

Thursday, 20 June 2019, 10.00 am – 4.00 pm

SARDI Aquatic Sciences - Hamra Avenue, West Beach, SA

## Final Record of the Meeting to Discuss Snapper Management Arrangements

Minutes and actions

### Introduction

Key representatives from the commercial Marine Scalefish Fishery, Charter Boat Fishery and recreational sector were invited by Primary Industries and Regions SA (PIRSA) Fisheries and Aquaculture to participate in a joint sector meeting on Thursday 20 June 2019, to be provided with updated Snapper biomass estimates and to discuss further strengthening Snapper management arrangements.

The Chair acknowledged that the land where the meeting is being held today is the traditional land of the Kuarna people and that the meeting respects their spiritual connection with the land and respects their elders past and present. The Chair thanked all meeting participants for their time, commitment and goodwill to continue to work through a process to strengthen Snapper management arrangements, with the common goal of sustainable management of the shared access Snapper fishery.

The Chair provided a brief recap on the last joint sector Snapper meeting held in February and noted that the focus of today's meeting would be on the most recent Snapper biomass estimates provided by the South Australian Research and Development Institute (SARDI) Aquatic Sciences and on the possible management responses for the future. The Chair provided an overview of the agenda for the meeting and invited any suggestions to amend the agenda. The meeting participants accepted the agenda and the Chair outlined the next steps in the process.

The Chair informed meeting participants that they would have an opportunity to provide written views and advice on the preferred management arrangements for the Snapper fishery following the meeting (by the end of the following week). Following this, PIRSA will prepare a draft Management Options Paper for consideration by the Minister for Primary Industries and Regional Development which will form the basis of a four-week public consultation process. Following the public consultation process, PIRSA will convene a further joint sector Snapper meeting to review the information received through public consultation and formulate recommendations on the management arrangements to the Minister before the next Snapper spawning season. The intention of this process is for there to be inclusive consultation on the future management of the Snapper fishery and to ensure the decision on future management is made prior to the annual Snapper spawning season.

The Chair noted that South Australia is not the only jurisdiction facing management challenges with Snapper stocks in decline. It was noted that both Western Australia and Queensland also have depleted Snapper stocks and these jurisdictions are also investigating management changes to address Snapper stock declines.

Meeting participants noted that SARDI have completed their work on the Daily Egg Production Method (DEPM) for Snapper using the surveys conducted in December 2018 and will provide a presentation on the Snapper egg surveys and associated spawning biomass estimates. The Chair informed meeting participants that since the February meeting, PIRSA has collaborated with SARDI and the Fisheries and Research and Development Corporation (FRDC) to develop two dedicated Snapper research projects for South Australia in response to priority information gaps discussed at the previous meeting. These two research projects relate to the post release survival and movement of Snapper and recruitment patterns of Snapper.

Meeting participants requested clarification on the timing of any Snapper management changes. PIRSA reiterated that changes to strengthen Snapper management arrangements would be implemented prior to the

next Snapper spawning season in 2019 and would need to be reviewed within the next two to three years to coincide with the commercial Marine Scalefish Fishery reform process.

### **SARDI Presentation on Updated Snapper Biomass Estimate**

SARDI provided a recap on the biology (i.e. stock structure, spawning, recruitment, movement) of Snapper and current stock status documented in the November 2018 SARDI scientific stock assessment report (Steer et al. 2018), the process (i.e. sampling, sorting, egg identification, analytical analysis) to deliver egg densities and biomass estimates and the commercial catch and effort information available to 31 December 2018. The key information from this presentation is provided below:

