



Australian Government
Australian Fisheries Management Authority



**Shark Resource Assessment
Group (SharkRAG)
Meeting No.1 2016**



Meeting Minutes

**Date: 13-14 October 2016
Venue: Freycinet Room
Hobart, TAS**

Attendance

Name	Membership
Mr Sandy Morison	Chair
Mr Leigh Castle	Industry member
Mr David Stone	Industry member
Mr Kyri Toumazos	Industry member
Dr Chalie Huveneers	Scientific member
Dr Brendan Kelaher	Scientific member
Dr Ian Knuckey	Scientific member
Dr Robin Thomson	Scientific member
Mr Robert Curtotti	Economic member
Mr Ryan Keightley	A/g AFMA member
Mr George Day	AFMA observer
Dr Miriana Sporcic	Invited participant – scientific (CSIRO)
Ms Anissa Lawrence	Invited participant – environment (via phone)
Mr Ross Bromley	Minute taker

Minutes

Item No.	Discussion	Action Items / Rec's
1. Preliminaries		
1.1. Welcome & apologies	Mr Sandy Morison (Chair) welcomed members and invited participants and opened the first meeting of the new membership of Shark Resource Assessment Group (SharkRAG) at 1:00pm. He extended thanks to Dr Brendan Kelaher for his excellent work as outgoing Chair, and acknowledged other outgoing members contribution to the RAG. The Chair welcomed new members Mr Leigh Castle, Dr Ian Knuckey, Dr Charlie Huveneers and Mr Robert Curtotti, and noted an apology from Mr Brodie Macdonald.	
1.2 Agenda	The agenda was adopted with the addition of Mr Curtotti providing a brief update from Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) at agenda item 2.5, and Dr Thomson discussing an updated discard estimation document at agenda item 3.	

1.3 Declaration of interests	<p>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 interests which were updated (Attachment 1).</p> <p>Interests were declared by industry members Mr David Stone, Mr Kyri Toumazos and Mr Leigh Castle. 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.</p> <p>The Chair drew the RAG's attention to Fisheries Administration Papers 7 and 12 and Fisheries Management Paper 12. The Chair pointed out the confidential nature of some of the data presented at SharkRAG and informed all those present that these data information must not be disseminated without explicit approval from AFMA and the Chair.</p> <p>Information from the RAG must not be used to give advantage to members when trading quota. AFMA has monitored quota trading in the past and although no evidence of insider quota trading has been observed, trades will continued to be monitored.</p>	
1.4 Actions arising	<p>The RAG was updated on the status of actions arising from the 2015 meetings as tabled in the paper.</p> <p>Mr Toumazos expressed his concern regarding the most recent Australian sea lion report (Goldsworthy et al.) which notes that the population is still in decline. Mr Toumazos stated that the Gillnet, Hook and Trap (GHaT) fishery can not be the cause of the continued decline as mortalities in the fishery are so low. The RAG agreed to refer its concerns to the Commonwealth Marine Mammal Working Group, noting it would like to see a clearer view on the impact of the GHaT and other sources of mortality.</p>	<p>ACTION 1: Mr Keightley to refer RAG concerns regarding the most recent Australian sea lion report to the Commonwealth Marine Mammal Working Group.</p>

