

South Australia Lakes and Coorong Pipi Fishery

Surveillance Report

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| Conformity Assessment Body (CAB) | bio.inspecta (mandated by q.inspecta) |
| Assessment team | Ms. Sascha Brand-Gardner Dr. Lynda Bellchambers |
| Fishery client | Southern Fishermen's Association Inc. Goolwa Pipi Co Pty Ltd |
| Assessment Type | Fourth Surveillance |

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1 Glossary

| Acronym | Definition |
|---------|---|
| CAB | Conformity Assessment Body |
| ERA | Environmental Risk Assessment |
| FCP | Fisheries Certification Process |
| FCR | Fisheries Certification Requirements |
| FIS | Fishery independent survey |
| FRDC | Fisheries Research and Development Corporation |
| LCCC | Lakes and Coorong Consultative Committee |
| LCFMAC | Lakes and Coorong Fishery Management Advisory Committee |
| MSC | Marine Stewardship Council |
| PIRSA | Primary Industries and Regions South Australia |

| | |
|-------|---|
| SARDI | South Australian Research and Development Institute |
| SFA | Southern Fishermen's Association |
| t | metric ton |
| TAC | Total Allowable Catch |
| TACC | Total Allowable Commercial Catch |
| UoA | Unit of Assessment |
| UoC | Unit of Certification |

2 Executive summary

The Lakes and Coorong Pipi Fishery was recertified on 25th August 2016 using the MSC Certification Requirements v 1.3. The MSC requires that each certified fishery undergo regular surveillance audits to ensure the basis of certification is maintained and that the fishery continues to address any conditional requirements identified during the full assessment process. This fourth surveillance audit was conducted by the Lead assessor, Ms. Sascha Brand-Gardner and one team member, Dr. Lynda Bellchambers. The meeting with representatives of the fishery, scientists (SARDI) and the management agency (PIRSA) occurred remotely on the 10th and 11th December 2020.

Three conditions were raised during the certification of the fishery. One condition was in Principle 2, for Performance Indicator 2.5.3, the other two conditions were under Principle 3, PI 3.2.2 and PI 3.2.5. Two conditions (3.2.2 and 3.2.5) were closed out during the first audit and rescored. Condition 1 under PI 2.5.3 was assessed during this audit, rescored and is now closed.

It is the CAB's view that the fishery continues to meet the MSC Fisheries Standard. bio.inspecta recommends the continued use of the MSC certificate through to the re-assessment in 2021.

3 Report details

3.1 Surveillance information

Table 1 – Surveillance information

| | |
|---|---|
| 1 | Fishery name |
| | South Australia Lakes and Coorong Pipi Fishery |
| 2 | Surveillance level and type |
| | Surveillance Level 3, off-site surveillance audit |

| | | |
|---|---|---|
| 3 | Surveillance number | |
| | 1st Surveillance | |
| | 2nd Surveillance | |
| | 3rd Surveillance | |
| | 4th Surveillance | x |
| | Other (expedited etc) | |
| 4 | Team leader | |
| | <p>Ms. Sascha Brand-Gardner, Lead Auditor and Principle 3 expert</p> <p>Ms. Sascha Brand-Gardner meets the competency criteria in Annex PC for team leader as follows:</p> <ul style="list-style-type: none"> • She has an appropriate university degree and more than three years' experience in fisheries management of finfish species in Australia; • She has passed the 2020 MSC team leader training, including the traceability module; • She has the required competencies described in Table PC1, section 2; • She has undertaken more than two fishery assessments as a team member in the last five years, and • She has experience in applying different types of interviewing and facilitation techniques and can effectively communicate with clients and other stakeholders. <p>bio.inspecta Pty Ltd confirms that Ms. Sascha Brand-Gardner has no conflicts of interest in relation to the fishery.</p> | |
| 5 | Team Member | |
| | <p>Dr. Lynda Bellchambers, Principle 2 expert</p> <p>Dr. Lynda Bellchambers meets the competency criteria in Annex PC for member as follows:</p> <ul style="list-style-type: none"> • She has an appropriate university degree and more than three years' experience in research on the impact of fisheries on aquatic ecosystems including bycatch, ETPs and habitats; • She has the required competencies described in Table PC2, section 2; • She has passed the MSC team member training, and • She has the appropriate skills and experience required to serve as a Principle 2 assessor as described in Annex PC table PC3. <p>bio.inspecta Pty Ltd confirms that Dr. Lynda Bellchambers has no conflicts of interest in relation to the fishery.</p> | |

| | |
|---|--|
| | *Together the team meets at least 3 of the Fishery Team qualifications and competency requirements laid out in Table PC3. See summaries of CVs in Appendix 1. |
| 6 | Audit/review time and location |
| | The audit was conducted remotely using Zoom on Friday 11th December 2020 at 11:00 (ACDT). A remote meeting with management only was held on Thursday 10 th December due to availability. The remote audit was conducted in line with the MSC's Covid-19 Derogation due to the Covid-19 outbreak and travel restrictions. |
| 7 | Assessment and review activities |
| | This annual audit reviewed any changes to the fishery and its management and progress against the open condition which is due to be closed out and will require rescoring. Traceability aspects of the fishery were reviewed. Participants in this audit included the fishery manager, scientists and compliance personnel to gain a full understanding of the current state of the fishery. |

3.2 Background

This report summarizes the information and findings from the 4th annual surveillance audit. Information related to all three principles were reviewed.