- The methods for applying the DEPM for Snapper in South Australia were established in an earlier study funded by FRDC, Industry, PIRSA Fisheries and Aquaculture and SARDI (Steer et al. 2017). For the 2018 DEPM, the plankton sampling was undertaken from 10-19 December 2018 throughout Gulf St. Vincent (GSV) and the northern part of Spencer Gulf (SG). A total of 329 stations were sampled using oblique plankton tows.
- Subsequently, the plankton samples were sorted, and Snapper eggs identified and counted. Because of the loss of two sampling days due to severe weather, the numbers of stations that were sampled in both gulfs were lower than those sampled in 2013 for SG and 2014 for GSV (Steer et al. 2017). This meant that the areas of the gulfs that were sampled in 2018 were smaller than those sampled in previous years. This affected the comparability of the new estimates of spawning biomass with those reported previously. To address this, the estimates of biomass for 2013 and 2014 were recalculated to ensure comparability with those calculated from the reduced areas in 2018. Consequently, the estimates of biomass presented at the meeting for SG in 2013 and GSV in 2014 are marginally lower than those originally reported in Steer et al. (2017).
- For SG, the eggs were broadly distributed throughout both areas, but were generally in low abundance. The highest density was recorded at one station adjacent to the Santa Anna spawning spatial closure at the boundary between the two areas. For GSV, the densities were consistently low throughout the southern gulf. Relatively higher densities were recorded across the northern gulf particularly at two hotspots, one each on the eastern and western sides of the gulf.
- For SG in 2018, the estimated spawning biomass was 192 t, which was 22.9% lower than the spatially-comparable estimate of 249 t in 2013. Declines were evident for both the northern and southern areas with the higher reduction of 30.3% for the latter region. The standard error associated with the 2018 biomass estimates for SG were 129 t to 255 t.
- The estimated spawning biomass for GSV in 2018 of 343 t was considerably lower than that of the spatially-comparable 2,590 t in 2014, representing a reduction of 86.8%. There were considerable declines in the estimates of biomass in both the northern and southern areas. The standard error associated with the 2018 biomass estimates for GSV were 213 t to 473 t.
- Since 2012, the annual commercial catches in SG for handlines and loglines has remained relatively low. Furthermore, the size structures from market sampling in 2016, 2017 and 2018 were dominated by relatively small fish, indicating considerable truncation. Overall, the results for SG are consistent with declining biomass associated with the lack of recruitment of significant year classes throughout the 2000s (Fowler et al. 2016, Steer et al. 2018).
- Since 2014, the annual commercial catch in NGSV has declined. There is no evidence of recruitment of any strong year class in recent years and the very large fish (>80 cm CFL) are now relatively rare, suggesting that truncation in the size structure has occurred as the biomass has declined.
- In SGSV the targeted catch, effort and CPUE in the past three years were relatively high. The dichotomy here may relate to the timing of the movement of some commercial fishers from the northern to the southern gulf regions, associated with the reduction in biomass in the northern gulf.

- Overall, the estimates of spawning biomass for 2018 can be used to guide management processes to determine appropriate catch levels for the different regions. For this large, long-lived, relatively slow-growing, demersal species with current depressed biomass levels, a low harvest fraction (e.g. <10%, and potentially <5%) would likely be required to prevent further decline and begin stock recovery. If a harvest fraction of 10% were applied, this would translate to catches of 19 t across all sectors for NSG, 28 t for NGSV and 7 t from SGSV.

Meeting participants discussed the results of the DEPM survey and shared a common concern about the accuracy given the stations and areas that were not surveyed in SGSV. Recreational and commercial fishing representatives indicated that they were aware of large Snapper schools within these southern areas of GSV and southern metropolitan waters, which may have resulted in a higher biomass estimate if these areas were sampled. Given this uncertainty and the uncertainty in the level of recreational sector catch, meeting participants indicated a level of concern for the DEPM survey biomass estimates for GSV. SARDI scientists highlighted that given the difficulties they encountered during the December 2018 DEPM survey, they are proposing to conduct surveys in individual gulfs on alternative years to reduce complications and would continue to collaborate with commercial, recreational and charter boat fisheries to support the DEPM survey.