2. Updates	
2.1 Manager's update	<p>Mr Keightley presented the manager's update as per the paper. Items noted were as follows:</p> <p>Dolphin Strategy</p> <ul style="list-style-type: none"> • AFMA will be visiting ports in November 2016 to discuss the roll out of the dolphin strategy to the remainder of the gillnet fishery with Industry. • Following Industry consultation, a Marine Mammal Working Group meeting will be held on 24 November 2016 to further discuss the development and implementation of the Dolphin Strategy. <p>Net length restrictions</p> <ul style="list-style-type: none"> • Following advice from SharkRAG and South East Management Advisory Committee (SEMAC) in 2015 and 2016, the AFMA Commission agreed at its April 2016 meeting to remove net length restrictions in the gillnet sector subject to the implementation of the Dolphin Strategy across the fishery. • AFMA is progressing the development of the Dolphin Strategy for implementation in 2017. <p>Gummy and school shark limits of Scalefish Hook SFRs and automatic longline permits</p> <ul style="list-style-type: none"> • AFMA management have investigated the removal of the gummy and school shark limits from Scalefish Hook statutory fishing rights (SFRs) and automatic longline permits following advice from SharkRAG and SEMAC in 2015 and 2016 and is considering removal of the limits in 2017-18.
2.2 Industry update	<p>The RAG noted the following fishery updates from industry members present:</p> <p>Mr Castle, shark hook sector, Tasmania:</p> <ul style="list-style-type: none"> • There has been a good show of small gummy shark off eastern and south western Tasmania • The removal of the 183 and 130 m closures to hook fishers has not effected catch as weather has limited fishing activity. <p>Mr Stone, EO of Sustainable Shark Fishery Industry Inc., Lakes Entrance, Vic:</p> <ul style="list-style-type: none"> • Adverse weather conditions have reduced catch over the last few months, but catch rates are good when they are out fishing.

	<ul style="list-style-type: none"> • Water temperature in Bass Strait has started to warm and fishers are expecting the fish to start becoming more active. • Mr Stone expressed concern that some threatened, endangered and protected (TEP) species interactions may be repeat catches. • Industry are considering developing individual boat management plans for mitigating interactions with TEPS (Similar to Seabird Mitigation Plans in place for the trawl sector) • Industry are concerned that electronic monitoring (EM) is not collecting appropriate data. <p>Mr Toumazos, hook and gillnet concessions, South Australia and Bass Strait:</p> <ul style="list-style-type: none"> • The number of vessels remaining in South Australia targeting shark has dropped significantly, shifting some effort into Bass Strait. • Catches of gummy shark have been good, noting weather has restricted fishing. 	
2.3 Close Kin update	<p>Dr Thomson presented an update on the close kin project, noting the following:</p> <ul style="list-style-type: none"> • The proof of concept has been successful. • The project is scheduled to finish in late 2017. • There is concern that industry samples have slowed down, which is a major risk to delivery of the project. • One processor in Melbourne has agreed to increase sampling. <p>Dr Thomson noted that they are only contracted to collect a total of 2 000 samples, but are aiming to collect 3 000 for the contracted 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 RAG expressed its concern over the drop in sampling noting this can have a major risk to the delivery of the project. Mr Stone and Mr Keightley noted the port sampler in Lakes Entrance should have capacity to help with samples, and Mr Keightley agreed to follow this up. Mr Toumazos stated he would ensure samples are collected from the South Australian fleet if they're not already collected through the Melbourne processor.</p>	<p>ACTION 2 – Mr Keightley to liaise with AFMA observer section and Dr Thomson to ensure close kin samples are collected by Lakes Entrance port sampler.</p> <p>If unsuccessful, Mr Toumazos to ensure samples are collected from the South Australian fleet if they're not already collected through the Melbourne processor.</p>

2.4 Catch update	The RAG was presented a for information report on recent catches and discards, as tabled.	
2.5 ABARES update	<p>Mr Curtotti provided a brief update from ABARES, noting he will provide a more in depth presentation at the next meeting to run though the Fishery Status Report (FSR) classification process. Mr Curtotti noted the following:</p> <ul style="list-style-type: none"> • The 2015 FSR provided the same classifications as last year for the shark species. • It shows a shift in shark fishing effort from South Australia to Bass Strait. • An ABARES profitability survey is currently underway, however industry participation has been low compared to previous years. 	
3. CPUE standardizations		
3.0	<p>Dr Thomson presented a new landing and discard report that presents landing and discard data (Commonwealth and State) that used to be presented in Appendix A4 of the Discard report series. The new report contains more background information on how the data were compiled, it also includes 4 year averages of state and discard data that are used for TAC purposes but were not previously presented in a report.</p> <p>The RAG noted that:</p> <ul style="list-style-type: none"> • State discard rates are assumed to be the same as the Commonwealth rate. • All discards are assumed to be mortalities. • Recreational catches are not included. <p>The RAG expressed concern that the South Australian state catches are still in excess of the agreed OCS allocation, and Mr Keightley noted that AFMA is still in ongoing discussion with South Australia regarding this issue.</p> <p>The RAG also noted that Western Australian gummy shark state catches are included in the report, and recommended they be removed as they are considered a separate stock in Western Australia.</p>	
3.1 Sawshark	<p>The RAG noted the following for sawshark:</p> <ul style="list-style-type: none"> • Sawshark constitute a non-targeted species with a large proportion of small shots (i.e. <30kg). • Gillnet and trawl catch remained stable between 2014 and 2015. • Danish Seine catch increased from 13t in 2014 to 24t in 2015. 	

