



Australian Government
Australian Fisheries Management Authority



**Shark Resource Assessment
Group (SharkRAG)
Meeting No.1 2015**



Meeting Minutes

**Date: 8 October 2015
Venue: Holiday Inn
Melbourne Airport**

Attendance

Name	Membership
Dr Brendan Kelaher	Chair
Mr David Power	AFMA member
Mr Ryan Keightley	Executive Officer
Mr Jason Pettit	Industry member
Mr David Stone	Industry member
Mr Kyri Toumazos	Industry member
Dr Robin Thomson	Scientific member
Prof Colin Simpfendorfer (via teleconference)	Scientific member
Dr Malcolm Haddon	Invited participant – scientific (CSIRO)
Mr James Woodhams	Invited participant – scientific (ABARES)
Dr Miriana Sporcic	Invited participant – scientific (CSIRO)

Apologies

Ms Anissa Lawrence	Environment member
Dr Jeremy Prince	Scientific member
Mr Nic Martin	Invited participant – scientific (ABARES)

Minutes

Item No.	Discussion	Action Items / Rec's
1. Preliminaries		
1.1. Welcome & apologies	Dr Brendan Kelaher (Chair) welcomed members and invited participants and opened the meeting at 9:00am. The Chair welcomed Mr James Woodhams who was sitting in for Mr Nic Marton, and noted apologies from Ms Anissa Lawrence and Dr Jeremy Prince.	
1.2 Agenda	The agenda was adopted with the addition of reviewing preliminary tier 4 methodologies for elephant fish and sawshark under agenda item 3.	
1.3 Declaration of interests	The RAG followed the declaration of interest procedures as outlined in AFMA's Fisheries Administration Paper 12 and in the tabled paper, noting the standing list of declared conflicts of	

Item No.	Discussion	Action Items / Rec's
	interests which were updated (Attachment 1). Interests were declared by industry members Mr David Stone, Mr Kyri Toumazos and Mr Jason Pettit. These members separately left the room while the RAG deliberated on their participation. The RAG agreed that members are chosen for their relevant expertise and knowledge, so there is an expectation that members, in maintaining their expertise and knowledge, are likely to hold interest relevant to the fishery. The RAG agreed that the industry members participate in all agenda items and noted their declared interests.	
1.4 Actions arising	The RAG was updated on the status of actions arising from the 2014 meetings as tabled in the paper. The Chair thanked all those involved in completing action items, noting there was a lot of hard work involved. The EO noted that action items from the May 2015 out of session meeting were not included, and will be addressed at the November 2015 meeting.	
1.5 Acceptance of minutes from May 2015 OOS meeting	The RAG accepted the record of meeting from the May 2015 out of session meeting as final. The AFMA member reminded the RAG that meeting minutes are considered final following RAG comments and after signoff from the Chair. The EO noted that this process is outlined in Fisheries Administration Paper 12 (FAP 12) and a letter from Dr James Findlay.	ACTION 1 - EO to send RAG FAP 12 (see s 4.9) regarding process for commenting on meeting minutes.
2. Updates		
2.1 Manager's update	<p>Mr Power presented the manager's update as follows:</p> <p>Electronic Monitoring (E-monitoring)</p> <ul style="list-style-type: none"> • Completed installation of 75 boats across AFMA (GHAT, ETBF, WTBF) • There have been some delays across the program • An updated program overview and FAQs are available on AFMA's website • Most vessels are now getting feedback reports from Archipelago Asia Pacific. <p>Related research</p> <ul style="list-style-type: none"> • A Phd student is undertaking a tagging project on school shark to determine pupping grounds. Mr Toumazos is assisting the student with access to his vessel for this project. • Another Phd student is undertaking a project on broadnose shark movements and population structure. • A MSc student is undertaking a project on Australian Fur Seals focusing on their diets and how they have changed over time. 	ACTION 2 - EO to distribute GHAT related research proposals to the RAG for information.