Meeting participants noted that SARDI undertake a weight of evidence approach to assess the status of Snapper stocks and use all available scientific information (including commercial and recreational catch data) in addition to the DEPM surveys, to determine the status of Snapper stocks. It was also noted by participants that there is strong evidence in the commercial catch and effort information that the Snapper stock in GSV is following the same downward trend as SG, which has raised concerns for the sustainability of the current management approach and Snapper in GSV. Overall, meeting participants accepted that the weight of scientific evidence available on Snapper stocks indicated the stocks were in decline and needed additional management intervention.

Commercial sector meeting participants raised concerns regarding the results of the Snapper size structure for each of the gulfs. Meeting participants were informed by commercial fishing representatives that in recent times commercial licence holders are limiting the supply of Snapper to the South Australian Fisherman's Co-Operative Limited (SAFCOL) market, which is the fish market SARDI sample at and have done so regularly since 1998. Commercial sector meeting participants indicated that other commercial fishers were using SAFCOL and the delivery drivers as a way to understand where Snapper were being caught. As a result, some commercial fishers are now sending their Snapper catches directly to the Sydney or Melbourne fish markets or through private sales, rather than going through the SAFCOL market. It was agreed that SARDI would take this issue up directly with commercial fishers to incorporate these processes into their sampling programs. Commercial fishers indicated logbook data, which records the number of fish as well as the weight, could provide additional information to verify these size structures.

Meeting participants discussed that there have been a significant number of new management arrangements implemented in the commercial Snapper fishery since 2010, including daily commercial catch trip limits, extension to the Statewide seasonal closure, various spatial closures in the gulfs, commercial longline hook limit reductions (halved to 200 hooks) and reductions to recreational/charter bag and boat limits and, as a consequence it is difficult to interpret how much of the reductions in Snapper catch are due to the management interventions. It was noted that further management changes might cause a misperception of whether or not the management arrangements implemented are supporting a recovery of the stocks. It was suggested there needs to be a standardisation of information presented to understand which management arrangement is effective in supporting a recovery of Snapper stocks.

The Chair advised meeting participants that the key reason for the move away from reliance on commercial catch and effort data to assess Snapper stock status was related the known risk of 'hyper-stability' in the data for species like Snapper that display schooling and aggregating behaviour, and where fishers are constantly improving their knowledge and technical capability to locate and catch Snapper (e.g. catch and effort can appear stable when in fact stocks are decreasing). This was the main reason for the move towards the fishery-independent DEPM approach to estimate Snapper biomass, which was specifically to obtain fishery-

independent Snapper biomass estimates that are independent of the commercial or recreational fisheries data and are not biased by the use of commercial catch-per-unit-effort data as an index of stock abundance in the scientific stock assessment process.

Recreational catch of Snapper was discussed as an information gap in managing Snapper. In particular, how would PIRSA manage the recreational sector given surveys are currently undertaken every five years and that the 2013/14 recreational fishing survey reported that the State-wide recreational catch had increased from 18% in the 2006/07 State-wide recreational fishing survey to 36.7% in 2013/14. Recreational sector meeting participants reported their view that there has been a major decline in the number of recreational fishers targeting Snapper in GSV and SG and numerous fishing tackle shop owners have reported a decrease in sales for Snapper related tackle. Charter Boat fishing participants highlighted that they have seen similar trends, however they have recently seen improvements in SGSV.

There were also concerns raised by meeting participants that the State government over many years has reduced its funding support towards management, monitoring, assessment and research on marine scalefish shared access species. It was noted that, through cost recovery arrangements, the commercial sector funds the majority of the scientific monitoring and assessment work on the shared access marine scalefish fishery species. Meeting participants agreed that further collective work between the fishing sectors is required outside of this process to seek increased funding support from the State government to support greater efforts into research, monitoring, assessment and management of the States shared access fisheries resources. In addition, recreational fishing representatives stated that they are keen to be involved in any research program to support improving scientific information.