	<ul style="list-style-type: none"> Standardized catch per unit effort (CPUE) for gillnets exhibits a steady decline since about 2001. This is likely due to avoidance behaviour by fishers. Standardized CPUE for trawl exhibits a noisy but flat trend, with an increase in 2014 reaching the long term average, noting the assessment uses trawl CPUE as an index of abundance. <p>The RAG noted that the following breakout rule for sawshark was triggered:</p> <p><i>'If total mortality (including discards, state catch and recreational catch) is lower than 50 per cent of the most recent RBC'</i></p> <p>Mr Keightley explained that the most recent RBC was 535 t, total mortality in 2015 was 238 t, hence total mortality in 2015 was 44 per cent of the most recent RBC.</p> <p>The RAG considered the breakout noting that CPUE is flat and the RAG held no concerns for the stock. As such, the RAG decided no further action be taken in response to the breakout and recommended the multi year total allowable catch (MYTAC) be continued.</p>	
3.2 Elephant fish	<p>The RAG noted the following for elephant fish:</p> <ul style="list-style-type: none"> Elephant fish constitute a non-targeted species with a large proportion of small shots (i.e. <30kg). Gillnet catch decreased from 38t in 2013 to 31t in 2014 and 28t in 2015. Catches by trawl have remained stable at ~10 t in recent years. Danish Seine catch have been consistent but low across the years. Standardized CPUE for gillnet exhibits a noisy but flat trend; however, the 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 is in fact increasing. <p>The RAG also noted that no breakout rules were triggered for elephant fish, and recommended the MYTAC be continued.</p>	<u>ACTION 3</u> – AFMA to liase with Dr Sporcic on using catch by net length instead of catch by shot for all shark species CPUE.

3.3 School shark	The RAG noted the trend in standardised trawl CPUE overall is trending upwards and is above the long-term average. The RAG considers trawl CPUE a better representation of abundance as trawl does not target, nor can avoid the species.	
3.4 Gummy shark	<p>The RAG was presented the standardized CPUE series for gummy shark, noting the following:</p> <ul style="list-style-type: none"> • There has been an increase in reported gillnet catches of gummy shark and standardized CPUE in South Australia and Bass Strait during 2015. • Standardized CPUE of gillnet caught gummy shark around Tasmania remained flat since 2014. • Standardized CPUE for bottom line and trawl have increased steadily since 2013, remaining above the long-term average. <p>After comparing the gillnet and trawl CPUE series, the RAG noted that the gillnet CPUE series reflects the introduction of management arrangements introduced to protect Australian sea lions and dolphins, particularly in South Australia.</p>	
4. Gummy shark		
4.1 Gummy shark assessment model	<p>Dr Thomson presented the “Preliminary gummy shark assessment update for 2016, using data to the end of 2015”. The assessment was undertaken by Prof Andre Punt and Dr Thomson.</p> <p>The assessment includes catch-rate indices for the trawl and shark longline fishery for the first time. While gummy shark represent a single geographical stock across the fishery, three geographic populations are modelled: Bass Strait, South Australia and Tasmania. Data from Western Australia are not included in the assessment. The model uses the same model parameters for each population.</p> <p>There is an effect of increased line catches from South Australia. These data can be used as separate fleets in the model along with trawl. The shark line method selects larger sharks (due to the method being used in shallow water). Catches from the scalefish line and trawl fleets are low and may be merged into other fleets due to the small amount of available data. Notwithstanding the previous comment, catches from the scalefish line sector may increase due to changes in the management arrangements for this fishery therefore this fleet should remain in the assessment.</p>	<p><u>ACTION 4</u> – Dr Thomson to coordinate running sensitivities and projections identified by the RAG for presentation to the November SharkRAG meeting.</p> <p><u>ACTION 5</u> – Dr Thomson to present a plot of gummy shark female spawning biomass against pup production.</p>

