer Coordinator. No interest, pecuniary or otherwise.
Mr Daniel Corrie	AFMA, no interest, pecuniary or otherwise.

Mr Nick Mammides	AFMA, no interest, pecuniary or otherwise.
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Attachment 2

Adopted Agenda

Date	Times	Venue
Monday 7 August	9:00am – 5:00pm	Freycinet Room, CSIRO
Tuesday 8 August	9:00am – 2:00pm	Freycinet Room, CSIRO
Morning tea 10:30am – 10:45am	Lunch 12:30pm – 1:00pm	Afternoon tea 3:15pm – 3:30pm

Agenda Item	Description	Presenter	Allocated Time
Monday 7 August			
1 Preliminaries			
1.1 Welcome and apologies (paper)		Chair	5 minutes
	<i>The meeting will open at 9:00am on Monday, 7 August 2017. The Chair will welcome members to the 2017 Southern and Eastern Scalefish and Shark Fishery Resource Assessment Group (SESSFRAG)</i>		
1.2 Declarations of Interest (paper)		Chair	5 minutes
	<i>The RAG members, invited participants and observers will declare their conflicts of interest to the rest of the meeting. The RAG will then decide each person's level of participation with regards to each agenda item.</i>		
1.3 Adoption of Agenda (paper)		Chair	5 minutes
	<i>A provisional agenda was provided on Govdex on 22 June 2017. The RAG will formally adopt the agenda for the meeting.</i>		
1.4 Action Items (paper)		EO/Chair	45 mins
	<i>It is assumed that the paper on action items will have been read prior to the meeting. The Executive Officer will briefly present on the status of action items arising from previous meetings. Only action items that remain underway or require additional RAG advice will be discussed. Action items that are deemed complete or redundant will not be discussed.</i>		
2 Review of 2016 data			
2.1 ISMP Report for 2016 (paper)		Chris Burns	30 minutes
	<i>The AFMA Observer Coordinator will present on the Integrated Scientific Monitoring Program for 2016.</i>		
2.2 End of financial year report – Fish Ageing Services (paper)		Kyne	30 mins
	<i>Fish Ageing Services will present the End of Financial Year Report.</i>		
2.3 Discard rate estimates update (paper)		CSIRO	45 mins
	<i>CSIRO will present the SESSF ISMP discard report</i>		
2.4 MYTAC analysis (breakouts) and Data Summary (paper)		AFMA/CSIRO	3.5 hours
	<i>The RAG is invited to accept the list of MYTAC species that were determined as requiring further evaluation using the breakout decision tree as a priority. All other Tier 1, 3 and 4 species scheduled for assessment in 2017 will then be examined in the data summary. The RAG may decide on additional species that require examination under the data summary.</i>		

Agenda Item	Description	Presenter	Allocated Time
2.5	Recommended changes to ISMP and SESSF Data Plan	All	1 hour
<p><i>Based on the information provided in Agenda Items 2.1 – 2.4, the RAG is invited to provide supplementary information, ask questions and provide comments on recommend any changes to ISMP targets and data collection requirements (SESSF Data Plan).</i></p> <p><i>Any changes and updates will be documented in the SESSF Data Plan species appendices.</i></p>			
Tuesday 8 August			
2	Review of 2016 data continued...		
2.6	School whiting ageing data update	Jemery/Brigid/Kyne	30 mins
<p><i>CSIRO will present on updates to the school whiting ageing data. The RAG is invited to make a decision and recommendation on which data to use for the Tier 1 assessment in 2017.</i></p>			
2.7	State recreational data for quota species	Robin Thomson	30 mins
<p><i>This agenda item stems from an Action Item developed at the 2017 Chair's meeting. At this meeting, the RAG noted it would be useful to go through all of the available recreational data from state surveys and how best to account for this data in SESSF stock assessments.</i></p>			
3	Other Business		
3.1	Upper slope dogfish project	Mark Green	1 hour
<p><i>Mark Green from CSIRO will present on the AFMA/CSIRO project entitled 'Research to support the upper slope dogfish management strategy: options for monitoring the recovery of Southern Dogfish and Harrison's Dogfish'. Demersal auto-line industry will be observing this agenda item.</i></p>			
3.2	CSIRO Data Services update	Robin Thomson	30 mins
3.3	Data automation for Tier 4 assessments and CPUE standardisation	Malcolm Haddon	
3.4	Current research projects in the SESSF	AFMA	
4	Close of Meeting	Chair	