3.2.1 Stock Status Update – Principle 1

The estimated annual relative biomass of pipi has decreased to 10.8 ± 0.89 kg/4.5 m² in 2019/20 (Figure 1, sourced from SARDI 2020). Three fishery independent biomass surveys have been completed since the last audit, the average of which informs the harvest strategy primary biological performance indicator (Figure 1). The 2019/20 estimated mean annual relative biomass is 2% below the target reference point of 11 kg/4.5m², this is less than the 2018/19 estimate that was 15% above the target reference point.

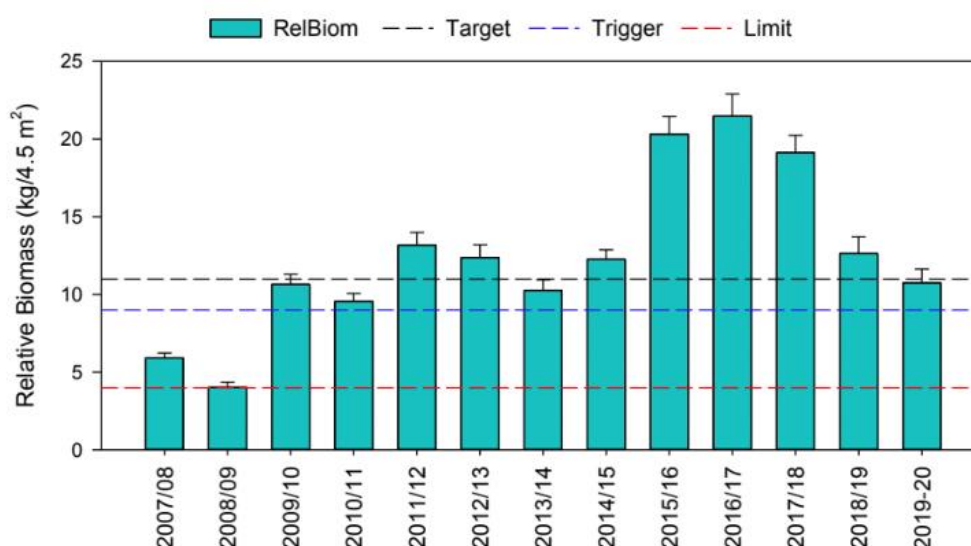


Figure 1. Estimates of fishery-independent mean annual relative biomass of Pipi from 2007/08 to 2019/20 showing target, limit and trigger reference points. The harvest strategy aims to maintain relative biomass above a target of 11 kg/4.5 m² (black dashes) and not less than the trigger reference point of 9 kg/4.5 m² (blue dashes). The lower limit reference point (red dashes) represents a historically low mean annual relative biomass of 4 kg/4.5 m² below which there may be risk of recruitment overfishing.

Pre-recruits were considered absent from size frequency distributions in the November 2019 (13%) sub-survey. Pre-recruits are considered absent from the fishery when less than the target reference point of 30% (secondary performance indicator). Pre-recruits were present in the February 2020 (40%) sub-survey and were above the target reference point of 30% (Figure 2, sourced from SARDI 2020). Pre-recruits occurred mostly in the southern third of the fishing ground, with low numbers in each of the northern two thirds.

The results of the two biological indicators in the Harvest Strategy above inform the setting of the pipi TACC for the 2020/21 fishing season. Based on the slight decline in biomass but presence of recruits, a TACC of 450 t has been set for the 2020/21 fishing season (no change from 2019/20).

