Marine Mammal Working Group

MEETING RECORD

South Australia Sea Rescue Squadron
30 July 2015

Chair

Nick Rayns	Australian Fisheries Management Authority (AFMA)

Participants

Mike Double	Australian Antarctic Division (AAD)
Simon Goldsworthy	South Australian Research and Development Institute (SARDI)
Tony Harman	Department of Agriculture
Jess Harwood	Humane Society International (HSI)
Catherine Kemper	South Australian Museum
Ian Knuckey	Southern Shark Industry Alliance
Craig Lawrie	Industry representative
Sylvana Maas	Department of the Environment
Brodie Macdonald	AFMA
Alice Mackay	SARDI
Brad Milic	Primary Industries and Regions South Australia (PIRSA)
David Power	AFMA
Peter Shaughnessy	South Australian Museum
Carolyn Stewardson	Fisheries Research and Development Corporation (FRDC)
David Stone	Sustainable Shark Fishing Association
Claire Taylor	AFMA
Len Toumazos	Industry representative
Terry Toumazos	Industry representative
Yiotis Toumazos	Industry representative

Apologies

Michelle Besley	PIRSA
Kerstin Bilgmann	Flinders University
David Brooks	Industry representative
Jimmy Elias	Industry representative
Andrew Joy	Industry representative
Tooni Mahto	Australian Marine Conservation Society (AMCS)
Kyri Toumazos	Industry representative
Alexia Wellbelove	HSI

1. Preliminaries

The Chair opened the Marine Mammal Working Group (MMWG) meeting at 10:05 am, welcomed participants and noted apologies which had been received.

The MMWG accepted proposed changes to the agenda (Attachment 1), including:

- an e-monitoring update at agenda item 2.2
- discussion of dolphin mortality data at agenda item 4 (not agenda item 2)
- an update on a seal mitigation device competition at agenda item 7.

The MMWG noted the progress of action items from the last meeting in July 2014:

#	Action Required	Responsibility	Update
1	AFMA to develop protocols for identifying and retaining seabirds on shark hook vessels.	AFMA	Complete. AFMA has published a seabird ID guide for fishers and developed protocols for boats to retain seabirds. Where practical, fishers will retain seabird carcases and send them to Tasmania (AAD) for identification by an expert. AFMA acknowledges that this is not always practical and AAD is interested in rarer species and/or bigger events.
2	Cath Kemper to investigate identification of seabirds at the South Australian Museum.	Catherine Kemper	Complete. The collection manager at the South Australian Museum is interested in rarer species but not as an ongoing job.
3	AFMA to present e-monitoring footage of gillnet fishing at the next MMWG meeting.	AFMA	Complete. Presented at agenda item 4.
4	AFMA to develop protocols both internally and with the e-monitoring service provider for the retention of TEP interactions.	AFMA	Complete. The protocols are agreed and in place with Archipelago Asia Pacific (e-monitoring provider). If independent verification is needed, a copy is kept for ID purposes. The footage is kept for a minimum of six months unless there are compliance issues.
5	AFMA to provide David Stone with a summary of dolphin interactions between Bass Strait and South Australia including observer presence or absence.	AFMA	Complete.
6	AFMA to investigate cost structure/model for auditing 100 per cent of e-monitoring footage at random intervals for different vessels.	AFMA	Complete.
7	AFMA to circulate Kerstin Bilgmann's paper on Common Dolphin management units in South Eastern Australia to MMWG members.	AFMA	Complete. Sent with meeting papers.

Action 1. AFMA to send a reminder to industry about protocols to retain seabirds caught on shark hook vessels for identification.

2. Update on marine mammal interactions

2.1 Australian sea lion and dolphin interactions in the GHAT

AFMA provided an overview of the Australian Sea Lion Management Strategy. Since implementation, the number of mortalities has significantly reduced. There has been two Australian sea lion (ASL) mortalities in the fishery in the past three years with 100 per cent independent monitoring (on-board observer or e-monitoring).