### **Snapper related FRDC Research Proposals**

SARDI scientists provided an overview of the strategic research program that has been underway for several years to support improved management of Snapper stocks in South Australia. This presentation included the research undertaken on:

- Stock structure - Fowler A.J. (2016) *The influence of fish movement on regional fishery production and stock structure for South Australia's Snapper (Chrysophrys auratus) fishery*. FRDC Project 2012/020. Final Report.
- Stock size - Steer M.A., McGarvey R., Oxley A., Fowler A.J., Grammer G., Ward T.M., Westlake E., Matthews D., Matthews J. (2017). *Developing a fishery independent estimate of biomass for Snapper (Chrysophrys auratus)*. Final Report to FRDC (Project No. 2014/019). 68 pp.
- Reproduction - Fowler, A.J. and McGarvey, R. (2014). *Assessing the effects of South Australia's snapper spawning spatial closures*. Report to PIRSA Fisheries and Aquaculture. South Australian Research and Development Institute (Aquatic Sciences), Adelaide. SARDI Publication No. F2014/000689-1. SARDI Research Report Series No. 803. 25pp.
- Movement - Fowler A.J., Steer, M.A., Huveneers, C., Lloyd, M.T. and Jackson, W.B. (2012). *Understanding the movement of Snapper (Pagrus auratus) and its contribution to the changing spatial structure of South Australia's Snapper Fishery*. Progress report for 2011-12. South Australian Research and Development Institute (Aquatic Sciences), Adelaide. F2012/000366-1. SARDI Research Report Series No. 650. 69pp.) and;
- Stock assessment and status reporting is part of the SARDI core research and stock assessment role – Fowler, A.J., McGarvey, R., Carroll, J., Feenstra, J.E., Jackson, W.B. and Lloyd, M.T. (2016). *Snapper (Chrysophrys auratus) Fishery. Fishery Assessment Report* to PIRSA Fisheries and Aquaculture. South Australian Research and Development Institute (Aquatic Sciences), Adelaide. F2007/000523-4. SARDI Research Report Series No. 930. 82pp.; and  
Steer, M.A., Fowler, A.J., McGarvey, R., Feenstra, J., Smart, J., Rogers, P.J., Earl, J., Beckmann, C., Drew, M. and Matthews, J. (2018). *Assessment of the South Australian Marine Scalefish Fishery in*

2017. *Report to PIRSA Fisheries and Aquaculture*. South Australian Research and Development Institute (Aquatic Sciences), Adelaide. SARDI Publication No. F2017/000427-2. SARDI Research Report Series No. 1002. 230pp.

PIRSA Fisheries and Aquaculture and SARDI are currently working up three other separate research projects focusing on Snapper fishing mortality, movement and improved collection of recreational fishing data, which are all at various stages of development and funding:

- FRDC Expression of Interest: Cost-effective, non-destructive solutions to develop a pre-recruitment index for Snapper. The objectives for this research project are to understand Snapper recruitment dynamics, test various cost-effective sampling methods and undertake recruitment surveys in NSG and NGSV. PIRSA Fisheries and Aquaculture has prioritised this research through the South Australian Research Advisory Committee (SARAC) and this project will be progressed through FRDC in 2019.
- FRDC Project: Quantifying post release survival and movement of Snapper: Informing strategies to enhance sustainability. The objectives for this research project are to using tagging to quantify release rates, movement, survival, to test various techniques to minimise barotrauma and develop a code of conduct for the release of Snapper. PIRSA Fisheries and Aquaculture prioritised this research through the South Australian Research Advisory Committee (SARAC) and this project is now funded by the FRDC and will be progressed in 2019. This project will involve each fishing sector.
- Project Proposal - Quantifying recreational catch/effort/participation – Collection of robust recreational fishing information. PIRSA Fisheries and Aquaculture and SARDI are currently engaging with the Minister's Recreational Fishing Advisory Council to inform the development of this research project. The Chair informed participants that State and Commonwealth funding for this project is currently being explored and it is expected this will occur in 2019/20.

### **PIRSA Presentation on Snapper Management Options**

PIRSA recapped the Snapper stock status situation and emphasised the focus of Snapper management needed to be on stock recovery and protection of spawning biomass. PIRSA presented eight Snapper management options and highlighted that the various options needed to be considered as a package of management arrangements and that no single option is likely to achieve the desired stock management outcomes. PIRSA emphasised that these management options were designed to generate discussion among the sectors and meeting participants on all the available options, noting they have been informed by the recent updated scientific information presented by SARDI.