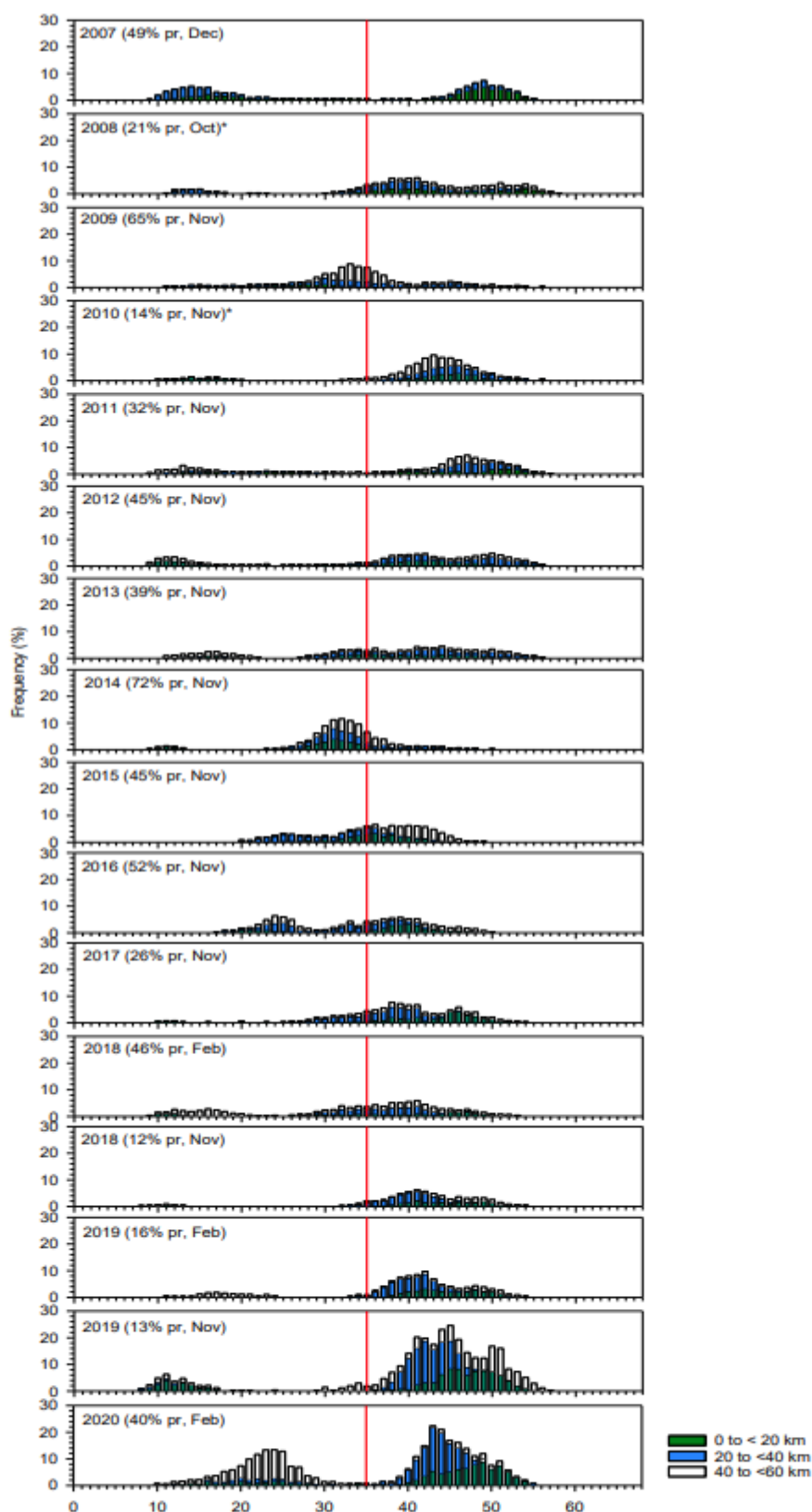


Figure 2. Estimates of the secondary biological performance indicator: presence/absence of pre-recruits (pr) during November from 2007/08 to 2019/20 and in February 2018, 2019, and 2020. Vertical red line represents legal minimum size of 35 mm.

The next stock assessment for pipis is due in 2021. Under a Miscellaneous research permit, pipis have been collected between 1 July to 31 October 2020 to determine if seasonal

changes including water temperature effect CPUE. This information will be provided to SARDI to inform the stock assessment.

A new research paper soon to be published describes density effects where growth rates and recruitment are reduced when and where biomass is high (Ferguson et al., *in press*).

A Harvest Strategy review meeting held in May 2020 recommended that the pipi harvest strategy framework (relative biomass and pre-recruit abundance) remain unchanged which was endorsed by the Lakes and Coorong Management Plan Review Committee. However, new decision rules have been proposed. Both of these points were endorsed by the LCFMAC.

3.2.1 Update on information related to Principle 2

Information on bycatch caught by commercial rakes has been recorded since May 2017, as part of the Fishery Independent (FI) sub-survey. The FI sub-survey is a three-day survey conducted three times a year; October/November (early-season), February/March (mid-season) and April/May (late-season). The survey is conducted to quantify the primary (relative biomass of legal size pipi) and secondary (presence/absence of pre-recruits) biological performance indicators in the fishery for the determination of TACC, as per the harvest strategy. The FI sub-survey is a structured survey of the fishing ground on Younghusband Peninsula, 0-60 km south-east from the Murray Mouth. Individual transects at permanent sites are located at 2 km intervals along the beach i.e. 10 transects are located within three 20 km sections of the beach. On Day 1 of each survey efficiency of individual fishers is estimated to allow variability in fisher efficiency to be measured/standardised. On Day 2 variability in relative abundance within sites is estimated and on Day 3 variability in relative abundance between Days 1 and 3 is estimated. The survey is conducted using standard commercial rakes with bycatch also recorded on Day 3 of the survey. Bycatch was initially recorded in the comments section of the FI sub-survey datasheet. However, a separate column has now been included in the datasheet specifically for recording bycatch. Information recorded includes the bycatch species and number, location (i.e. km from Murray River mouth) and date (Table 2). Bycatch was only recorded on Day 3 of the survey due to the time required to train staff and ensure consistency. In future surveys there may be the capacity to record bycatch on additional days, pending discussion and agreement from the LCFMAC.

Table 2. List of sub-surveys when by-catch information was recorded.

| Survey year | Sub-survey date |
|-------------|---------------------|
| 2016-17 | 8-10 May 2017 |
| 2017-18 | 1-3 Nov 2017 |
| 2017-18 | 7-9 Feb 2018 |
| 2017-18 | 3-5 April 2018 |
| 2018-19 | 25-27 Nov 2018 |
| 2018-19 | 18-20 Feb 2019 |
| 2018-19 | 29 April -1May 2019 |
| 2019-20 | 12-14 Nov 2019 |
| 2019-20 | 11-13 Feb 2020 |
| 2019-20 | 5-7 May 2020 |

A summary of bycatch information recorded during FI sub-surveys from 8 May 2017 to 7 May 2020 is shown in Table 3. Raw data are stored in an Excel spreadsheet and archived on the SARDI network. Overall bycatch remains very low (with a total of 69 individuals recorded), the most frequently recorded species is the Australian swimmer crab (*Ovalipes australiensis*).