2.2 Updated Australian Sea Lion Management Strategy

The MMWG noted the Australian Sea Lion Management Strategy has been updated to include arrangements that have been in place since 1 May 2013. The Australian Sea Lion Management Strategy has been effective at reducing ASL bycatch, and the Chair acknowledged the work done by industry, SARDI and AFMA.

Prior to 2010 the average gummy shark catch in SA was 450 tonnes and the majority of the catch was from the Coorong Zone. When gillnet closures were introduced gummy shark catch reduced significantly and longline effort increased. In 2012 when two of the ASL zones were closed, only 20 tonnes of gummy shark were caught with gillnets and 80 tonnes by longline. In 2014 approximately 340 tonnes of gummy shark was landed (100 tonnes from gillnets). This shows that gillnet catch is increasing and ASL mortalities are remaining low.

E-monitoring update

David Power provided an update on the AMFA e-monitoring program. All full time vessels in the Gillnet Hook and Trap (GHAT), Eastern Tuna and Billfish Fishery and Western Tuna and Billfish Fishery have e-monitoring installed (total of 74 vessels). Archipelago Asia Pacific (AAP) was contracted by AFMA to run the e-monitoring program. The e-monitoring system includes sensors to collect data on location, speed, fishing activity, and cameras to collect video footage of fishing activity. Each camera is set up for a specific data need, and TEP interactions can still be identified in bad weather. The MMWG was shown example camera footage and how the e-monitoring computer analysis works.

An update was provided on the auditing regime of the e-monitoring program.

- Hard drives are sent to AFMA monthly and a forensic copy is made. The hard drive is then sent to AAP for analysis.
- For each hard drive, a minimum of 10 per cent of footage is analysed for information on catch composition, piece count, fate and life status. The analysed footage is selected at random and whole shots are analysed (e.g. if there were 30 shots on the hard drive, at least three random shots will be analysed). This verifies logbook data so there is an accurate measure of catch and effort, and confidence in the data used for stock assessments.
- In the Australian Sea Lion Management Zones 100 per cent of the footage is analysed for interactions with dolphins, ASLs and fur seals. In the future this may be lowered for vessels with a good record. However, AFMA wants stakeholders to have confidence in logbook data and so if the audit rate is lower than 100 per cent this needs to be designed based on risk, in

consultation with stakeholders. If it is lowered, AFMA would do a review to ensure it is an appropriate and effective audit rate.

- Discard data is collected by doing a piece count of what comes on the vessel and what is discarded straight away. Fishers are required to record discards in logbooks and cameras are set up with a view of where fish would be discarded. Discard data requirements will be discussed at the SESSF Resource Assessment Group meeting 4-5 August 2015.
- The Australian Government owns e-monitoring data. Hard drive data is stored for six months unless there are compliance issues. AFMA is currently limited in storage space of hard drive data in the long term and also expects the e-monitoring program will expand to other fisheries. AFMA has the option to verify the identification of marine mammals with experts.
- The cost of analysing video footage and comparing to logbook data is recovered from concession holders through fishery levies.

HSI raised concerns about the 10 per cent audit rate of all footage and thinks it should be higher. HSI and AMCS are also not comfortable with the 100 per cent audit rate for dolphins, ASLs and fur seals being reduced. They would like more time to review the program. AFMA noted, however, that e-monitoring has been in the fishery for three years and there has already been a significant improvement in industry's reporting.

Researchers want high confidence in species identification of dolphins, ASLs and fur seals. It was suggested that marine mammal experts could verify some of AAP's analysis to ensure marine mammals are identified correctly.

It was noted e-monitoring data could be used to improve species identification in Australian Government reporting requirements (e.g. AFMA's protected species interactions quarterly reports to the Department of the Environment; International Whaling Commission). If dolphins, ASLs and fur seal interactions are not identified in time for reporting requirements, this may need to be through additional reports.

Action 2. AFMA to consult with the Dolphin Mitigation Sub-committee (marine mammal experts, industry, ENGOs) to review risk based e-monitoring analysis rates in the Australian Sea Lion Management Zones.