It was reaffirmed by PIRSA that the options being presented were for broad discussion, however no directions or decisions were being made at the meeting and that broader public consultation is required to be undertaken on the most effective overall approach. It was reiterated that representatives would have an opportunity to provide PIRSA with their written views on management by the end of next week, prior to the preparation of the Management Options Paper for public consultation.

The options discussed included:

1. Extension of the State-wide Snapper seasonal closure to cover 1 October to 28 February, encapsulating the full Snapper spawning period, including the pre-spawning period in October.
2. Snapper closure in NGSV and NSG for a period of time outside of the State-wide seasonal closure time.
3. Implementation of a regional Total Allowable Catch for Snapper.
4. Significant reduction in the daily commercial trip limit (e.g. 50 kg).
5. Reduction to the recreational bag and boat limit (e.g. 3 fish per day).
6. Implementation of a recreational possession limit of 3, equal to the bag limit (e.g. the bag limit becomes the possession limit).
7. Mandatory use of release weights when catch and release fishing.

## 8. Improved data collection for the recreational fishery.

Meeting participants discussed a suggestion that one possible option could be to implement an extended State-wide Snapper closure to protect Snapper for the full duration of the spawning period (October – January) and when the fishery reopens in February, large northern gulf closures could be implemented to protect the biomass in these important parts of the fishery. This would require strengthened Snapper management measures to be implemented outside of the northern gulf closure areas to ensure fishing pressure on the remaining stocks was sustainable.

Recreational fishing representatives raised concerns about an extension to the State-wide closure as it will result in a shift of effort to other key species i.e. King George Whiting, Squid, and Garfish. Commercial participants also suggested that Christmas represented peak market demand .

Meeting participants also raised concerns that closing the northern gulfs would shift effort and pressure to the southern gulfs, and possibly south-east and west coast. Although Snapper movement is still poorly understood, it is thought that Snapper move south during the winter months and currently a large proportion of the Snapper are being caught in these areas. Meeting participants accepted that these issues were risks that would need to be managed by tighter controls outside of the gulf regions, particularly if broader northern gulf closures were to be adopted.

Meeting participants discussed that if the fishery was closed for an extended period of time, what period would it be closed for and what triggers need to be reached to open the fishery. On the question of timeframe, meeting participants acknowledged that because Snapper are a relatively long lived and slow growing species, any new measures would likely need to be in place for at least 2-3 years and would depend to a degree on other key processes such as the Commercial Marine Scalefish Fishery Reform process which is currently underway. There was discussion about the options for establishing a meaningful stock recovery target for the Snapper fishery, which could include a catch reduction target for each sector, a biomass based target or a biomass/catch level target based on a reference year when the fishery was considered to be healthy.

Following this discussion, it was agreed that the most robust way to set a meaningful stock recovery target for Snapper was to use a scientific approach utilising the existing SARDI scientific process to inform an overall review of the harvest strategy for Snapper. This would involve establishing a suitable stock recovery target reference point, linked to a clear management objective, harvest decision rules for each of the sectors and a defined stock monitoring and assessment strategy to underpin it. Meeting participants agreed this issue needed further work and needed to be prioritised for resourcing as part of the management response.

Commercial sector meeting participants indicated that a 50 kg daily limit would not be economically viable and would need to consider what level of daily catch limit would work from a commercial viability perspective. PIRSA reiterated that these proposals were put forward to generate discussion and the industry should consider them and provide their advice to PIRSA.

Recreational sector meeting participants were concerned that reducing the daily bag limit to three fish would create an increased level of high grading rather than two small and one large. Concerns were also raised from commercial sector participants that a boat limit of nine Snapper could be greater than a 50 kg daily catch limit.

Recreational fishing representatives agreed that release weights should be mandatory on all recreational fishing boats.