The RAG queried the appropriateness of including the South East Trawl (SET) and Great Australian Bight Trawl (GAB) fishery independent survey (FIS) data as another index of abundance in the assessment. The RAG discussed including the SET FIS in the assessment, noting that there are good CVs available for gummy shark for some regions and years, and length frequency data. The RAG however decided against using these data given there is high inter-annual variation in the estimates, and the area fished in the survey does not reflect the core area of shark fishing. The RAG noted that fewer than 100 gummy shark are caught in the GAB FIS each year, and although all are measured, there is little information from which to estimate a selectivity curve, and as such did not consider the GAB FIS index could be used in the assessment. Noting the low amount of catch taken by both the SET and GAB FIS', the RAG was of the view that there is little to be lost by excluding the CPUE series but still including the catch.

Forward projections and MSY were calculated assuming selectivity from the autoline fleet. Shark hook length frequency shows larger fish are caught by this method. The RAG decided to use "real" shark hook line data, not the survey data that was used in the 2013 assessment, when commercial data were unavailable.

The RAG discussed the data on discards and made the following decisions:

- To include discards as part of the total catches, which assumes that discarding is not length-based.
- To calculate a simple arithmetic average of the discard rate for the years 2011–15, and assume that this discard rate applies to all other years (for which representative discard estimates are not available)
- To omit the 2008 discard rate estimate due to it being estimated mainly from trawl data.
- The RAG noted that western Bass Strait accounts for a large proportion of the catch but the Integrated Scientific Monitoring Program data in 2015 observed only one shot and that had no discard. The RAG recommended using the 2015 eastern discard rate for western Bass Strait as previous year's rates were similar.

Dr Thomson undertook to follow up some inconsistencies in the trawl data as the sample size in the observed length frequency are different than the combined length frequencies.

Dr Thomson will ask Dr Punt to insert an explanation of gear saturation into the gummy shark assessment for November 2016 meeting.

The RAG considered whether the length frequency gathered from the GAB FIS across all years could be used to estimate FIS selectivity and therefore provide an index of abundance for South Australia. Dr Thomson advised that as the sample sizes collected by the GAB FIS are fewer than 100 fish per year, and the gear and tow speed is too different from that used by the commercial fishery to allow 'mirrored selectivity' between trawl fleets, it is not possible to estimate the selectivity from these LF data.

Dr Sporcic provided trawl catch rate indices for the assessment. These data are aggregated across the fishery (i.e. combined Vic, Tasmania and SA) and are assumed to relate to all regions of the fishery. The RAG was of the view that although the fits to the catch rate series for trawl are not very good (this may be due to the fairly short duration of the series), as gummy shark are not targeted by the trawl fishery these data did provide a good independent index of gummy shark abundance.