Action 3. AFMA to develop arrangements for Cath Kemper to assist AAP with dolphin species identification in e-monitoring footage.

Action 4. AFMA to confirm the species identification of dolphins before marine mammal interaction data is sent to the MMWG.

Action 5. AFMA to investigate how species identification by e-monitoring can be incorporated into threatened, endangered and protected species reporting requirements.

3. Update on marine mammal research

3.1 Update on SARDI research

Simon Goldsworthy provided an update on the most recent ASL research conducted by SARDI: a population survey of all ASL colonies in South Australia over 18 months (i.e. the span of one breeding cycle).

- The survey is the most comprehensive survey to date of the ASL population in South Australia with 42 breeding sites surveyed. Historical time series data is patchy for most sites with previous equivalent surveys undertaken 6-11 years earlier.
- Two new colonies were found and SARDI will formally notify AFMA. The colonies are both off the lower Eyre Peninsula and are in existing fishing closures.
- The total pup abundance was estimated to be 2520. For a subset of 32 breeding sites pup abundances have declined by 23.7% (687 fewer pups) since equivalent surveys between 2004 and 2008.
- The estimated total number of pups including Western Australia is 3074 and an estimated total population of approximately 11 773 (based on 3.83 × pups = total production).
- Abundance was calculated in two ways, and both calculations showed similar results of a 66-68 per cent population decline over three generations.
    1. Quantum change in pup production. Sites were compared with earlier survey results. This was available for 60 per cent sites and 79 per cent of pup production. Some colonies showed a positive change, however, most showed a population decline of -5.9 to -0.5 per cent each year. Over three generations (38 years) there has been a 68 per cent decline in population size. The greatest declines are in western South Australia.
    2. Trends in aggregated abundance. Available information was used to estimate missing data points. The average population decline was equivalent to a 66 per cent decline over three generations (38 years).
- ASLs are currently listed as 'vulnerable' under the EPBC Act, however, these results suggest they could meet the criteria for listing as 'endangered'.
- The South Australian ASL population is smaller than previously thought and there have been ongoing declines. Females born since the GHAT fishery management measures were introduced in 2010-12 have not matured and reproduced yet. However, the population numbers suggest that there are other issues contributing to the decline. During the survey there were no signs of nutrition, disease or habitat issues. Only 6-8 sites share colonies with long-nosed fur seals – this is in the west where the largest declines have occurred. Recent long-nosed fur seal population surveys have found that the rate of population increase has slowed from 5.5 per cent to 3.5 per cent in the last five years.
- The MMWG agreed that further data analysis would be useful to determine when recovery of population size may be expected. A population model could be used to see the expected change in population size based on historic fishery mortality figures.
- There is currently no funding for future population monitoring. The MMWG agreed monitoring in 3-4 years would be useful to see if fishery management measures have made a difference and if the fishing effect has been removed. There may need to be more management actions that are broader than the GHAT fishery management.

Action 6. Simon Goldsworthy, Alice Mackay and Ian Knuckey to conduct further analysis of the Australian sea lion population data including population modelling and what is expected based on historic data.

3.2 Recovery Plan for the Australian Sea Lion

Sylvana Maas provided an update on the Recovery Plan for the Australian Sea Lion. Key points included:

- The Recovery Plan was finalised in July 2013 and continues to be implemented. The focus of the Department of the Environment is on cross jurisdictional issues, for example, action 5.1: *Develop and apply a quantitative framework to assess the population status and potential recovery of the Australian sea lion across its range*. CSIRO is currently doing computer simulations to test a model to maximise monitoring.
- The Recovery Plan would possibly be updated if ASLs are listed as endangered and if previously unknown threats are identified.
- The Recovery Plan does not provide funding for monitoring or research. Funding could possibly come from the National Environmental Science Programme (NESP) research hubs.

Action 7. Nick Rayns to discuss with FRDC and NESP regarding funding sources that could be used for ASL population monitoring, particularity in three years' time to ascertain fishing effects

Action 8. Milena Rafic (Department of the Environment) to provide a short summary to the MMWG on the research CSIRO is doing on Australian sea lion monitoring.