### **Stakeholder Feedback on Potential Snapper Management Options**

Following the presentation by PIRSA, each of the sectors had an opportunity to provide their perspectives on additional Snapper management arrangements, including:

- The commercial sector representatives were concerned with the current state of Snapper stocks and the scientific information presented. In particular, they had concerns with the SG spawning biomass and the similar downward trend of catch and effort in GSV that had occurred in SG. Given the overall weight of scientific evidence showing the stock decline and the fact that the approach taken in SG had not been

successful, they proposed that all sectors should be closed until an explicit management program is implemented. This would include a new Snapper harvest strategy with a clearly defined stock recovery target, a fully funded scientific monitoring, stock assessment and management program and appropriate management arrangements. The reform of the Marine Scalefish Fishery is crucial to the management of the Snapper fishery, as it would resolve concerns regarding shifts of efforts to other key species. It was noted that the Snapper situation highlights the critical need for the Marine Scalefish Fishery Reform process and that this reform process will undoubtedly deliver part of the solution to Snapper stock management. The commercial sector representatives also highlighted the uncertainty in the current recreational sector catch estimates (36.7% in 2013/14) and that recreational sector management must be improved and tightened up as part of this process.

- The charter boat representatives reiterated that the seasonal closure has significantly impacted their fishing businesses. They have maintained their view that there needs to be an improvement to current management and monitoring of Snapper stocks and that they would rather a modified state-wide closure and an improvement to the spatial closures to support their operations.
- The recreational fishing participants discussed that for any management option being considered, it should focus mainly on the commercial fishing sector, given the recreational sector has a catch share of 18% and that for numerous years the commercial sector removed an excessive amount of Snapper that has severely depleted the Snapper stocks in both GSV and SG. The recreational fishing sector representatives advised their view that the absence of a Total Allowable Commercial Catch is a primary reason the Snapper stocks are in a poor state and should be implemented as part of strengthening the management arrangements for Snapper. Electronic reporting of all species should be implemented immediately to support management of stocks and there should be a mandatory requirement that release weights are on all boats when fishing for Snapper. There was uncertainty between recreational fishing representatives regarding the seasonal closure, however agreed there could be improvements to the Snapper spatial closures.

### **Group Discussion about Future Snapper Management Options**

Overall, meeting participants accepted that the weight of scientific evidence available on Snapper stocks indicated the stocks were in decline and needed additional management intervention.

There was discussion, generated by the commercial sector representatives, about the possibility of using a tag system to monitor the level of take of Snapper and to allow all fish to be counted. It was noted that a system like this has been used in Western Australia. There were questions asked about the practicality and cost-benefit of such a system and there was no consensus on this idea among meeting participants.

The Chair thanked the meeting participants for their open input and discussion on the different management options that were presented at the meeting and reaffirmed that the goodwill and leadership of meeting participants on behalf of the fishing sectors will be important to progress an effective strategy to ensure the recovery of Snapper stocks. Meeting participants agreed that management action is required to support the recovery of the Snapper fishery, however there was not a consensus on how this should be done. There was a consensus that there should be further funding provided to shared access fishery research, monitoring, scientific assessment and management and that there should be a recommendation from this group indicating this position.

### **Next steps**

The Chair reiterated that meeting representatives have an opportunity to provide written views on Snapper management to PIRSA following the meeting, by Friday 28 June 2019. Following this meeting and receiving any further advice from meeting representatives next week, PIRSA will prepare a management options paper for consideration by the Minister to enable a four-week public consultation process on potential future Snapper management options. Subsequent to this, PIRSA will convene a final joint sector Snapper meeting to review

the information received through the public consultation process and the final step will be for the Minister to consider Snapper management changes before the next Snapper spawning season.

The Chair informed meeting participants that the Minister would be releasing a public statement this afternoon to inform the wider community about the current review process to support the Snapper management review, which will include an outline of the next steps and provide information on the latest Snapper biomass estimates via the PIRSA website for sharing with their stakeholders. The Chair thanked all participants for their input and attendance.