Modifications to the previous 2013 assessment

The assessment of gummy shark is updated based on available information to 2015. The model on which the assessment is based has been modified as follows:

- a) The population dynamics model on which this assessment was based was reformulated as a continuous model, making it consistent with stock assessments for sharks conducted elsewhere in the world. The benefit of this approach is that it is more realistic than taking the catch off in one hit in the middle of the year.
- b) The "hook fleet" included in previous assessments is now separated into shark longline, trawl, and scalefish longline gear-types, with size-specific selectivity estimated for each gear-type, and
- c) allowance is now made for age-reading error. The Rag was of the opinion that this approach better reflects the real uncertainty in this process.
- d) The assessment includes revised catch and length-composition data based on the most recent extractions from the AFMA database, new age composition data, and updated catch-rate indices.
- e) The catch-rate indices for 1997 onwards are based on the method commonly applied for SESSF species, with the pre-1997 catch-rates appended to those for 1997 onwards by calibrating the catch-rates for the period of overlap.

The RAG noted that the catch rate indices developed by Sporcic (2016) in Fig 4, for South Australia and Tasmania show some notable differences compared to the CPUE calculated using the older Punt method. The RAG thought that this might be resolved when Dr Sporcic redoes the CPUE analysis changing from number of shots to a more defensible measure of effort (such as net length) for the next assessment. Large fluctuations in these indices may mean that they are not correctly indexing abundance, however the RAG commented that the long term trends in each of the series are similar.

The RAG went through the figures in the assessment and made a number of observations and comments:

- Figure 5. Adding the new CPUE series by Dr Sporcic makes little difference to the model, however the fits of the updated model to the trawl and shark longline CPUE are not good. The RAG noted that these methods only account for 10 per cent of the catch and the gillnet CPUE index was the dominant driver of the model.
- Figure 9. Fits to length composition data are not too bad but the RAG would have expected a better fit to the gillnet data seeing as this is the main gear used in the fishery. Additional investigation of this issue was suggested for the November meeting.
- Figure 10. Inclusion of the age reading error made little difference to the results.
- Figure 14. Proposed base case model fits to the gillnet CPUE indices are not too bad but there has been some deviation from modelled Bass Strait gillnet index to observed rates over the last few years. The RAG was unsure of any reasons for this.

The RAG noted that the RBC are calculated for each of the three geographic stocks and then summed to give a SESSF gummy shark RBC. A proposed base case will be presented to the next SharkRAG meeting in November. The RAG will also consider and make recommendations on suitable break out rules for a gummy shark MYTAC.

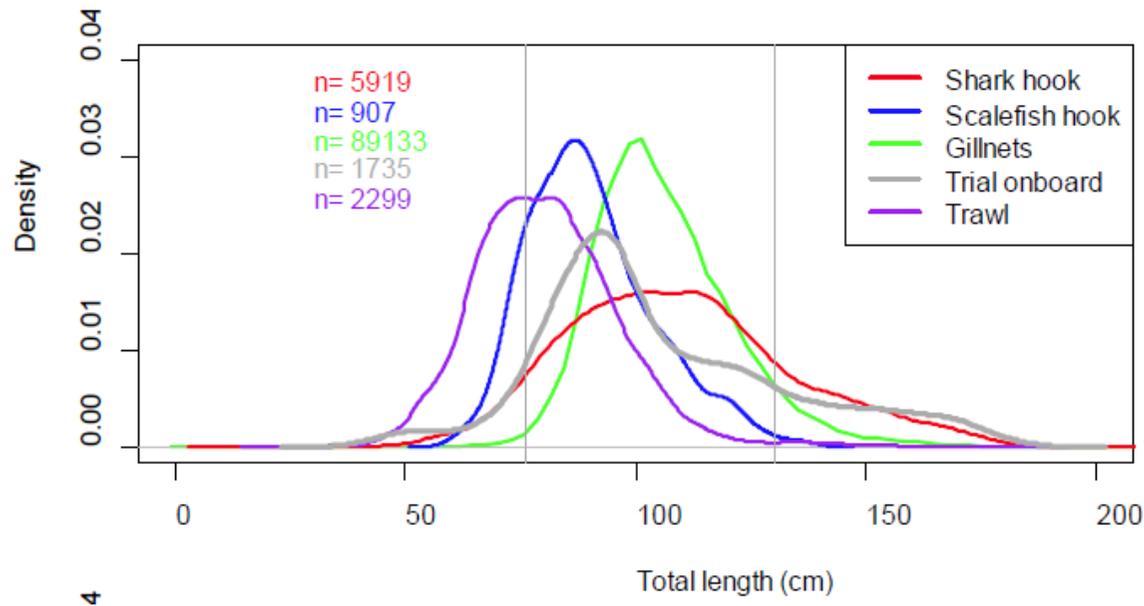
The RAG also recommended that an item be included in the November agenda to consider if gummy shark should be included as a candidate in discussions of those stocks that show evidence of stock structure and may be suitable for changed management arrangements.