Status of Previous Action Items

ACTION ITEMS CARRIED OVER FROM PREVIOUS MEETINGS

Prev No.	Agenda Item/Meeting Date	Action Item	Agency/Person	Timeframe	Progress as of Data Meeting 2016	Progress as of Chairs Meeting 2017	Progress as of Data Meeting 2017
1	7.2 E-monitoring update – (11) Chairs meeting 2015	AFMA to distribute proposed protocols for collecting biologicals in the shark sector and scalefish auto-longline sector.	AFMA Brodie Macdonald	After meeting	Biological collection targets are incorporated in the ISMP and SESSF Data Plans.	To be addressed in the GHAT Data working group	Ongoing. The GHAT Data Working Group in March 2017 recommended the re-introduction of AFMA observers (commencing on 1 July 2017), pending the development of an industry-led data collection program. AFMA has received a draft proposal from the Southern Shark Industry Alliance for an industry run program to collect biological data in the shark gillnet and shark longline sectors. Once finalised, AFMA will consult with SESSF, SharkRAG and SEMAC on the proposal.
3	? (11) then (23) in Chairs meeting 2015 minutes	CSIRO to provide AFMA with advice about the technical and resourcing requirements associated with expanding the Data Summary to include	Dr Thomson, CSIRO	Out of session	ABARES will provide an analysis of logbook reported discards compared to observed (camera) discards. Results will be provided to	Redundant. This action item is somewhat superseded by the Research EOI on EM estimation of discards which CSIRO has already provided	Redundant. Fishwell Consulting have commenced a project to 1) establish a process for obtaining discard weight estimates from piece-counts using electronic monitoring; and 2) trial the use of EM cameras as a

		statistically robust <u>discard rate estimates from logbook data</u>			CSIRO for advice.	comments on. This action item covers two areas: logbooks validated with EM data was deferred to the GHAT data working group. <u>Discard rate estimates from logbook data needs to be split into quota and non-quota species.</u>	method for collecting length frequency data on retained (and discarded) shark species and make recommendations for practical implementation by AFMA and industry.
4	(17) then (26) in Chairs meeting 2015 minutes	Incorporate the ISMP annual targets (coverage, measurements and samples) and performance against those targets.	Dr Thomson	Incorporate into 16/17 contract	Underway. Dr Thomson and Dr Upston are considering ways to show coverage by gear type, either through graphical representation or maps.	Underway. Last year CSIRO presented maps that showed discards by area and gear but those did not have sample size or targets on them. Robin will endeavour to add those to the maps for this year's discard report.	Complete. Roy Deng has changed the code that produces the maps so that number of shots sampled, and total logbook shots appear. The 2017 discard calculations and updated maps are available in the discards report.
7	2.3 Data summary, CPUE Analysis and trigger review / Data 2015	Noting that catches of non-quota species are not included in the CPUE series, and they can make up a significant proportion of total catch and	Robin Thomson	2016 Data meeting	Not yet funded. This would require accurate logbook records for all species. At present, only the data for the quota species	The RAG agreed that the data summary should include a CPUE series for quota, non-quota and total retained species.	Complete. The data summary report now contains a plot showing CPUE for quota species, as well as another plot showing CPUE for total retained.