Item No.	Discussion	Action Items / Rec's
	<ul style="list-style-type: none"> • AFMA's Ecological Risk Management strategy is finalised and on the website. <p>Dolphin Strategy</p> <ul style="list-style-type: none"> • AFMA continues to monitor dolphin interactions. There has been an increase in reported interactions now e-monitoring is operating, particularly in the Bass Strait. • There will be a Marine Mammal Working Group meeting held in early 2016 to discuss the rollout of the Dolphin Strategy across the entire gillnet sector. 	
2.2 Industry update	<p>The RAG noted the following fishery updates from industry members present:</p> <p>Mr Pettit, shark hook sector, South Australia:</p> <ul style="list-style-type: none"> • There has been more confidence and investment from operators in the fishery, with a few operators in Robe revamping gear with the aim of reducing dolphin interactions. • There is a large concern over South Australian state catch of gummy and school shark that may not be accounted for, and suggest continuing OCS discussions to reduce their trip limit (to zero). • There is also concern over recreational catch of gummy shark as they are a recreational target species with a large bag limit. <p>Mr Stone, EO of Sustainable Shark Fishery Industry Inc., Lakes Entrance, VIC:</p> <ul style="list-style-type: none"> • The winter fishery in eastern Bass Strait had below average catch that fishers think may have to do with colder than average water temperature. The catch rates are looking much better now as the water is warming up, with some of the best fishing they have seen for a long time. • The Victorian Danish Seine fleet have found it hard to avoid bycatch of juvenile school shark recently, and there are concerns they are not reporting what they are catching. • Gillnets in the Bass Strait have been catching a higher proportion of smaller shark but are doing well to avoid them where possible. Good sign of recruitment. • The industry is frustrated over the cost of landing elephant fish, as it is uneconomical and costs them money before they even get to the market for sale. <p>Mr Toumazos, hook and gillnet concessions, South Australia and Bass Strait:</p> <ul style="list-style-type: none"> • Very good catch rates out of SA, the best he has seen for a long time. This could be due 	

Item No.	Discussion	Action Items / Rec's
	<p>to the return of lots of feed in the fishery.</p> <ul style="list-style-type: none"> • Operators want to see the removal of net length restrictions (6000m trial). Overall, it is the operator's choice to use a net length that suits their operations. • There is good opportunity for industry to get involved in data collection on-board and at processing facilities. 	
2.3 Catch and Trigger report	<p>The RAG was presented a report on upper and lower catch limits for shark species, and noted both boarfish and wobbegong exceeded their upper trigger limits. The RAG acknowledged the triggers were exceeded, however, held no concerns for either stocks and AFMA agreed that no management response is necessary in this case. Mr Woodhams suggested that AFMA should have a systematic approach for each stage in the trigger review process (e.g. monitoring, RAG review, management response and subsequent reporting).</p> <p>The RAG discussed the basis for the triggers and noted that they were based on historical catches that were likely under reported. Mr Pettit explained that reporting would increase for these bycatch species now that e-monitoring has been implemented.</p> <p>Dr Haddon noted that he is undertaking a project on lower tier (5) assessments for data poor species like boarfish and wobbegong.</p>	<p><u>ACTION 3</u> - AFMA to resolve issues within the catch and trigger paper, with data not lining up in the text and tables. Also add discards to the tables if possible.</p> <p><u>ACTION 4</u> - AFMA to review the species triggers to reflect risk ratings and the purpose of the trigger (e.g. do they trigger RAG review, assessment or management action)</p>
3. CPUE standardizations		
3.1 Sawshark	<p>The RAG noted the following for sawshark:</p> <ul style="list-style-type: none"> • Gillnet catch increased from 70t in 2013 to 80t in 2014. • Trawl catch decreased from 59t in 2013 to 53t in 2014. • Danish Seine catch decreased from 21t in 2013 to 13t in 2014. • For all methods, the proportion of the catch reported to be in shots of <30kg is relatively high, indicating the species is not a primary target species. • CPUE for all methods are relatively flat, so if these CPUEs are indexing stock status, there is no indication of a change in the relative abundance. • Discards are high, but generally flat, and the reported catch/discards may not be 	<p><u>ACTION 5</u> – Drs Sporic, Thomson and AFMA to develop possible appropriate MYTAC breakout rules for sawshark and elephant fish before the next meeting.</p>