Table 3. Summary of bycatch recorded from fishery independent sub-surveys from May 2017 to May 2020 (provided by Ferguson 2020 from SARDI).

| Date of sub-survey | Common name | Species | No. | Comment |
|--------------------|-------------------------|--------------------------------|-----|--|
| 08-May-17 | Australian swimmer crab | <i>Ovalipes australiensis</i> | 2 | |
| 03-Nov-17 | Flathead sandfish | <i>Lesueurina platycephala</i> | 1 | |
| 03-Nov-17 | Australian swimmer crab | <i>Ovalipes australiensis</i> | 2 | |
| 27-Nov-18 | Australian swimmer crab | <i>Ovalipes australiensis</i> | 1 | |
| 20-Feb-19 | Australian swimmer crab | <i>Ovalipes australiensis</i> | 13 | |
| 1-May-19 | Greenback flounder | <i>Rhomposolea tapirina</i> | 1 | Possibly Long-snouted flounder (<i>Ammotretis rostratus</i>) |
| 1-May-19 | Australian swimmer crab | <i>Ovalipes australiensis</i> | 10 | |
| 12-Nov-19 | Australian swimmer crab | <i>Ovalipes australiensis</i> | 1 | |
| 11-Feb-20 | Australian swimmer crab | <i>Ovalipes australiensis</i> | 35 | Mostly juveniles |
| 11-Feb-20 | Flathead sandfish | <i>Lesueurina platycephala</i> | 1 | |
| 7-May-20 | Australian swimmer crab | <i>Ovalipes australiensis</i> | 2 | |

A Final Draft Management Plan (2021) was provided to the team prior to the remote site visit. Both the Final Draft Management Plan (2021) and LCFMAC minutes commit to reporting bycatch data as part of the stock assessment process, with the next pipi stock assessment due by the end of the 2020/21 financial year. The Final Draft Management Plan (2021) also commits to ongoing quantification of bycatch associated with key gear types in the fishery, with resourcing covered by the Service Level Agreement (SLA) work plan between SARDI and PIRSA as part of the fishery's cost recovery process. It is anticipated that the Final Draft Management Plan (2021) will be published on the PIRSA website in 2021 after the completion of the public consultation period and subsequent ministerial approval.

A draft ERA report (PIRSA, 2019) was also provided to the assessment team prior to the remote site visit. All components related to the operations of the pipi fishery were assessed as a medium or lower risk. Pipsis under 44 mm and bycatch are generally not retained on the

commercial rake mesh but are shaken out while the rake is still in the water, resulting in low post capture mortality and bycatch. The draft ERA report also reviewed the bycatch information from the FI sub-survey and concluded that the risk to bycatch had not changed from previous assessments and ranked bycatch as a low/negligible risk. The draft ERA report is part of the consultation and approval process of Final Draft Management Plan (2021) and will be published on the PIRSA website as supporting documentation for that process.

There were no interactions with ETPs since the last audit. However, it was mentioned at the remote site visit that Pied Oyster catchers are occasionally observed on the fishing grounds, although not in close proximity to fishing operations.

Records of the spatial footprint of fishing operations are available from 2007. While the spatial footprint of the fishery does not extend beyond its historical limits, it was noted that the spatial footprint of fishing operations varies from year to year based on changes in pipi biomass. In years of high pipi biomass, fishing operations extend vertically and horizontally across the beach. However, in years of lower pipi biomass fishing operations are concentrated on the central portion of the beach.

3.2.2 Updates on the management system and Principle 3

A new fishery manager, Jane Ham started in May 2020 and has a background in research from SARDI. Keith Rowling is the Program Manager for Community Based Fisheries and provides a supervisory role while also being a member of the LCFMAC. The PIRSA group has moved to West Beach to create a Fisheries hub with SARDI allowing for more integration.

There continues to be 36 licences in the fishery. During the 19/20 fishing year, 10 Lakes and Coorong and 2 marine scalefish licence holders held pipi quota and actively fished for pipis (although there are 14 permanent quota holders).

Following advice from SARDI, uncaught pipi quota from 2019/20 was approved to be carried over to 2020/21 and 2021/22 through a regulation amendment. Licence fees have been deferred for the last quarter of 2020 and the first half of 2021 for COVID-19 relief.

Harvesting during the winter months (and thereby providing all year fishing) has been permitted through exemptions for several years. However, interpretation advice on the exemption provision was obtained and this mechanism was no longer valid. Instead, the issue of a miscellaneous research permit was used as the mechanism for winter fishing until the new arrangement can be placed in a regulation. Three research permits were issued during 2020 and were supported by statutory declarations that any catch taken under the permit would be deducted from their quota.

The commercial and recreational sectors remain spatially separated on either side of the estuary mouth.

The current Management Plan expires on 1 March 2021 with the review nearing completion. The Management Plan Review Committee, together with two harvest strategy working groups (one each for pipi and finfish) developed the revised plan although the review was led by the

LCFMAC. The “final” revised plan has been endorsed by the LCFMAC and approved for public consultation. The revised plan was provided to the audit team and is expected to be placed on the website within the week for a period of 2 months.

Consultation requirements are prescribed in the Fisheries Act. Consultation on the revised management plan, in addition to being placed on the website, will include a notice in the newspaper, direct contact with key stakeholders, a public meeting and a public hearing which allows stakeholders to review the submissions once received.

The Lakes and Coorong Consultative Committee generally meets twice a year before the LCFMAC meeting and includes a representative from the conservation community and the District Council. This Committee is a forum to discuss operational issues in the fishery which feeds into the LCFMAC. The LCFMAC TOR is being amended to cater for a new conservation and recreational member but they have yet to be appointed. The LCFMAC continues to meet twice a year and, among other things, provides recommendations on the TACC which is then approved by a delegate of the Minister for Primary Industries and Regional Development

The pipi fishery specific compliance activity report for 2019/20 (PIRSA, 2020) was provided to the audit team. The compliance program remains comprehensive (e.g. day and night patrols, landing and processor inspections, one on one sessions for new licence holders and an illegal fishing hotline) and very few offences were detected that were resolved with education and voluntary compliance. Annual compliance risk assessments are conducted and the User Guide is updated every year for ease of reference for fishers to understand the rules.