		fishery GVP, Dr Thomson to investigate the effect of including non-quota species in the CPUE series for inclusion in next year's data summary			and leatherjackets is carefully checked. Adding many more species would increase checking time tremendously. Is this still seen as a priority for the SESSFRAG?	Robin agreed to have this included by the 2017 Data Meeting.	Non-quota species has not been included. Need RAG advice whether the plot that shows what proportion of the catch is made up quota species could stand in for the missing line (non-quota species).
9	2.3 Data Summary, CPUE analysis and trigger review – Bight redfish – (7) Data 2015	Bight redfish –bight redfish are caught across a number of zones in the GAB however data is only reported for the GAB fishery as a whole. The RAG suggested that the GAB reporting in the Data Summary uses the ISMP zones.	Robin Thomson	2016 Data meeting	Not yet funded.	Robin Thomson has indicated she will attempt this for the August Data Summary	Complete. Robin has changed the code so that it produces GAB zones, these are now included in the Data Summary.
26	3.2 SMARP Update / March 2016	Provide the SMARP draft options paper to SESSFRAG for comment prior to the SMARP reference group meeting.	Ian Knuckey Dan Corrie	Once completed	The reference group meeting coincided with the end of tenure for SESSFRAG members. SESSFRAG will be asked for comment on draft options paper prior to final submission.	Will be addressed at Chair's meeting agenda Item 3.1 SMARP	Complete. The final draft is currently being reviewed by the SMARP project steering committee.

ACTION ITEMS CARRIED OVER FROM DATA MEETING 2016

Prev No.	Agenda Item/Meeting Date	Action Item	Agency/ Person	Timeframe	Progress as of Data Meeting 2016	Progress as of Chairs Meeting 2017	Progress as of Data Meeting 2017
3	2.1 Otolith Collection, CTS/July 2016	Dr Upston, Dr Krusic-Golub and Mr Garvey to speak with Dr Kloser about the addition eastern orange roughly survey age data to the AFMA observer database and flagged as survey data.	CSIRO/FAS/ AFMA Dr Upston Dr Krusic-Golub Mr Garvey	As soon as practicable		Dr Krusic-Golub to update. AFMA to follow up.	All otoliths and otolith data received by FAS. They were aged and the data was passed on to CSIRO and flagged as survey otoliths. Confirmation from FAS that the 2012 and 2016 age data is available for SESSFRAG Data Meeting 2017. CSIRO have the data but it is not included in the Data Summary report as the gear type is "ST" for 'scientific trawl' and the Data Summary uses commercial gears of FIS, only. Could be remedied if required.
5	Agenda Item 2.2 Discard Rate Estimates/July 2016	Dr Upston to consider adding a column to Table 1 of the ISMP discard report to compare actual vs planned coverage statistics.	CSIRO Dr Thomson	In time for 2016 Discard report		Robin will take over this work in time for the Data Meeting 2017.	Complete. This is the "Match" column which compares actual against the 3 year average, not the planned.
14	2.3 Pink Ling/July 2016	AFMA to request that Patrick Cordue's model be made available for CSIRO to repeat the CPUE standardisation process.	AFMA	As soon as practicable Required for the 2017 standardisation process		The CPUE standardisation process is documented and available. Given the updated process for addressing 'breakout rules' – the exact CPUE standardization process is no longer required. A	Redundant. Due to the intended new approach to "breakout rules", the CPUE standardisation process of the pink ling assessment is no longer required as CPUE standardisations are not required to conduct the 'breakout analysis'.

					simple review of fishery indicators will be used for Pink Ling.	
26	2.7 Recommended Changes to ISMP – Blue Warehou / July 2016	Dr Thomson to remove pre-1997 graphs from the data summary document as the page is becoming crowded.	CSIRO Dr Thomson	For 2016 data summary	Underway – to be ready for Data Meeting in August	Complete. This has been updated in the Data Summary.
27	3.1 SESSF Annual Research Plan / July 2016	CSIRO to detail the cost and logistics required to revisit the SESSF FIS model-based design using historical data and provide an overview to AFMA for inclusion in the 2017-18 annual research plan.	CSIRO Dr Thomson Dr Upston Miriana Sporcic	Prior to September 2016 ARC meeting	Comment from Miriana Sporcic: An expression of interest (EOI) is being developed and will be submitted through the FRDC EOI process in February. This project is being sent to ComRAC in April 2017.	Comment from Miriana Sporcic on 23 June 2017. Complete. A full proposal has been submitted (15 June) to FRDC for funding.
28	3.1 SESSF Annual Research Plan / July 2016	AFMA to update and formalise the current breakout rules and review process for SESSF MYTAC species.	AFMA	2017 SESSF FRAG chairs' meeting (March)	Underway. New Action Item #14 to update the draft framework for addressing 'breakout rules' using the draft decision tree support tool to undertake a review of fishery indicators.	Complete. The new framework for monitoring MYTAC species in the SESSF (previously known as breakout rules) was presented to the AFMA Commission at their June meeting. Alternative variations to the new framework and decision have since been developed and will be discussed under Agenda Item 2.4