Item No.	Discussion	Action Items / Rec's
	<p>representative of total catch.</p> <p>Dr Sporcic presented the preliminary tier 4 model for sawshark, noting the RAG had previously agreed to apply a target reference point of 40 per cent.</p> <p>The RAG discussed whether there is any benefit in using discards in the assessment. The RAG noted that including discards would overestimate CPUE (moving the upper limit), and decided that as the discards are relatively flat, not to use them. The Chair questioned whether to combine trawl and gillnet CPUE for the assessment. The RAG agreed that the trawl CPUE best represents stock status as they are not targeted, and trawl generally cannot avoid them (unlike gillnet). Based on this, the RAG recommended using trawl CPUE without discards for the assessment. The RAG also recommended that AFMA, Dr Sporcic and Dr Thomson develop possible appropriate breakout rules that would be useful if the RAG recommended a MYTAC for sawshark.</p>	
3.2 Elephant fish	<p>The RAG noted the following for elephant fish:</p> <ul style="list-style-type: none"> • Gillnet catch decreased from 38t in 2013 to 31t in 2014. • Catches by trawl have remained stable at ~10 t in recent years. • Danish Seine catch have been consistent but low across the years. • Elephant fish constitute a non-targeted species with a large proportion of small shots (i.e. <30kg). • Gillnet standardized CPUE is flat and noisy; however, this analysis ignores discarding and uses number of shots instead of net length as a unit of effort. • In the last few years discard rates for elephant fish have been very high (higher than landings), which may imply that their CPUE are in fact increasing. <p>Mr Toumazos noted that as the species is not targeted and is such a high discard species the TAC does not limit mortality anyway. Mr Power said he is hopeful that elephant fish could be marketed, sold, and not discarded, but agreed this is driven by costs. This may be assisted through a review of the levy allocation.</p> <p>Dr Sporcic presented the preliminary Tier 4 model, noting the RAG had previously agreed to apply a target reference point of 40 per cent. The RAG showed concern over possible underestimation of recreational catch and suggested that AFMA compile all available information</p>	<p><u>ACTION 6</u> – AFMA to compile recreational survey information to give better recreational catch estimates for all shark species, with a focus on elephant fish for the next meeting.</p> <p><u>ACTION 7</u> – Mr Power to determine if there a formal State allocation of catch for sawshark and elephant fish.</p>

Item No.	Discussion	Action Items / Rec's
	<p>on recreational take and provide this to CSIRO.</p> <p>The RAG recommended using gillnet CPUE, including discards (using the average discards from 2011-14 for all years prior to 2011) for the assessment. The RAG agreed that this is likely to be more conservative as it may overestimate discard rates prior to 2011, which were significantly lower than in 2011-14 and probably not real.</p> <p>The RAG also recommended that AFMA, Dr Sporcic and Dr Thomson develop possible appropriate breakout rules that would be useful if the RAG recommended a MYTAC for elephant fish.</p>	
3.3 Gummy Shark	<p>Dr Sporcic presented indicators and breakout rules for gummy shark as follows:</p> <p><u>Gillnet (noting analysis considers Bass Strait, South Australia and Tasmania separately):</u></p> <ul style="list-style-type: none"> • South Australia <ul style="list-style-type: none"> ○ Catch is increasing from a lull. Mr Power noted that an increase in 2014 is likely due to opening of Coorong Dolphin Zone to gillnet fishing. ○ CPUE slightly increased in 2014 towards the long-term average. • Bass Strait <ul style="list-style-type: none"> ○ Catch has been relatively stable (~800t) in recent years and increased by 50t from 2012-14. ○ CPUE has been fairly stable, showing a slight increase towards the long-term average. • Tasmania <ul style="list-style-type: none"> ○ Relatively minor catch, with catch and number of records decreasing. ○ CPUE has been noisy with wide confidence bands, but relatively flat since 1997. <p><u>Trawl</u></p> <ul style="list-style-type: none"> • Trawl catch has been relatively consistent at ~100t. • Catches by trawl containing shots <30kg has been consistent. • CPUE is still well above the long-term trend but is kicking down slightly. <p><u>Longline</u></p>	

