



Australian Government

Australian Fisheries Management Authority

Great Australian Bight Fishery Independent Survey Working Group

December 2020

Minutes

Date: 7 December 2020

12:07 pm - 12:52 pm

Microsoft Teams Meeting

The meeting commenced at 12:07pm (AEDT).

1. Preliminaries

1. A list of meeting attendees is provided at [Appendix A](#).

1.1 Declarations of Interest

2. The Great Australian Bight Fishery Independent Survey (GABFIS) Working Group (the Working Group) members declared potential conflicts of interest (provided at [Appendix B](#)).
3. Recognising that the Working Group's role was to provide advice to the Great Australian Bight Resource Assessment Group (GABRAG), and not to make formal recommendations, it was agreed that it was appropriate for all members to participate in the discussion.

2. GABFIS Design – Coefficient of Variation (CV) Analysis

4. At their 7-8 October 2020 meeting, GABRAG discussed the appropriateness of the current GABFIS design. The AFMA Member advised the Working Group that this agenda item arose to identify possible cost reductions, as the proposed cost of the GABFIS in its current form was more than had been budgeted for the current financial, due to an increase in vessel tender price.
5. GABRAG noted that the timing of the second trip of the GABFIS (March/April) appears to be more appropriate for the spawning of Bight redfish than the first trip (February).
 - Industry questioned whether both trips were still required, or whether the design could be reduced to a single trip in March/April. This would significantly decrease the costs associated with the GABFIS.
 - The RAG suggested analysing historical data to identify any potential impacts on CVs (the CV analysis), associated with reducing the survey to a single trip; prior to committing to reduce this component of the GABFIS design.
6. Dr Knuckey provided an overview of the results of the CV analysis ([Appendix C](#)):
 - Eleven species were analysed, with deepwater flathead and Bight redfish the two key species considered by the Working Group.
 - Deepwater flathead maintained good CVs for both data series ('both' and 'second').
 - For Bight redfish, there was less deviation between the two CV data series in earlier years. In more recent years, the divide between the two series is more prominent with the most recent estimated CV of about 50%.
 - Dr Knuckey advised the Working Group that in recent years, FIS catches have reduced and CVs increased (for both data series – 'both' and 'second'). It is currently unclear what has caused these trends, however Industry have noted that the spawning stock is aggregating later than in previous years.
7. The Working Group considered the background on the timing of the GABFIS, provided in the report '[Preliminary Resource Survey of the Great Australian Bight Fishery 2005](#)' and noted the following key point:

- It was initially recommended that the survey be undertaken during the month of March alone, but Industry was concerned that this may not allow for the between-year variability in the onset of the main Bight redfish fishing season. Subsequently, it was agreed to run the survey over the two months of February and March.

8. Industry's preference is to reduce the GABFIS to a single trip, noting that:

- AFMA should consider the economics of the fishery under the risk-catch-cost framework.
- Under current financial circumstances, the costs associated with the GABFIS are significant, relative to the size of the fishery. Reducing the survey to a single trip would significantly reduce costs.
- CSIRO undertake comprehensive stock assessments, which are important for the fishery, particularly given recent changes in catch cycles for both species. The FIS provides a supplementary snapshot over time; which could be sufficiently provided by a single trip FIS.
 - CSIRO advised the Working Group that reducing the GABFIS to a single trip, may impact the stock assessment model for deepwater flathead and/or Bight redfish.
- The timing of the second trip should remain as consistent as possible.
 - Dr Knuckey advised the Working Group that the second trip has always been undertaken in the week preceding the full moon in March/April.

9. The Working Group noted the following:

- In 2015, fishing efficiency in trip 1 was impacted by problems with fishing gear, which may have caused abnormally low catch rates. This was rectified for trip 2, with the gear performing as expected; however catch rates and estimated abundance indices remained low for both Bight redfish and deepwater flathead¹.
- Spawning grounds for Bight redfish have not been identified, and may occur within shallower waters outside of that accessible to the GAB Trawl fleet.
 - Dr Knuckey advised the Working Group that the GABFIS is not designed to sample spawning areas, with sampling locations allocated randomly.
- Bight redfish has always required the most work to achieve a reasonable CV (below 30 per cent) which was not achieved in the most recent estimate (CV ~50 per cent).
- CVs for Bight redfish have only exceeded 30 per cent during the most recent survey, when data from the first trip is removed.
- It is unclear whether the biomass estimates and associated CVs from the most recent FIS are an anomaly. Given historical CVs of less than 30 per cent are achieved when the survey is reduced to a single trip, the Working Group supported reducing the 2021 FIS survey to a single trip; subject to a review of trends in biomass estimates across all