	<p>Sensitivities and projections</p> <p>The RAG requested a number of sensitivities and projections be run and presented to SharkRAG at the next meeting.</p> <p>Sensitivities</p> <ul style="list-style-type: none"> • No gear saturation • + and – 0.02 to M • All catch but 6 and 6.5 inch gillnet use scalefish selectivity • Vary weighting of CPUE <p>Projections for 1, 3, 5 and 10 years</p> <ul style="list-style-type: none"> • Status quo, retain current proportion of catch by method • South Australia: <ul style="list-style-type: none"> ○ Shift from gillnet to long line for all existing catch ○ Current gillnet catch stays as current but longline catch increased to historical peak. <p>The RAG also requested Dr Thomson to present a plot of gummy shark female spawning biomass against pup production for the next SharkRAG meeting.</p>	
5. Research		
5.1 2018-19 Research priorities	The RAG deferred this item to its November 2016 meeting.	
6. Data plan and e-monitoring update		
6.1 Input in data sampling templates	The RAG briefly discussed this item, however deferred it to its November 2016 meeting.	
6.2 E-monitoring	The RAG deferred this item to its November 2016 meeting.	
7. Management items		
7.1 School and gummy shark size limit	Mr Keightley introduced the paper, noting that AFMA is seeking RAG advice on whether the current 450 mm minimum size limit for school and gummy shark is still applicable given both species are managed under quota. Mr Keightley noted that AFMA's preference, under the government's red tape reduction agenda, is to remove unnecessary regulation.	

Mr Keightley noted that the legal minimum lengths have a long history and were phased in by the states in the 1950's, and remain current.

The RAG reviewed the data summary onboard the length frequency data and noted there doesn't appear to be a high number of smaller size based discarding for gummy or school shark.

The RAG considered the following length frequency curves provided by Dr Thomson. This shows the length frequency from different methods for catching gummy shark, noting that the figure is presented in total length, and 750 mm total length is equivalent to 450 mm partial length. The RAG expressed some concern that it appears fish smaller than 450 mm are being landed despite the size limit, however it was uncertain whether the figure represents landed and/or discarded length frequencies.



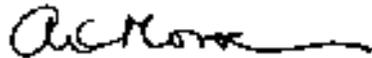
In order to make an informed decision, the RAG suggested Dr Thomson model the effect of removing the size limits. The RAG suggested that modelling a change in selectivity for all gear types (excluding gillnet) to match the scalefish hook selectivity would provide the RAG with a

ACTION 6 –

Dr Thomson to model the effect of removing the current minimum size limit for school and gummy shark by modelling a change in selectivity for all gears (except gillnet) to match the selectivity of scalefish hook.

	worst case selectivity scenario. The RAG deferred providing advice to the November 2016 meeting following review of the selectivity scenarios.	
7.2 Non quota species triggers	The RAG deferred this item to its November 2016 meeting.	
8. Other Business and meeting close	The Chair closed the meeting at 1:00pm and thanked participants for their input. The next meeting was confirmed for 22-23 November 2016 in Hobart.	