Item No.	Discussion	Action Items / Rec's
	<ul style="list-style-type: none"> • There has been an increase in catch by bottom longline reflecting a switch to hooks. • Catches in the last two years have remained very similar at ~228t. • CPUE had a slight downward drop last year, however, taking into account the large confidence bounds, CPUE is generally flat over the last two years. <p>Breakout rules The RAG discussed the gummy shark breakout rules noting the fishery is on a second year of a three-year MYTAC. The breakout rules are:</p> <ol style="list-style-type: none"> 1. Standardized CPUE value for Bass Strait approaches historical low (falls below the 10th percentile of the historical values for Bass Strait) 2. Catches fall below 1200 tonnes 3. Length frequencies from the line catch change substantially from the model parameters; <ol style="list-style-type: none"> a) More than 15% of gummy shark caught by the line sector are shorter than 76cm in total length; or b) more than 20% of the line caught gummy shark are greater than 130cm total length.” <p>Dr Thomson addressed the breakout rules as follows:</p> <ol style="list-style-type: none"> 1. The standardized CPUE value for Bass Strait was not below the 10th percentile of historical values for the Bass Strait. The RAG agreed to the historical period being from 1997 to 2013. 2. Catches have not reduced below 1200t (total Commonwealth landings) 3. The length based breakout rules were not triggered: <ol style="list-style-type: none"> a) 9 per cent of line caught fish were shorter than 76cm b) 18 per cent of line caught fish were above 130cm. <p>The RAG noted that the greater than 130cm breakout rule is getting close to the trigger and agreed that this should be monitored. Dr Thomson highlighted that line is not as selective as gillnet (more smaller and larger fish caught using line).</p> <p>The RAG agreed that the breakout rules had not been triggered and would likely recommend to continue the MYTAC at the next meeting.</p> <p>Mr Toumazos noted that it is important to accurately record and gather length frequency data on</p>	<p><u>ACTION 8</u> – EO to confirm with Dr Prince that he agrees with the timeframe specified for the gummy shark CPUE breakout rule (97-2013).</p> <p><u>ACTION 9</u> – AFMA to trial e-monitoring length measurement protocol as soon as possible for gummy shark.</p>

Item No.	Discussion	Action Items / Rec's
	<p>discards, stating that he had recently released a large number of small gummy shark (<45cm) and this is a common occurrence, showing good recruitment. The EO noted that length measurements through the e-monitoring system would be helpful for gathering this data.</p> <p>The RAG discussed and noted that currently standardized CPUE is based on catch by shot, and could be greatly improved by using catch by length. The RAG recommended that this be changed as a priority for the 2016 Tier 1 assessment. The RAG further agreed to include the best available recreational catch estimates.</p>	<p><u>ACTION 10</u> – Dr Sporic to use catch by length instead of catch by shot for all shark species where possible, with a main focus of linking in with the gummy shark tier 1 assessment.</p>
3.4 School Shark	<p>Dr Sporic presented the following for school shark:</p> <ul style="list-style-type: none"> • School shark caught by trawl has dropped to 11t in 2014 from 18t in 2013, however, this excludes discards. • There is a greater number of catches <30kg in comparison to gummy. • The trend in trawl CPUE was slightly down on last year, but overall is trending upwards and is above the long-term average. <p>The Chair raised concern over the accuracy of South Australian state catch of both school and gummy shark, noting that the school to gummy catch ratio is very low and does not reflect the same trend as the Commonwealth fleet. Mr Toumazos stated that he is familiar with the SA reporting system and agreed that the SA figures are not likely to be accurate. The Chair agreed to write a letter to SA on behalf of the RAG outlining its concerns over the need for accurate recording, particularly relating to any potential impact of school shark rebuilding.</p>	<p><u>ACTION 11</u> – Chair to write a letter on behalf of RAG to South Australia regarding state catch of school and gummy shark, particularly in relation to accurate recording and identification, as well as noting the RAG's concern for possible impacts to school shark rebuilding.</p>
4. Research		
4.1 2016-17 GHAT research priorities	<p>The Chair was not present for this item and had requested Mr Power chair in his absence. Mr Power asked the RAG to consider whether the research priorities identified in the tabled paper are still current and whether there are any additional priorities identified for 2015-16.</p> <p>The RAG discussed whether it is SharkRAGs responsibility to prioritise research relating to marine mammal populations. Industry members noted that AFMA have already implemented strategies to minimise interactions with dolphins and Australian sea lions, as well as e-monitoring, and there would be little benefit to industry from these studies. Considering this, the RAG proposed that SharkRAG focus on commercial species and defer marine mammal research priorities to the Marine Mammal Working Group (MMWG). The RAG noted it would be interested</p>	<p><u>ACTION 12</u> – AFMA to provide advice to RAG if marine mammal research priorities should be deferred to the MMWG.</p>