All licensed fishermen are included in the unit of certification. Industry representatives advised that there have been no significant operational changes in the fishery in the last 15 months. Of note was a reduction in quota holders (e.g. more aggregated) and a further increase in the Traditional owners’ quota holding from 10% to 15% of all the quota. Industry advised that there have been no changes to processing practices that may impact on traceability. The Goolwa Pipi Company are using the Ecolabel on their bagged and boxed product only.

3.3 Version details

The following versions of the fisheries program documents were used for this assessment (Table 4).

| Table 4 – Fisheries program documents versions | |
|--|----------------------|
| Document | Version number |
| MSC Fisheries Certification Process | Version 2.2 |
| MSC Fisheries Standard | Version 1.3 |
| MSC General Certification Requirements | Version 2.4.1 |
| MSC Surveillance Reporting Template | Version 2.0 |

4 Results

4.1 Surveillance results overview

4.1.1 Summary of conditions

| Table 5 – Summary of conditions | | | | | |
|---------------------------------|---|----------------------------|---|-------------------|------------------|
| Condition number | Condition | Performance Indicator (PI) | Status | PI original score | PI revised score |
| 1 | By the fourth surveillance audit the client should provide evidence to the CAB that sufficient data continue to be collected to detect any increase in risk level specifically related to trophic interactions resulting from fishing operations and capture of target and bycatch species. | 2.5.3 | Closed (4th surveillance audit) | 75 | 85 |
| 2 | By the first surveillance audit the client shall demonstrate that processes are in place to ensure that explanations are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity. | 3.2.2 | Closed (1st surveillance audit) | 75 | 85 |
| 3 | By the second surveillance audit the client shall ensure that the management system is subject to regular internal and occasional external review. | 3.2.5 | Closed (1st surveillance audit) | 70 | 80 |

4.1.2 Total Allowable Catch (TAC) and catch data

| Table 6 – Total Allowable Catch (TAC) and catch data | | | | |
|--|------|----------------|--------|--------------|
| TAC | Year | 2019/20 | Amount | 450 t |
| UoA share of TAC | Year | 2019/20 | Amount | 450 t |
| UoA share of total TAC | Year | 2019/20 | Amount | 450 t |

| | | | | |
|---------------------------------|---------------------------|----------------|--------|----------------|
| Total green weight catch by UoC | Year (most recent) | 2019/20 | Amount | 430 t |
| Total green weight catch by UoC | Year (second most recent) | 2018/19 | Amount | 644.8 t |

4.2 Conditions

The only open condition No. 1 was reviewed during this surveillance audit.

Table 7 – Condition 1

| | |
|-----------------------|---|
| Performance Indicator | 2.5.3 |
| Score | 75 |
| Justification | Sufficient data are collected on catch and effort for the targeted and retained species, and on the operation of the measures in the fishery. This is supported by the fishery-independent stock monitoring, which is capable of detecting any significant changes in risks to bycatch or target species. However, this does not meet the requirement of SG80 where it requires 'data continue to be collected to detect any increase in risk level', specifically in relation to the risks of adverse trophic consequences for the ecosystem. These could be derived from limited effectiveness of the measures (e.g. no temporal, seasonal or area closure) to avoid increases in bycatch or the target species that may result in trophic consequences. |
| Condition | By the fourth surveillance audit the client should provide evidence to the CAB that sufficient data continue to be collected to detect any increase in risk level specifically related to trophic interactions resulting from fishing operations and capture of target and bycatch species. |
| Milestones | <p>By the first surveillance audit the client shall provide evidence to the CAB that an agreement has been reached for the recording of main species taken as bycatch in the routine fishery independent stock monitoring program, from a sampling program designed for at least 3 consecutive years. Achieving this milestone will not change the overall score of the PI.</p> <p>By the second surveillance audit evidence shall be provided to the CAB that funding has been secured and the work program has been commenced. Achieving this milestone will not change the overall score of the PI.</p> <p>By the third surveillance audit provide evidence that the work has been conducted, with initial findings. Achieving this milestone will not change the overall score of the PI.</p> <p>By the fourth surveillance audit a report shall be submitted to the CAB including an assessment of the findings in relation to the trophic risks from the fishery and a plan (including resourcing) for continuing</p> |

| | |
|---|---|
| | monitoring that may be required of the bycatch taken in fishery-independent surveys. Achieving this milestone will change the overall score of the PI to 85. |
| Client Action Plan | <p>By the first surveillance audit the client will seek an agreement with SARDI to include by-catch monitoring within the fishery independent assessment surveys.</p> <p>By the second surveillance audit the client will provide by-catch monitoring within the SARDI cost recovered research services.</p> <p>By the third surveillance audit the by-catch information will be incorporated into the fishery survey reporting process.</p> <p>By the fourth surveillance audit an assessment of the by-catch monitoring program will be included into the tri-annual fishery stock assessment report.</p> |
| Updated client action plan at second surveillance audit | <p>A by-catch monitoring approach for the Papi sector will be determined at the next LCFMAC meeting in November 2018.</p> <p>By the third surveillance audit the by-catch information will be incorporated into the fishery survey reporting process.</p> <p>By the fourth surveillance audit an assessment of the by-catch monitoring program will be included into the tri-annual fishery stock assessment report.</p> |
| Consultation on condition | The client consulted with SARDI research staff to establish action plan. |
| Progress on Condition (Year 1) | <p>Annual fishery-independent surveys (FIS) have been conducted since 2007/08. Surveys are conducted three times during the spring-summer period: October-November, February, April-May.</p> <p>In the April 2017 a small number of bycatch specimens were collected from commercial rakes and returned to SARDI for identification (results pending). During the November 2017 fishery-independent survey, no bycatch was observed. By-catch species caught in commercial nets will continue to be recorded during fishery independent surveys.</p> <p>SFA provided a copy of an email from SARDI (Dr. Ferguson) agreeing to recording bycatch in November 2017, February and April 2018 as part of the annual fishery independent surveys.</p> <p>Due to low levels of bycatch, there is currently no specific recording sheet and bycatch data are recorded in the "Comments" column of the main fishery-independent survey data sheet The team discussed the potential to assess the change in risk as part of the ERA review which is scheduled around the fourth year to fully meet the SG 80 of the PI 2.5.3 by that time. Further updates will be provided at the next surveillance audit</p> |
| Status | On target |