ACTION ITEMS EMERGING FROM THE CHAIRS MEETING 2017

No.	Agenda Item	Action Item	Agency/Person	Timeframe	Status as of Data Meeting 2017
1	1.4 Chairs Meeting 2017	(Stemmed from Previous Action Item No. 3) AFMA to look at the cost of storing otoliths from outside AFMA and how they may be stored. Investigation into the best options for storing otoliths and the costs involved. Need to ensure the relevant meta data is stored as well.	AFMA	As soon as practicable.	Kyne Krusic-Golub has provided an outline on the protocols for otolith data entry, storage and costs to AFMA. The RAG agreed that if the decision to age unarchived otoliths was made, it would be done by FAS.
2	1.4 Chairs Meeting 2017	(Stemmed from Previous Action Item No. 7) AFMA to check historic raw trawl and Danish seine physical records/logbooks for information that has been recorded on mesh size. The information is going to be collected in the Danish seine flathead survey and can be used as additional source of information.	AFMA	As soon as practicable.	The AFMA data team informed AFMA Management that there is insufficient information from the logsheets. The survey went ahead in July and the data has been provided to CSIRO.
3	1.4 Chairs Meeting 2017	SERAG to start thinking about the pink ling assessment for 2018 given the concerns with CPUE indices.	Mr Sandy Morison (Chair of SERAG)	Before SERAG 1, 2017.	SESSFRAG agreed this is a discussion for SERAG to undertake at their first meeting in September.
4	1.4 Chairs Meeting 2017	Dr Jemery Day (CSIRO) to continue discussions with NSW to better understand what data are available before the data meeting, at which the RAG will make a decision about the assessment noting the plan is for a Tier 1 assessment in 2017.	Dr Jemery Day (CSIRO)	SESSFRAG Data Meeting 2017 (August)	Comment from Jemery Day: These discussions (with NSW Fisheries and others) have been ongoing. I'm hoping to have some of the NSW data available to show/discuss at the data meeting – but that depends partly on NSW Fisheries making the data available in an appropriate format. Jemery to report on this to the data meeting in any case. The RAG agreed that the decision on a base case assessment will be decided at SERAG and determined by the NSW data that becomes available.

5	1.4 Chairs Meeting 2017	Dr Geoff Tuck, Mr Sandy Morison, Dr Ian Knuckey, Dr Brigid Kerrigan, Karina Hall and Dr Jemery Day to have an inter-sessional phone discussion to determine what school whiting data will be presented to the SESSFRAG Data Meeting.	Dr Geoff Tuck (CSIRO) Mr Sandy Morison (SERAG Chair) Dr Ian Knuckey (Fishwell) Dr Brigid Kerrigan (AFMA) Karina Hall (NSW DPI) Dr Jemery Day (CSIRO)	Before the SESSFRAG Data Meeting 2017 (August)	Complete. Phone call happened. To be further discussed under the relevant agenda item 2.6
6	2.1 Chairs Meeting 2017	AFMA and Dr Robin Thomson (CSIRO), to check in with Anthony Moore (ABARES) to look at ways of dealing with quota species recreational data from state surveys across the SESSF by the Data Meeting August 2017. This topic is to be included as an agenda item at next SESSFRAG.	AFMA Dr Robin Thomson (CSIRO)	By the SESSFRAG Data Meeting 2017 (August)	Complete. Anthony had nothing to offer, but Claudio Castillo-Jordan is currently searching existing Rec Survey reports for catches of quota species. These will be incorporated in the "Catches and Discards" report that presents total annual logbook and CDR catches alongside total estimated discard tonnage. Rec caches will form a new column in those tables. * NOTE: this has a separate agenda item
7	3.2 Chairs Meeting 2017	George Day to ensure Simons Boags' comments on the albatross project are incorporated in the information put to ComRAC.	George Day (AFMA)	By the ComRAC meeting in April 2017	Complete. Yvonne Zunic from the AFMA research team confirmed that the comments were included.
8	3.2 Chairs Meeting 2017	Dr Robin Thompson (CSIRO) to talk to Dr Andre Punt about providing for uncertainty outputs in the school shark assessment and reporting this back to SharkRAG in September.	Dr Robin Thomson (CSIRO)	SharkRAG 2017 (September)	Robin has spoken with Andre and he is considering it.
9	3.2 Chairs Meeting 2017	AFMA to look at potential management responses depending on the different scenarios if the school shark assessment results are accepted as being above the limit reference point.	AFMA	Before SERAG 2017	AFMA have had preliminary discussions on this. Further discussions will occur at SharkRAG in early 2018.