Item No.	Discussion	Action Items / Rec's																				
	<p>in outcomes of marine mammal research and the MMWG priorities.</p> <p>The RAG identified and agreed to the research priorities forecast in table 1:</p> <table border="1" data-bbox="472 328 1704 708"> <thead> <tr> <th data-bbox="472 328 779 363">2015-16</th> <th data-bbox="779 328 1086 363">2016-17</th> <th data-bbox="1086 328 1393 363">2017-18</th> <th data-bbox="1393 328 1704 363">2018-19</th> </tr> </thead> <tbody> <tr> <td data-bbox="472 363 779 432">Tier 4 - Elephant fish and sawshark</td> <td data-bbox="779 363 1086 432">Tier 1 – Gummy shark</td> <td data-bbox="1086 363 1393 432">Tier 1 – School shark</td> <td data-bbox="1393 363 1704 432">Tier 4 - Elephant fish and sawshark</td> </tr> <tr> <td data-bbox="472 432 779 536">Ecological Risk Assessment – Demersal Longline</td> <td data-bbox="779 432 1086 536">Fishery Independent Survey</td> <td data-bbox="1086 432 1393 536">Close Kin Genetics – School Shark</td> <td data-bbox="1393 432 1704 536">Fishery Independent Survey</td> </tr> <tr> <td data-bbox="472 536 779 571">Fish Aging Services</td> <td data-bbox="779 536 1086 571">Fish Aging Services</td> <td data-bbox="1086 536 1393 571">Fish Aging Services</td> <td data-bbox="1393 536 1704 571">Fish Aging Services</td> </tr> <tr> <td data-bbox="472 571 779 708">Close Kin Mark Recapture – school shark</td> <td data-bbox="779 571 1086 708">Close Kin Mark Recapture – school shark</td> <td data-bbox="1086 571 1393 708">Close Kin Mark Recapture – school shark</td> <td data-bbox="1393 571 1704 708"></td> </tr> </tbody> </table> <p>Mr Power noted that this forecast attempts to spread out the assessments so that levies do not fluctuate significantly from year to year. The fish aging services is a consistent cost and is being reviewed, however, the fishery independent survey (FIS) does come at significant cost and is also being reviewed by the SESSF Strategic Monitoring and Assessment Review Project.</p> <p>Mr Toumazos stated that it is important to note that school shark will limit any increase in TAC that may come out of the gummy shark assessment next year, and there should be consideration into limiting any increase TAC until the results of the school shark assessment are completed in 2017.</p> <p>The RAG discussed the value of the FIS to the GHAT, particularly questioning whether it provides usable information on GHAT species. It was noted that data from the trawl FIS is not currently used for assessment of shark species in the GHAT. Dr Haddon stated that there was limited use of the FIS to the GHAT considering the small number of shots and location of shots (not in prime GHAT areas), however, the trend in CVs between years does give an indication of between year variations. Dr Simpfendorfer agreed, however, noted that the CVs for the shark species are not particularly good and care needs to be taken in how they are interpreted. The industry members agreed and did not support continuing the FIS for the GHAT, noting they are</p>	2015-16	2016-17	2017-18	2018-19	Tier 4 - Elephant fish and sawshark	Tier 1 – Gummy shark	Tier 1 – School shark	Tier 4 - Elephant fish and sawshark	Ecological Risk Assessment – Demersal Longline	Fishery Independent Survey	Close Kin Genetics – School Shark	Fishery Independent Survey	Fish Aging Services	Fish Aging Services	Fish Aging Services	Fish Aging Services	Close Kin Mark Recapture – school shark	Close Kin Mark Recapture – school shark	Close Kin Mark Recapture – school shark		
2015-16	2016-17	2017-18	2018-19																			
Tier 4 - Elephant fish and sawshark	Tier 1 – Gummy shark	Tier 1 – School shark	Tier 4 - Elephant fish and sawshark																			
Ecological Risk Assessment – Demersal Longline	Fishery Independent Survey	Close Kin Genetics – School Shark	Fishery Independent Survey																			
Fish Aging Services	Fish Aging Services	Fish Aging Services	Fish Aging Services																			
Close Kin Mark Recapture – school shark	Close Kin Mark Recapture – school shark	Close Kin Mark Recapture – school shark																				