| | |
|--------------------------------|---|
| Progress on Condition (Year 2) | <p>A search (by SARDI) through the FIS field sheets found only one record of bycatch from November 2017. The bycatch species were a common sand crab (<i>Ovalipes australiensis</i>) and a "Flathead" which is likely to be a Flathead sandfish (<i>Leseurina platycephala</i>). SARDI have photographs in case a formal ID is required at a later date.</p> <p>It is unclear to the audit team as to how the SARDI observers were asked to record bycatch during the FIS (as may be evidenced by a pre-season briefing, updated recording sheet or survey design). The 3 day a year bycatch monitoring (through fishery-independent surveys) are not sufficient, even for the size and relative low intensity of this fishery to be meaningful. Use of the fisher's logbook (fishery dependant reporting) to record bycatch and the FIS used to validate these records was discussed. The audit team also noted that the FRDC project and/or electronic reporting may also help to progress this and lead to a better data-set. The condition will need to be brought back on target by the next surveillance audit. The client has committed to discuss and determine a suitable by-catch monitoring approach for the Pipi sector at the next LCFMAC meeting in November 2018 (see revised client action plan above).</p> |
| Status | Behind target |
| Progress on Condition (Year 3) | <p>A summary of bycatch information recorded during fishery independent sub-surveys from 8 May 2017 to 1 May 2019 was provided to the assessment team and confirmed that bycatch is low based on the limited sampling available (Ferguson, 2019). The FRDC project is on hold and bycatch sampling has not been supplemented through other means.</p> <p>A draft ERA for the Lakes and Coorong fishery was also provided and to date confirmed a low risk rating for bycatch species (PIRSA 2019a). It is currently not clear if any bycatch data (from the fishery independent sub-surveys) and others were considered as part of the ERA.</p> <p>For all fishing environments (incl. marine environment for pipis) the impact of the fishery on trophic structures of the environment achieved a medium risk rating for all removals.</p> <p>The condition remains open until the bycatch data is fully analysed and the ERA is completed and published.</p> |
| Status | On target |
| Progress on Condition (Year 4) | <p>A summary of bycatch information recorded during fishery independent (FI) sub-surveys from 8 May 2017 to 1 May 2020 was provided to the assessment team and confirmed that bycatch is low (69 individuals) based on the limited sampling available (Ferguson, 2020). Bycatch information is now recorded in a dedicated column in the FI sub-survey datasheet and the potential to collect bycatch information on all 3 days of the survey, rather than only Day 3, is being considered pending discussion and subsequent approval of the LCFMAC.</p> |

| | |
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| | <p>A Final Draft Management Plan (2021) was provided to the audit team prior to the remote site visit that commits to ongoing quantification of bycatch associated with key gear types in the LCF. In addition, the Final Draft Management Plan and LCFMAC minutes commit to reporting bycatch data as part of stock assessment process, with the next stock assessment for pipis due before end of the 2020/21 financial year. The SLA work plan between SARDI and PIRSA, as part of the fishery's cost recovery process, has committed resources to ongoing bycatch monitoring for fishery.</p> <p>A draft ERA for the LCF was also provided to the audit team. The ERA reviewed bycatch data from the FI sub-survey and rated the risk to bycatch as low/negligible. While the impact of the fishery on trophic structure was ranked a medium risk for all removals. The draft ERA forms part of the documentation that supports the Final Draft Management Plan, and both documents will be published on the PIRSA website as part of the consultation process.</p> <p>At the conclusion of the fourth audit the team were satisfied that there is an ongoing bycatch monitoring program that will be analysed and reported as part of the pipi stock assessment process. In addition, there is evidence of continued support and adequate resourcing to continue the bycatch monitoring program. Existing bycatch data, although limited, was reviewed and considered in the draft ERA which ranked risks to bycatch as low/negligible and the impact of the fishery on trophic structure as a medium risk.</p> <p>Therefore SG80 is met and this performance indicator has been rescored at 85.</p> |
| Status | Closed |

4.3 Re-scoring Performance Indicators

The revised rationale and score is provided in red below.