10	3.2 Chairs Meeting 2017	AFMA to disseminate the document on catch and management history that was produced some years ago. The document is then to be updated briefly at each RAG meeting as a living document as per the Chairs' suggestion from Tropical Tuna RAG.	AFMA	By the SESSFRAG Data Meeting 2017 (August)	Underway. This was unable to be completed in time for the Data Meeting as it has not been updated in several years. AFMA will endeavour to update in time for SERAG.
11	3.2 Chairs Meeting 2017	AFMA to review assessments to do with updating biology knowledge and other relevant comments using T1 and T3 as a priority to identify biological data gaps and prioritise species.	AFMA	As soon as practicable	AFMA is proposing this becomes a part of the annual review of the SESSF Data Plan. Suggestion to add in a "data gaps" line item to each species appendix.
12	3.2 Chairs Meeting 2017	AFMA to speak to Kyne Krusic-Golub (Fish Aging Services) about the availability of new aging data for doing a Tier 3 assessment on both John dory and Redfish; by the 2017 Data Meeting.	AFMA Kyne Krusic-Golub (Fish Aging Services)	Before the SESSFRAG Data Meeting 2017 (August)	See comments from Fish Ageing Services. Need a decision from the RAG re: Redfish and John Dory ageing and assessments.
13	3.2 Chairs Meeting 2017	AFMA to develop a living document discussion for research and management that highlights who is funding each project, what stage the project is at, when it is due to finish and its key objectives. The SESSFRAG EO is to send out the document ahead of the meeting for members to update. To be discussed briefly at each RAG meeting.	AFMA SESSFRAG Executive Officer	By the SESSFRAG Data Meeting 2017 (August)	Complete. AFMA Research Section have put this list together (See Information Paper 3). Suggestion to add as appendix to the SESSF Data Plan and/or SESSF 5 Year Strategic Plan?
14	3.4 Chairs Meeting 2017	Dr Ian Knuckey to circulate the latest version of the actual proposal draft and a template of the papers that would be produced by the authors to the RAG as soon as practicable. RAG members are to provide comments on the structure of the proposal and the papers, out of session. The proposal is to be submitted to ComRAC in early April for consideration.	Dr Ian Knuckey (Fishwell Consulting)	As soon as practicable	Underway. The full proposal was submitted to ComRAC and was circulated to members, however the project is yet to go to contract and so the papers template is yet to be developed.

15	5.1 Chairs Meeting 2017	AFMA to add the agreed draft decision tree to the existing draft framework and send out to SESSF RAG members out of session for comments. The framework is then to be sent to the Commission for initial comments before sending to the individual RAGs.	AFMA	By the next Commission meeting	<p>Complete. The decision tree as developed at the Chair's meeting is now an appendix to the draft framework.</p> <p>This did not get to go to members out of session before going to the Commission.</p>
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New Action Items as of end of meeting