Item No.	Discussion	Action Items / Rec's
	levied for a portion of it and do not gain any benefit, particularly for the shark species.	
4.2 Close Kin project update	<p>Dr Thomson provided an update on the close kin mark recapture project for school shark and noted that the project is testing a small genetics study between New Zealand and Australian samples.</p> <p>Dr Thomson explained that the project had a slow start due to sampling design but sample collection is going well now. So far the project has collected 150 samples from South Australia (1050 target), 95 from Bass Strait (1350 target) and 313 from Tasmania (600 target). Dr Thomson noted that they are only contracted to collect a total of 2000 samples, but are aiming to get 3000 for the same cost. She further noted that the sampling needs to be finalised by mid-2017 to allow the results to be used in the assessment.</p> <p>The first batch of genetic sequencing has been processed and the preliminary results look very promising and confirm that the technique can be used for school shark. Dr Thomson stated that a proof of concept report would be sent to the RAG once finalised.</p> <p>The RAG were informed that a key benefit of close kin mark recapture is that once it has been done, it's cost effective to continue and repeat in the future with costs as low as 20 per cent of the initial cost.</p>	ACTION 13 – Dr Thomson to send the Close Kin project first milestone to the RAG when available.
5. Data plan and e-monitoring update		
5.1 Input in data sampling templates	Mr Power presented the item, noting that AFMA is seeking RAG input on five-year biological sampling targets for shark species targeted to the stock assessments for each species. The templates should consider the following for each species:	ACTION 14 – Dr Thomson to give FAS direction on which vertebrate collected is

Item No.	Discussion	Action Items / Rec's
	<ul style="list-style-type: none"> • What Tier is the assessment and when is it going to occur? • What data do we need for the assessment? • How is the data going to be collected? • How is the data going to be processed? <p>Mr Power presented the data sampling template for gummy shark, noting that AFMA has committed to aging 3000 gummy shark vertebrae this year, spanning over 15 years. Industry members were concerned with the limited number of samples that were aged in recent years for the money they pay for the aging serves. Mr Power explained that there was a large number of pink ling and blue eye samples aged in recent years and emphasized the commitment to age 3000 gummy shark vertebrate this year.</p> <p>The RAG discussed the current Fish Aging Services (FAS) report and noted that there are a lot of samples which may not be worth aging (due to not enough samples, not being representative or have no data linked to them). Dr Thomson agreed to consider this in more detail and provide FAS direction on which samples are worth aging.</p> <p>Dr Thomson stated that age data is a very informative data source in stock assessments models of the kind used for gummy shark , however, noted that the previous assessment contained very little of it. Considering this, the RAG recommended running the next assessment with and without aging data to determine the effect aging data has on the assessment.</p> <p>The RAG agreed to sample a minimum of 400 (500 target) vertebrae from South Australia and Bass Strait this year for gummy shark (Tasmanian sampling would be desirable but can be dropped if sample sizes are too low to be useable), divided across quarters (minimum of 100 per quarter in each zone). Industry members supported this target and agreed that processors could help with sampling. It was agreed that once the assessment is done next year, Dr Thomson will project the assessment forward to determine future data needs.</p> <p>The RAG did not discuss data templates for other shark species and Mr Power thanked the RAG for their input.</p>	<p>worth aging (in terms of appropriate representativeness), and ensure that FAS doesn't age vertebrae that has no data linked to it. Also ensure that MAFRI samples have data attached and decoded.</p> <p><u>ACTION 15</u> – AFMA to seek processors assistance in collecting 100 vertebrae each quarter in SA and VIC.</p> <p><u>ACTION 16</u> – Dr Thomson to consider alternative future age data collection protocols (including no ageing at all) for gummy shark by projecting the 2016 updated assessment model into the future under alternative data scenarios , noting the resulting uncertainty regarding stock size.</p>
5.2 E-monitoring	Mr Power presented a verbal update on e-monitoring noting that he had given an update on the	<u>ACTION 17</u> – AFMA to form

Item No.	Discussion	Action Items / Rec's
update	<p>operational aspect at agenda item 2.1.</p> <ul style="list-style-type: none"> • Discards of bycatch species (particularly draftboard and port jackson sharks) are not being reported well, or in some cases not at all. It was noted that AFMA expects a margin for error on reporting for bycatch species but would like to see a best estimate of discards. • Current logbooks have 'discard weight' fields but do not have a 'discard number' field. This will need to be added to ensure comparison reports can compare like for like. The RAG recommended adding the discard number field and maintaining the weight field as well. Mr Stone suggested that AFMA form a working group to discuss amendments to logbooks/e-logs and seek advice on any other changes. Mr Toumazos suggested adding a 'skipper I.D.' field to enable tracking of skipper effect. • There have been some reports of deckhands mistreating bycatch prior to discarding which is an offence under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>. Mr Toumazos noted this is unacceptable in most cases, but there may be some cases where it is necessary from a workplace health and safety perspective to stun some bycatch prior to handling. Mr Power acknowledged this point noting that it will be a judgement call by the skipper and crew safety should come first. Mr Pettit suggested that an industry code of practice be developed for releasing bycatch appropriately. Mr Toumazos agreed, and suggested it include guidelines to release all bycatch, in particular live school shark. • AFMA is currently in discussions with AAP to ensure that their quality assurance process is sufficient and their species identification is correct prior to comparison reports going out to industry. 	<p>a working group to review and update logbooks and electronic logbooks considering data needs for e-monitoring.</p> <p>ACTION 18 – Industry members to review a code of practice for safe handling and release of bycatch.</p>
6. Management measures review		
6.1 School shark management measures	<p>Mr Power introduced the item stating that the intention of the paper is to inform the RAG of the current management measures that have been implemented to protect school shark, and to seek RAG advice on the combined and relative effectiveness of these measures at limiting fishing mortality to levels that support rebuilding. These measure are:</p> <ul style="list-style-type: none"> • Incidental catch TAC • 20 per cent catch ratio with gummy shark • Compulsory release of all live school shark • E-monitoring – provides a better estimate of catch and discards 	