3.3 Update on dolphin research

The MMWG noted the written update from Kerstin Bilgmann (Flinders University) and her research about common dolphin management units based on genetics. This may have future implications for how AFMA manages southern populations of common dolphins, however, the population size of common dolphins is currently unknown. A recommendation from the recent FRDC technical workshop to explore options for mitigating marine mammal interactions in the Small Pelagic Fishery was for more research on the population size of common dolphins. The final report of this workshop is available at frdc.com.au/research/final-reports/Pages/2014-046-DLD.aspx.

Catherine Kemper updated the group on research by her PhD student which has found there is likely to only be two bottlenose dolphin species in South Australia not three.

4. Gillnet Dolphin Strategy update

4.1 Overview of Dolphin Strategy implementation

David Power presented an overview of the development and implementation of the Dolphin Strategy. In 2011 there were over 50 dolphin mortalities in waters off South Australia with the majority in the Coorong Zone. E-monitoring video clips of these interactions were reviewed by the South Australian museum and 47 were identified as common dolphins and 3 were bottlenose dolphins. In response to these interactions AFMA closed the Coorong Zone to gillnet fishing for three years from September 2011.

A Dolphin Mitigation Sub-committee was formed (reporting to the MMWG) and met twice in 2014 to discuss management triggers and what type of management response would be appropriate in the Dolphin Strategy. The Dolphin Mitigation Sub-committee discussed three mitigation options:

a) on the water behaviour
b) how fishers set gear
c) acoustic devices (e.g. pingers).

The Dolphin Mitigation Sub-committee agreed there is no single fix and advised that combination of these measures is required and individual fishers are best placed to determine what mitigation methods are most effective for them. AFMA is implementing individual responsibility and expanded e-monitoring across the whole GHAT fishery.

The Coorong Zone was reopened 8 September 2014 with strict management measures developed through the Dolphin Strategy. The Dolphin Strategy is applied to individual vessels and sets a trigger limit for dolphin bycatch. To be able to fish in the Coorong Zone fishers need to have a mitigation plan for their vessel. There is a management response for any dolphin bycatch (across the whole fishery) with escalating management responses for individual fishers that have further dolphin bycatch in the Coorong Zone. If a vessel exceeds the rate of one dolphin in 50 shots within six months they are excluded from fishing in the Coorong Zone for the following six months.

4.2 Vessel performance for the first Dolphin Strategy review period

Since the last MMWG meeting in July 2014 there have been 19 dolphin mortalities in the GHAT with five of them occurring in the Coorong Zone. In 2015 there have been six dolphin mortalities in the GHAT to date. The majority of dolphin interactions were in two regions of South Australia, and occurred where the majority of fishing effort was. There was a much lower dolphin mortality rate in the Bass Strait. In the first Dolphin Strategy review period (September to February) there were five dolphin mortalities in the Coorong Zone, all observed on e-monitoring.

Researchers were concerned that when fishing close to shore in western South Australia, the dolphins could be inshore bottlenose dolphins. They could be identified by photos, or through obtaining tissue samples which is an ongoing research question. Catherine Kemper can help with dolphin species identification and she would like to know the exact locations of dolphin interactions for mapping and research purposes.

AFMA sent a dolphin ID guide to fishers in March 2015. The ID guide also outlines what fishers need to do when they catch a dolphin, including completing a Dolphin Bycatch Evaluation Report developed by the Dolphin Mitigation Sub-committee. The Dolphin Bycatch Evaluation Reports may help identify factors that can lead to dolphin bycatch.

AFMA asked for feedback from the MMWG on the Dolphin Bycatch Evaluation Report. Suggestions included the following.

- Change ‘number of animals’ to ‘number of dolphins’.
- Explain what ‘fate’ means. This means if the dolphin is dead or alive and if it has been tagged. This was a suggestion from the Dolphin Mitigation Sub-committee to determine if dolphins had already been caught and discarded.

However, it was noted this needs to be consistent with the relevant arrangements under the Department of the Environment.