Signed (Chairperson):



Date: 20/12/2016

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 13 October 2016

Participant	Interest declared
Sandy Morison	Chair of SERAG and 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 MSC assessments of AFMA managed and other fisheries (by SCS Global Service). No pecuniary or other interest.
Brendan Kelaher	University Professor. ScallopRAG chair and ScallopMAC member. No other interests declared.
Robin Thomson	Undertakes CSIRO stock assessments. No pecuniary interests. Declared interest in Close Kin Mark Recapture project (research investigator).
Charlie Huveneers	Senior lecturer and research scientist. Potential interest in funding for research. No pecuniary interest or otherwise.
Ian Knuckey	Director – Fishwell Consulting Pty Ltd Director – Olrac Australia (Electronic logbooks) Chair / Director – Australian Seafood Co-products (seafood waste utilization) Chair / Director – ASCo Fertilisers (seafood waste utilization) Chair – Victorian Rock Lobster and Giant Crab Assessment Group Agent – Olrac Australia electronic logbooks Invited scientific participant – SEMAC, SERAG Current / Recent Projects and funding: Principal Investigator – Fishery Independent Survey of shelf resources in the Great Australian Bight Trawl Fishery 2015 Principal Investigator – Improved understanding of economics in fisheries harvest strategies. Principal Investigator – Realising economic returns of reducing waste through utilization of bycatch in the GAB Trawl Sector of the SESSF Principal Investigator – The social drivers and implications of conducting an ecological risk assessment of both recreational and commercial fishing - a case study from Port Phillip Bay Principal Investigator – Review of Monitoring and Assessment in the SESSF Co-Investigator – Optimising processes and policy to minimise business and operational impacts of seismic surveys on the fishing industry and oil and gas industry. Co-investigator – SESSF 2016 Fishery Independent Survey Co-investigator – Bird mitigation in the SESSF trawl sector Researcher – Various fishing industry liaison projects for oil and gas industry

	<p>Researcher – Review of mammal mitigation for a Seafish Tasmania pelagic trawler</p> <p>Scientific Advisor – GABIA, SETFIA, SSIA, SPF (Geelong Star), Gulf St Vincent Prawn Fishery</p> <p>Facilitator – WWF shark traceability workshop</p> <p>Facilitator – Indonesian fishery training and development</p>
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.
Leigh Castle	Tasmanian shark hook, scalefish hook and tuna minor line fisher. Owns SESSF quota and leases a vessel. 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.
Robert Curtotti	No interests declared, pecuniary or otherwise.
George Day	AFMA. Demersal and Midwater Trawl Fisheries section. No pecuniary interest or otherwise.
Ryan Keightley	AFMA management officer and SharkRAG EO, No pecuniary interest or otherwise.
Ross Bromley	AFMA. Demersal and Midwater Trawl Fisheries section. No pecuniary interest or otherwise.

RAG Invited participants and observers declarations of interest

Judy Upston	CSIRO, Assessment scientist. Interest in acquiring funding for research purposes. No pecuniary interest or otherwise.
Miriana Sporcic	CSIRO, Assessment scientist. Interest in acquiring funding for research purposes. No pecuniary interest 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.

Attachment 2 – Actions arising from SharkRAG No. 1, 2016

Action	Agenda item	Description	Responsibility
1	1.4	Mr Keightley to refer RAG concerns regarding the most recent Australian sea lion report to the Commonwealth Marine Mammal Working Group	Mr Keightley
2	2.3	Mr Keightley to liaise with AFMA observer section and Dr Thomson to ensure close kin samples are collected by Lakes Entrance port sampler. If unsuccessful, Mr Toumazos to ensure samples are collected from the South Australian fleet if they're not already collected through the Melbourne processor.	Mr Keightley
3	3	AFMA to liaise with Dr Sporcic on using catch by net length instead of catch by shot for all shark species CPUE.	Mr Keightley
4	4.1	Dr Thomson to coordinate running sensitivities and projections identified by the RAG for presentation to the November SharkRAG meeting.	Dr Thomson
5	4.1	Dr Thomson to present a plot of gummy shark female spawning biomass against pup production.	Dr Thomson
6	7.1	Dr Thomson to model the effect of removing the current minimum size limit for school and gummy shark by modelling a change in selectivity for all gears (except gillnet) to match the selectivity of scalefish hook.	Dr Thomson