| PI 2.5.3 | | There is adequate knowledge of the impacts of the fishery on the ecosystem | | |
|---------------|-----------|---|--|--------|
| Scoring Issue | | SG 60 | SG 80 | SG 100 |
| a | Guidepost | Information is adequate to identify the key elements of the ecosystem (e.g., trophic structure and function, community composition, productivity pattern and biodiversity). | Information is adequate to broadly understand the key elements of the ecosystem. | |
| | Met? | Y | Y | |

| PI 2.5.3 | | There is adequate knowledge of the impacts of the fishery on the ecosystem | | |
|----------|---------------|--|---|---|
| | Justification | Detailed studies undertaken in the last 5 years have established a good level of ecological understanding of the Lakes and Coorong ecosystem, including the ocean beaches adjacent to the river mouth, and including flow dynamics in relation to trophic structures, relationships and system dynamics (Lester <i>et al.</i> 2011). In particular, this work has resolved the ecosystem into a typology (for condition/health purposes) of 36 indicators comprising vegetation, fish and invertebrates, and is a key advance in ecosystem knowledge. This is adequate to meet the SG80. | | |
| b | Guidepost | <i>Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, and have not been investigated in detail.</i> | <i>Main impacts of the fishery on these key ecosystem elements can be inferred from existing information and some have been investigated in detail.</i> | <i>Main interactions between the fishery and these ecosystem elements can be inferred from existing information, and have been investigated.</i> |
| | Met? | Y | Y | N |
| | Justification | The fishery has the potential to impact 3 of the ecosystem indicators, and while limited levels of impact can be inferred (consistent with the SG60), none of these potential impacts have been studied in detail in relation to the ecosystem condition, including resilience in the long term of targeted pipi populations and their linkages to other aspects of the structure and function of the ecosystem, such as trophic consequences. The impacts of the fishery on key ecosystem elements can be inferred and are likely to be low. Therefore, none of the direct fishery related impacts are considered "main" for the purpose of this assessment and therefore the SG 80 are met. The lack of any 'investigations in detail' on interaction between the fishery and the ecosystem elements (2.5.3 a) fail to comply with SG100. | | |
| c | Guidepost | | <i>The main functions of the Components (i.e., target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known.</i> | <i>The impacts of the fishery on target, Bycatch, Retained and ETP species are identified and the main functions of these Components in the ecosystem are understood.</i> |
| | Met? | | Y | Y |
| | Justification | The main components (target, bycatch, retained and ETP species) and their functions in the ecosystem are broadly known from the recent detailed studies in relation to flow drivers for the ecosystem (Lester <i>et al.</i> 2011), so meeting the SG80, and the main impacts are generally understood, so meeting SG100. | | |

| PI 2.5.3 | | There is adequate knowledge of the impacts of the fishery on the ecosystem | | |
|----------|---------------|--|---|--|
| d | Guidepost | | <i>Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred.</i> | <i>Sufficient information is available on the impacts of the fishery on the Components and elements to allow the main consequences for the ecosystem to be inferred.</i> |
| | Met? | | Y | N |
| | Justification | The impacts of the fishery on the habitats, ETP species, and a substantive number of the ecosystem indicators established by Lester <i>et al.</i> 2011 are sufficiently understood to infer consequences. The inferences are mainly negligible, because of very limited spatial overlap, and limited indirect effects, consistent with SG80. However, there is little specific information about the impacts of the fishery on target and bycatch species in relation to their ecosystem roles, specifically in relation to their long term resilience that may be impacted by the maintenance of truncated population structures by the fishery and the trophic consequences (impacts on the 'elements'), or the effects that the fishery may have on the recovery trajectory when high flows return to the Coorong, so this does not meet the SG100. | | |
| e | Guidepost | | <i>Sufficient data continue to be collected to detect any increase in risk level (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</i> | <i>Information is sufficient to support the development of strategies to manage ecosystem impacts.</i> |
| | Met? | | Y | N |

| PI 2.5.3 | | There is adequate knowledge of the impacts of the fishery on the ecosystem |
|--------------------------------------|---------------|--|
| | Justification | <p>Sufficient data are collected on catch and effort of target and retained species, and on the operation of the measures in the fishery. This is supported by the fishery-independent (FI) sub-survey, which is capable of detecting any significant changes in risks to bycatch or target species. There is a clear commitment for bycatch data to continue to be collected as part of the FI sub-survey, with resourcing to support this commitment incorporated into the SLA between SARDI and PIRSA as part of the fishery's cost recovery process. In addition, the Final Draft Management Plan (2021) and LCFMAC minutes commit to reporting bycatch data as part of the pipi stock assessment process, with the next stock assessment due before end of the 2020/21 financial year.</p> <p>Bycatch data collected from the FI sub-survey, although limited, was reviewed and considered as part of the draft ERA which ranks risk to bycatch as low/negligible and the impact of the fishery on trophic structure as a medium risk for all removals. The draft ERA and Final Draft Management Plan (2021) will be available on the PIRSA website as part of the consultation process prior to ministerial approval.</p> <p>Therefore, sufficient data continue to be collected to detect any increase in risk to the ecosystem. In addition, there are resourcing, reporting and risk assessment processes in place to support the collection and review of data to identify any potential changes in risk to the ecosystem. SG 80 is met.</p> |
| References | | <i>Final Management Plan, PIRSA (2016).</i> <i>Final Draft Management Plan (2021)</i> |
| OVERALL PERFORMANCE INDICATOR SCORE: | | 85 |

5 References

Ferguson, G. J., G. E. Hooper and S. Mayfield (*in press*) Temporal and spatial variability in the life-history of the surf clam *Donax deltooides*: Influences of density dependent processes. Estuarine, Coastal and Shelf Science.

Ferguson, G. (2020) Lakes and Coorong Fishery for pipi (*Donax deltooides*) - summary of bycatch information from fishery independent surveys between 8 May 2017 and 7 May 2020, p1.

PIRSA (2019) Draft Revised ecologically sustainable development (ESD) risk assessment of the South Australian Commercial Lakes and Coorong Fishery

PIRSA (2020) Pipi Fishery – 19/20 Compliance Report.