Item No.	Discussion	Action Items / Rec's
	<ul style="list-style-type: none"> • Pupping ground closures • Deep water closures • Scalefish hook 100kg bycatch trip limit • Automatic longline cumulative 5t school shark bycatch trigger <p>The RAG discussed the measures in place, and highlighted the need to have a good estimate of total mortality of school shark, particularly from state jurisdictions. Mr Pettit suggested that the 20 per cent ratio should also apply to the states. Mr Power questioned whether the 20 per cent ratio is set at the right level, noting that as biomass increases it will get increasingly harder to abide by. Mr Toumazos stated that the ratio is already constricting catch of gummy shark, but hopes the school shark stock assessment in 2017 will remedy this. The Chair further emphasised that the ratio was discussed extensively at last year's meeting and the RAG decided to retain it.</p> <p>The RAG noted that the pupping ground closures remain beneficial, however, questioned whether the rationale for deep water closures is still valid, considering large school shark move throughout the fishery and there are other arrangements in place to reduce mortality. Data shows that hooks set in shallower waters catch larger sharks, which is against the intention of the deep water closure, however, there is a potential of a higher ratio of school shark caught in the deeper water which results in higher mortality (post release).</p> <p>Mr Toumazos agreed that there is potentially less need for the deepwater closures (130m and 183m closures) if the 20 per cent ratio remains in place. However, he did note that if hook caught shark increases (less selective), there is potential problems with economic returns from the fishery with a reduction in TAC.</p> <p>The RAG considered that they would require more specific information on the deep water closures to consider removing them and Mr Power agreed to provide a paper to the next meeting with more detail. Mr Toumazos recalled a strong rationale for the 130m closure when it was first introduced, potentially due to high catches of school shark within the closure.</p> <p>Mr Stone suggested that AFMA open the 130m closure to shark hook operators for an initial two-year period in order to gather catch data in the area.</p>	

Item No.	Discussion	Action Items / Rec's
6.2 Bass Strait trawl closure	<p>The EO introduced the item as an action item from SEMAC, noting that AFMA is seeking RAG advice on whether the original intention of the closure is still relevant and if there is any further information to support the closure.</p> <p>The RAG advised to retain the closure on the basis that:</p> <ul style="list-style-type: none"> • there is data that supports the closure is a school shark pupping ground • there is a concentration of juvenile school and gummy shark in the closure and it is important to limit mortality of these smaller age classes • the closure has a high abundance of skates and rays (high risk in ecological risk assessment) • until there is a better index of abundance of school shark, the RAG suggested that it is important not to reduce any potential protection that may affect school shark rebuilding. 	
7. Other Business and meeting close	Mr Power closed the meeting 5.00pm on behalf of the Chair (the Chair was required to leave at 4pm, missing item 5.1), and thanked participants for a productive meeting.	