No.	Agenda Item	Action Item	Agency/Person responsible	Timeframe
1	1.4	Dr Thomson talks to Mr Burns (AFMA Observer Coordinator) to ensure the strata within the ISMP are aligned with the strata used by CSIRO to develop the discard estimates report, as well as discuss the ISMP target calculations.	Robin Thomson (CSIRO) AFMA Observer section	As soon as practicable
2	1.4	Dr Knuckey to provide an inventory of all otolith samples in Fishwell Consulting's possession and to the stock assessment people (the relevant RAGs). Each RAG is then to decide if the data and samples are required to be transferred to Fish Ageing Services to be archived and potentially processed if to be used in future stock assessments.	Ian Knuckey	As soon as practicable
3	1.4	Dr Little to provide a document on history management events in the SESSF by Helen Webb/Tony Smith to provide to the SESSFRAG Executive Officer to assist in developing the SESSF timeline. AFMA is to also ask Parks Australia within the Department of Environment for any information they may have relevant to the history of the fishery.	Rich Little AFMA	By SERAG 1
4	2.1	Mr Burns (AFMA Observer Coordinator) to include an update for the current calendar year ISMP data for subsequent SESSFRAG Data Meeting ISMP updates.	AFMA Observer section	By the next SESSFRAG Chair's meeting (March 2018)
5	2.1	AFMA Observer team to report on ISMP actuals versus targets on a quarterly basis, as opposed to annually, to the RAG using a traffic light system where appropriate.	AFMA Observer section	By the next SESSFRAG Data meeting 2018

6	2.1	AFMA (GHAT Team) and SharkRAG to update the Data Plan with the correct zoning for school and gummy shark to be consistent with the on-board ISMP zones.	AFMA (GHAT Team) Sandy Morison (SharkRAG)	As soon as practicable
7	2.3	Dr Thompson to examine the two approaches for calculating CV's in the Mike Bergh design and discern which one is more appropriate for future discard estimate calculations.	Robin Thomson (CSIRO)	As soon as practicable
8	2.3	Dr Thompson to develop a method for calculating discard rates that ensures no result is a value greater than 1, and to ensure the mathematics are adequately documented.	Robin Thomson (CSIRO)	As soon as practicable
9	2.3	Dr Thomson to coordinate a small group (including Miriana Sporcic, Ian Knuckey and Sandy Morison) to discuss the statistics and calculations associated with discard rate estimates, and to develop an options paper for SESSFAG to consider and discuss via teleconference. The teleconference needs to occur before the first SERAG meeting in 2017 (20 September).	Robin Thomson (CSIRO) Miriana Sporcic (CSIRO) Ian Knuckey (Fishwell Consulting) Sandy Morison (SERAG & SharkRAG Chair)	Before SERAG 1 - 2017
10	2.3	SEMAC to review a change in gear size in the blue grenadier fishery when there is evidence of a large amount of small grenadier coming through the fishery, particularly in light of the reworked discard calculations.	SEMAC AFMA	As soon as practicable
11	2.5	Fishwell Consulting to provide a list of the most caught SMARP secondary species captured during the winter FIS for SERAG 1 - 2018 to consider in conjunction with the updated ERA results, to determine which species may require additional targeted data collection.	Ian Knuckey (Fishwell Consulting)	By SERAG 1 - 2017
12	2.5	Mr Krusic-Golub (FAS) to provide some data on the inputs that were originally used in the original simulation study for Alfonsino. AFMA to look at the outputs from the original work.	Kyne Krusic-Golub (Fish Ageing Services) AFMA	As soon as practicable

13	2.5	Mr Krusic-Golub (FAS) to provide a CV analysis of the age and length data reports for all species to AFMA.	Kyne Krusic-Golub (Fish Ageing Services) AFMA	As soon as practicable
14	2.7	CSIRO to check whether the current recreational data table 37 includes total catch or retained catch only as well as checking and adding the CVs	Robin Thomson (CSIRO) Claudio Castillo-Jordan	As soon as practicable
15	3.1	AFMA to confirm the costing split for the Dogfish project between South East trawl and Shark as outlined in Information Paper 3 on current research projects in the SESSF.	AFMA	As soon as practicable
16	3.3	AFMA to include the CAAB codes for each species, in the SESSF Management Arrangements Booklet for next year.	AFMA	For the next iteration of the SESSF Management Arrangements Booklet
17	3.4	AFMA to add in the climate change project and other projects that are not currently listed in the table. RAG members are encouraged to send through any projects not already listed in the table to AFMA to be included.	AFMA	As soon as practicable

Decision tree support tool for evaluating fishery indicators