SARDI (2020) Advice Note dated 11 May 2020 to PIRSA on 2019/20 estimates of biological performance indicators for the Pipi harvest strategy.

6 Appendices

6.1 Evaluation processes and techniques

6.1.1 Site visits

The surveillance audit for 2020 comprised:

- An Audit Plan was provided to the client, management, and scientists before the meeting. The opening meeting included introductions and an overview of the surveillance audit.
- A meeting took place via conference call on the 10th and 11th December 2020 with client representatives, scientists and managers of the fishery (Table 8). Other stakeholders were notified of the time of the meeting. They were invited to participate or submit comments in writing. No requests for meetings were received.
- Necessary documents were sent to the CAB by the client prior to the meeting.

Table 8 – Meeting Attendees

| Meeting Attendees | Role | Organisation |
|----------------------|----------------------------------|--|
| Sascha Brand-Gardner | Lead Auditor, Principle 3 expert | bio.inspecta Pty Ltd |
| Lynda Bellchambers | Principle 2 expert | bio.inspecta Pty Ltd |
| Neil MacDonald | Client Representative | Southern Fishermen`s Association Inc. |
| Tom Robinson | Client | Goolwa PipiCo Pty Ltd |
| Greg Ferguson | Research | SARDI |
| Keith Rowling | Management | PIRSA (Thursday 10 th December) |
| Jane Ham | Management | PIRSA (Thursday 10 th December) |
| Randel Donovan | Compliance Manager | PIRSA |

6.1.2 Stakeholder participation

As required by FCP v2.2 Section 7.28, stakeholders were informed through the MSC announcement on the website and by email about the time and scope of the surveillance audit, the surveillance team as well as the surveillance level for this fishery. There were no requests from stakeholders for in-person interviews. No written submissions were received.

6.2 Revised surveillance program

At the third audit, the surveillance level was revised to a level 4 to provide for an on-site audit to start the reassessment. However, in accordance with the MSC Covid-19 derogation, the fishery certificate was automatically extended for 6 months and the audit and

reassessment subsequently delayed. In addition, remote audits were permitted. The CAB and client agreed to conduct the fourth audit prior to the start of the reassessment and hence a revised surveillance program of level 3 to provide for a remote off-site fourth audit has been applied (see Table 9).

Table 9– Fishery surveillance program

| Surveillance level | Year 1 | Year 2 | Year 3 | Year 4 |
|--------------------|----------------------------|-----------------------------|-----------------------------|--|
| Level 3 | On-site surveillance audit | Off-site surveillance audit | Off-site surveillance audit | Off-site surveillance audit and recertification on-site visit. |

Table 10 – Timing of surveillance audit

| Year | Anniversary date of certificate | Date of surveillance audit | Rationale |
|--------|---|----------------------------|---|
| Year 1 | 25 August 2017 | 9 October 2017 | |
| Year 2 | 25 August 2018 | 5 October 2018 | |
| Year 3 | 25 August 2019 | 3 September 2019 | The audit was scheduled just after the anniversary date due to the certificate transfer from SCS to bio.inspecta which took place on the 11 th July. |
| Year 4 | 25 August 2020 (certificate extended to 24 February 2022) | 11 December 2020 | The audit was delayed under the MSC Covid-19 derogation and following an automatic 6 month extension of the fishery certificate. |

Table 11 – Surveillance level rationale

| Year | Surveillance activity | Number of auditors | Rationale |
|------|-----------------------|--------------------|---|
| 4 | Off-site audit | 2 remote auditors | Under the MSC's Covid-19 derogation, this audit may be conducted remotely where there are travel restrictions in place. Further, information required to close out the one open condition can be verified remotely. |

6.3 Harmonised fishery assessments

For this assessment, harmonisation is required as follows:

Principle 1: Not required.

Principle 2: Not required.

Principle 3: In accordance with Fishery Certification Process (FCP) Annex PB, efforts have been made to harmonise those parts of Principle 3 that are relevant to all certified South Australian fisheries. This fishery shares a management system with the fisheries listed in Table 12 and harmonisation is therefore required with the Governance and Policy PIs (3.1.1-3.1.3).

| Table 12 – Overlapping fisheries | | |
|----------------------------------|-------------------------------|-------------------------------------|
| Fishery name | Certification status and date | Performance Indicators to harmonise |
| Spencer Gulf Prawn Trawl Fishery | Certified 25 July 2011 | 3.1.1, 3.1.2, 3.1.3 |
| South Australian Sardine Fishery | Certified 8 November 2018 | 3.1.1, 3.1.2, 3.1.3 |

| Performance Indicators (PIs) | Spencer Gulf Prawn | South Australian Sardine | Lakes & Coorong Pigi |
|------------------------------|--------------------|--------------------------|----------------------|
| PI 3.1.1 | Score 100 | Score 100 | Score 95 |
| PI 3.1.2 | Score 100 | Score 100 | Score 85 |
| PI 3.1.3 | Score 100 | Score 100 | Score 100 |

| Table 13 – Rationale for scoring differences |
|---|
| If applicable, explain and justify any difference in scoring and rationale for the relevant Performance Indicators (FCP v2.1 Annex PB1.3.6) |
| There are some lower scores in the Lakes and Coorong Pigi fishery under 3.1.1 and 3.1.2 with the original assessment citing the Lakes and Coorong Consultative Committee as a non-binding instrument and some gaps in consultation processes respectively. These lower scoring issues are specific to this fishery and are not experienced in the other fisheries managed by the same authority. These differences will be further investigated during the reassessment which is in progress. |