Signed (Chairperson):

Date:

List of Attachments

- 1) Standing list of declared conflicts of interest
- 2) Actions arising from SharkRAG 1 2015 – 8 October

Attachment 1 - Standing list of declared conflicts of interest - as of 8 October 2015

Participant	Interest declared
Brendan Kelaher	SESSFRAG member. No other interests declared.
Robin Thomson	Undertakes CSIRO stock assessments. No pecuniary interests. Declared interest in Close Kin Mark Recapture project (research investigator).
Colin Simpfendorfer	Has potential pecuniary interest in research noting research interests are unlikely in particular to this fishery. Conducts assessments of Australian Sharks and Rays with FRDC funding.
Jeremy Prince	No interests declared, pecuniary or otherwise.
Anissa Lawrence	Managing Director TierraMar Consulting. Consultant for Sustainable Shark industry Alliance (SSIA), consultant for a number of NGOs in the fisheries context. Conservation member on SEMAC. No other declared interests pecuniary or otherwise.
David Stone	Executive Officer for Sustainable Shark Fishing Industry Inc. Declared interests in representing hook and gillnet industry member interests and in pursuing research for dolphin acoustic mitigation technology, and has a proposal to FRDC seeking funding. SESSFRAG observer. Declared interest in RBCs.
Jason Pettit	South Australian shark hook operator, SESSF quota holder. Declared interest in shark hook interests and RBC recommendations.
Kyri Toumazos	South Australia/Bass Strait, shark fisher, boats fishing with hooks and gillnets. SESSF quota holder. Southern Rock Lobster Board CEO, Declared interests in RBCs.
David Power	AFMA manager no interests declared, pecuniary or otherwise.
Ryan Keightley	AFMA management officer and SharkRAG EO, no interests declared, pecuniary or otherwise.

RAG Invited participants and observers declarations of interest

Malcolm Haddon	Potential scientific research interest. SESSFRAG member, Sub-Antarctic RAG member, NPF RAG member. Interested in developing applications in research proposal paper.
Miriana Sporcic	No interests declared, pecuniary or otherwise.
James Woodhams	No interests declared, pecuniary or otherwise.

Attachment 2 – Actions arising from SharkRAG No. 1, 2015 8 October

Action	Agenda item	Description	Responsibility
1	1.5	EO to send RAG FAP 12 (see s 4.9) regarding process for commenting on meeting minutes.	EO
2	2.1	EO to distribute GHAT related research proposals to the RAG for information.	EO
3	2.3	AFMA to resolve issues within the catch and trigger paper, with data not lining up in the text and tables. Also add discards to the tables if possible.	AFMA
4	2.3	AFMA to review the species triggers to reflect risk ratings and the purpose of the trigger (e.g. do they trigger RAG review, assessment or management action)	AFMA
5	3.1	Drs Sporcic, Thomson and AFMA to develop possible appropriate MYTAC breakout rules for sawshark and elephant fish before the next meeting.	CSIRO (Dr Sporcic and Thomson) and AFMA
6	3.2	AFMA to compile recreational survey information to give better recreational catch estimates for all shark species, with a focus on elephant fish for the next meeting.	AFMA
7	3.2	Mr Power to determine if there a formal State allocation of catch for sawshark and elephant fish.	AFMA (Mr Power)
8	3.3	EO to confirm with Dr Prince that he agrees with the timeframe specified for the gummy shark CPUE breakout rule (97-2013).	EO
9	3.3	AFMA to trial e-monitoring length measurement protocol as soon as possible.	AFMA
10	3.3	Dr Sporcic to use catch by length instead of catch by shot for all shark species where possible, with a main focus of linking in with the gummy shark tier 1 assessment.	CSIRO (Dr Sporcic)
11	3.4	Chair to write a letter on behalf of RAG to South Australia regarding state catch of school and gummy shark, particularly in relation to accurate recording and identification, as well as noting the RAG's concern for possible impacts to school shark rebuilding.	Dr Kelaher
12	4.1	AFMA to provide advice to RAG if marine mammal research priorities should be deferred to the MMWG.	AFMA
13	4.2	Dr Thomson to send the Close Kin project first milestone report to the RAG when available.	CSIRO (Dr Thomson)
14	5.1	Dr Thomson to give FAS direction on which vertebrate collected is worth aging (in terms of appropriate representativeness), and ensure that FAS doesn't age vertebrae that has no data linked to it. Also ensure that MAFRI samples have data attached and decoded.	CSIRO (Dr Thomson)
15	5.1	AFMA to seek processors assistance in collecting 100 vertebrae each quarter in SA and VIC.	AFMA
16	5.1	Dr Thomson to consider alternative future age data collection protocols (including no ageing at all) for gummy shark by projecting the 2016 updated assessment model into the future under alternative data scenarios , noting the resulting uncertainty regarding stock size.	CSIRO (Dr Thomson)

17	5.2	AFMA to form a working group to review and update logbooks and electronic logbooks considering data needs for e-monitoring.	AFMA
18	5.2	Industry members to review a code of practice for safe handling and release of bycatch.	Industry members