¹ [Knuckey, I., Koopman, M., and Hudson, R. \(2015\). Resource Survey of the Great Australian Bight Trawl Sector – 2015. AFMA Project 2014/0809. Fishwell Consulting 35pp.](#)

survey years, comparing single trip surveys with previous results to ensure similar trends are apparent.

- The results of the 2021 survey will be reviewed at the 2021 GABRAG meeting, at which point the design of future surveys can be considered.

ACTION ITEM 1

Dr Ian Knuckey to produce biomass estimates and corresponding CVs, for the entire FIS series, using both single and combined trips, to identify any potential impacts on biomass estimates and trends associated with reducing the GABFIS design to a single trip per survey. Dr Knuckey to tabulate the above estimates.

10. The Working Group discussed whether sample size should be increased for a single trip FIS, in an attempt to reduce CVs, provided that costs are not significantly increased. The following was recommended:

- CVs from the single trip 2021 GABFIS should be considered prior to amending the sampling design, to determine necessity and cost benefit of an increased sample size.
- GABRAG should consider the results from the 2021 GABFIS and reassess whether the current sampling design remains appropriate for a single trip survey.

RECOMMENDATION 1

The 2021 GABFIS (March 2021) to be reduced to a single trip survey, subject to the results of Dr Knuckey's biomass estimate analysis. The current sampling design for trip 2 should be maintained for the upcoming survey, and discussed further at GABRAG 2021, once GABFIS results become available.

The meeting concluded at 12:52pm (AEDT).

Appendix A: Meeting attendees

Name	Membership
Dr Ian Knuckey	Scientific Member
Mr Neil MacDonald	Industry Member
Mr Jim Raptis	Industry Member
Mr Daniel Corrie	AFMA Member
Dr Miriana Sporcic	CSIRO Member
Dr Geoff Tuck	CSIRO Member
Ms Kehani Manson	Executive Officer

Appendix B: Declarations of Interest

Name	Membership	Declared interests
Dr Ian Knuckey	Scientific	<p>Positions:</p> <ul style="list-style-type: none"> • Director – Fishwell Consulting Pty Ltd <ul style="list-style-type: none"> • Provided scientific advice to GABIA • GABFIS (2005 to present) • Scientific Member –Great Australian Bight Resource Assessment Group <p>Previous positions:</p> <ul style="list-style-type: none"> • Scientific Member –Great Australian Bight Management Advisory Committee • Chair – Great Australian Bight Resource Assessment Group
Mr Neil MacDonald	Industry	<ul style="list-style-type: none"> • Executive Officer of the Great Australian Bight Industry Association (GABIA) • Industry Member – Great Australian Bight Resource Assessment Group • Industry Member – Great Australian Bight Management Advisory Committee
Mr Jim Raptis	Industry	<ul style="list-style-type: none"> • Industry Member – Great Australian Bight Resource Assessment Group • Industry Member – Great Australian Bight Management Advisory Committee • Operates two boats in the GABT Fishery and owns four GABT SFRs as well as quota in the Southern and Eastern Scalefish and Shark Fishery
Mr Dan Corrie	AFMA member	Employed by AFMA. Manager of Southern Trawl, Scallop and Squid Fisheries. No pecuniary or other interest in the SESSF.
Dr Miriana Sporcic	Observer	CSIRO. Assessment Scientist. Acquiring funding for research purposes. No pecuniary interest.
Dr Geoff Tuck	Observer	CSIRO. Involved in stock assessments. Interest in obtaining funding for future research. Principle investigator on the SESSF stock assessment project. No pecuniary interest.
Ms Kehani Manson	Executive Officer	Employed by AFMA. Executive Officer of GABRAG. No interest, pecuniary or otherwise.

Appendix C: CV Analysis Results

Analysis of CVs using historic FIS data for 'both' survey trips (red) compared to historic data from the 'second' survey trip only (blue).