The Dolphin Strategy has management measures for the whole fishery not just for the Coorong Zone, including a five mile move on rule. Currently there is no bycatch rate trigger outside the Coorong Zone. E-monitoring enabled implementation of the individual responsibility framework.

AFMA did not observe a rush to enter the Coorong Zone in September 2014 and fishing effort in the Coorong Zone is still low. During the first six months there were five dolphin mortalities in the Coorong Zone. One vessel caught two dolphins but set more than 100 shots so did not exceed the dolphin bycatch rate. The vessel returned to port and there was a management review including a revised mitigation plan. The vessel has continued to fish with low effort in the Coorong Zone. The bycatch rate of 1 dolphin in 50 gear sets does not consider effort outside the Coorong Zone. This is not ideal as some boats may be successfully avoiding dolphins but their effort has shifted outside the Coorong Zone.

The MMWG agreed to take time to consider results from the e-monitoring program and review it in six months.

Action 9. AFMA to consult with industry if positional data of dolphin interactions can be provided to Catherine Kemper for research purposes.

Action 10. AFMA to consult with the Department of the Environment about the risk and option of marking dead dolphins with plastic tags. Industry to consider if this is worthwhile.

5. AFMA Dolphin Strategy

5.1 Implementation of the Dolphin Strategy across whole gillnet sector

David Power presented trends in gillnet and longline effort in the GHAT for the past 15 years. Since 2011 gillnet effort has shifted from South Australia to the Bass Strait, and there has been a significant increase of longline fishing in South Australia. Gillnet effort in South Australia has recently started to increase again. CSIRO is currently doing an Ecological Risk Assessment for longline fishing in the Southern and Eastern Scalefish and Shark Fishery which will inform future management decisions for longline fishing in the GHAT.

The Dolphin Strategy has introduced strong incentives for industry to innovate and avoid bycatch in the Coorong Zone through changes in fishing behaviour and gear. An objective of the Dolphin Strategy is to provide the framework for fishers to solve problems and implement mitigation measures that are best suited to their boat and where they fish. Now that e-monitoring is implemented, AFMA will focus on management actions where they are most needed. In the first six months of 2016 AFMA will review existing arrangements for individual responsibility.

The MMWG discussed if there is a need to be consistent with approaches in other fisheries. This was further discussed at agenda item 6.

The MMWG agreed that the work of the Dolphin Mitigation Sub-committee should continue for the gillnet fishery and acknowledged it is a valuable forum. The Dolphin Mitigation Sub-committee will meet in January 2016 to consider any new information and data, and review the Dolphin Strategy across the whole fishery as well as individual boats. They will consider what standards are appropriate and stage two of

the Dolphin Strategy – implementation across whole gillnet fishery. They will consider if interaction rates are similar or different between the Coorong Zone and the rest of the gillnet fishery.

An outcome of the last Dolphin Mitigation Sub-committee meeting was a list of research questions and priorities. The MMWG was asked to comment on the research needs. Most of the priorities are GHAT focussed but the biological research questions are universal.

Action 11. The MMWG to send comments to AFMA on research priorities and needs identified by the Dolphin Mitigation Sub-committee.

5.2 Implementation of the Dolphin Strategy AFMA wide

AFMA is considering one management framework for dolphin bycatch in all Commonwealth fisheries. The framework would have common objectives and a common set of standards for all Commonwealth fisheries, but would recognise the need for method specific mitigation strategies. The framework would ensure there are management actions being taken in every Commonwealth fishery. AFMA is not proposing to have the same approach in each fishery. The GHAT would have an individual responsibility focus but other fisheries may not.

The MMWG discussed the importance of considering the cumulative impact of bycatch on dolphin populations, including in state fisheries. Assessment of cumulative impact requires information on population sizes and distribution, much of these data are currently limited.

6. Future role of the Marine Mammal Working Group

AFMA is considering the future role of the MMWG. The Australian Government is developing a new bycatch policy that is yet to go through a public consultation process. The policy will apply to AFMA and the fishing industry. AFMA is considering how it can meet the policy's requirements. Currently there are different approaches being taken to address bycatch in Commonwealth fisheries. AFMA is considering the need for an overarching group that reviews all Commonwealth bycatch and can also support industry groups to do it themselves (e.g. Northern Prawn Fishery). AFMA is undecided if the coordinating body would be for all methods and threated, endangered and protected species, or be species specific. AFMA plans to continue the work of current groups that work productively (e.g. Dolphin Mitigation Sub-committee). There may be a coordinating body that provides leadership on broad issues and several working groups for particular issues or fisheries.

The MMWG discussed that there are not many international examples of such a body. In Europe, the Working Group on Bycatch of Protected Species collates and reports on data collected by European member states affected by Regulation 812/2004 relating to cetacean bycatch in specified fisheries. The group also reviews and reports on bycatch mitigation research. In the United States of America, Marine Mammal Take Reduction Teams are convened with the goal of reducing, within six months of implementation, the level of fishery mortality for a marine mammal stock or species to below potential biological removal. Take reduction teams are species, gear or regionally specific.

AFMA has a specific objective for cetaceans, but not for other threatened, endangered and protected species, due to historical responsibility for whaling in the now repealed Fisheries Act 1952. AFMA *must ensure, as far as practicable, that measures adopted in pursuit of those objectives* [AFMA's objectives] *must not be*

inconsistent with the preservation, conservation and protection of all species of whales [*Fisheries Management Act 1991*].

The MMWG was supportive of a broader group to coordinate bycatch management across Commonwealth fisheries. The MMWG noted it would be important to prioritise issues and not wait to be reactive as issues arise. They also supported sharing information across jurisdictions and fisheries.

The recent FRDC technical workshop to explore options for mitigating marine mammal interactions in the Small Pelagic Fishery raised the issue that there needs to be broader conversation on marine mammals, and the MMWG should be reformed to cover broader fishery issues.

The Chair thanked the MMWG for all the work they had done. AFMA asked for advice on what should be the process and new group. The MMWG agreed that state governments should be involved and it would be valuable to coordinate management actions and standards across fisheries jurisdictions. The MMWG noted that not all fisheries are using individual responsibility and it depends on what is best for each fishery. AFMA would like to see continuity in the GHAT work and it is valuable to hear feedback from industry about performance measures and standards. The new group will most likely have an independent chair subject to available funds.

7. Other business

The MMWG noted that AFMA, the South East Trawl Fishing Industry Association and the Australian Maritime College (AMC) ran a competition for AMC students to design seal mitigation devices. The competition had a cash prize. The final six inventions along with a winner will be announced soon. AFMA found this was a valuable and successful process and would like to continue it in the future.

The meeting closed at 2:50 pm.

Marine Mammal Working Group

SOUTHERN AND EASTERN SCALEFISH AND SHARK FISHERY

30 JULY 2015

South Australia Sea Rescue Squadron

Meeting commences 10:00 am and concludes 4.30 pm

1. Preliminaries Chair (30 minutes)
1.1 Welcome
1.2 Apologies
1.3 Adoption of agenda
1.4 Progress on action items

2. Update on marine mammal interactions (30 minutes)

2.1 Australian sea lion and dolphin interactions in the GHAT	AFMA Management
2.2 Updated Australian Sea Lion Strategy	AFMA Management

3. Update on marine mammal research (30 minutes)

3.1 Update on SARDI research and project proposals	Simon Goldsworthy
3.2 Recovery Plan for the Australian Sea Lion	Department of Environment
3.3 Update on dolphin research	Flinders University

4. Gillnet Dolphin Strategy update (1 hour)

4.1 Overview of Dolphin Strategy implementation	AFMA Management
4.2 Vessel performance for first review period	AFMA Management

5. AFMA dolphin strategy (2 hours)

5.1 Implementation of Dolphin Strategy across whole gillnet sector	AFMA Management
5.2 Implementation of Dolphin Strategy AFMA wide	AFMA Management

6. Future role of Marine Mammal Working Group (30 mins)

6.1 Reviewing the need for in session meetings	AFMA Management

7. Other business