South Australia Lakes and Coorong Pipi Fishery

Surveillance Report

Conformity Assessment Body (CAB)	bio.inspecta (mandated by q.inspecta)
Assessment team	Ms. Sascha Brand-Gardner Dr. Sabine Daume
Fishery client	Southern Fishermen's Association Inc. Goolwa Pipi Co Pty Ltd
Assessment Type	Third 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 certified on 25th August 2016 by SCS Global Services. The Marine Stewardship Council (MSC) certificate was transferred to bio.inspecta on 11th July 2019.

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 fishery is on a remote surveillance cycle. This third surveillance audit was conducted by the Lead assessor, Ms. Sascha Brand-Gardner and one team member, Dr. Sabine Daume. The meeting with representatives of the fishery, scientists (SARDI) and the management agency (PIRSA) occurred remotely on the 3rd September 2019.

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. Progress to meet condition 2.5.3 was assessed at the second surveillance audit and considered behind target. During this audit, the condition is considered to be back on target.

It is the CAB's view that the fishery continues to meet the standard of the MSC and to comply with the 'Requirements for Continued Certification'. Bio.inspecta recommends the continued use of the MSC certificate through to the next surveillance audit in 2020.

3 Report details

3.1 Surveillance information

Table	a 1 – Surveillance information		
1	Fishery name		
	South Australia Lakes and Coorong Pipi Fish	nery	
2	Surveillance level and type		
	Surveillance level 3, remote surveillance au	ıdit.	
3	Surveillance number		
	1 st Surveillance		
	2 nd Surveillance		
	3rd Surveillance	x	
	4th Surveillance		
	Other (expedited etc)		
4	Team leader		
	Ms. Sascha Brand-Gardner, Lead Audito	or and Principle 3 expert	
	Ms. Sascha Brand-Gardner meets the competency criteria in Annex PC for team leader as follows:		
	 She has an appropriate university degree and more than three years' experience in fisheries management and auditing; 		
	 She has passed the MSC team leader training; 		
	 She has the required competencies described in Table PC1; 		
	 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. 		

	 She is a certified lead auditor under the ISO 9001:2015 standard.
	bio.inspecta Pty Ltd. confirms that Ms. Sascha Brand-Gardner has no conflicts of interest in relation to the fishery under assessment.
5	Team member
	Dr. Sabine Daume, Principle 2 expert
	Dr. Sabine Daume meets the competency criteria in Annex PC for team member as follows:
	 She has an appropriate university degree and more than three years' experience in fisheries research of invertebrate species;
	 She has the required competencies described in Table PC2;
	 She has undertaken at least two fishery assessments or surveillance site visits in the last five years, and
	 She has the appropriate skills and experience required to serve as a Principle 2 assessor as described in FCR Annex PC table PC3.
	bio.inspecta Pty Ltd. confirms that Dr. Daume has no conflicts of interest in relation to the fishery under assessment.
	*Together the team meets all competency requirements laid out in Table PC3.
6	Audit/review time and location
	The remote surveillance audit was conducted on Tuesday 3 rd of September 2019. Following transfer of the certificate in July, the audit was scheduled just after the anniversary date
7	Assessment and review activities
	This third surveillance audit focused on changes since the second audit in 2018, progress on the open condition and on monitoring continued compliance with the MSC Principles and Criteria.



3.2 Background

This report summarizes the information and findings from the 3rd annual surveillance audit. Information related to all three principles were reviewed.

3.2.1 Stock Status Update

Following three years of relatively high biomass, the estimated annual relative biomass of pipi has decreased to $12.6 \pm 1.08 \text{ kg}/4.5 \text{ m}^2$ in 2018/19 (Figure 1, sourced from SARDI 2019). 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). While the 2018/19 estimated mean annual relative biomass is 15% above the target reference point of 11 kg/4.5m², this is less than the 2017/18 estimate that was 74% above the target reference point.



Figure 1. Estimates of fishery-independent mean annual relative biomass of Pipi from 2007/08 to 2018/19 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 2018 (12%) and February 2019 (16%) sub-surveys (Figure 2, sourced from SARDI 2019) as this is below the target reference point of 30% (secondary performance indicator). 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 2019/20 fishing season. Based on the decline in biomass and absence of recruits a TACC of 450 t has been set, down from 650 t in 2018/19.





Stock assessments are completed every 5 years and the next one is due in 2021. It appears that recruitment in successive years and the distance of spread of these recruits along the beach are the main factors affecting annual biomass (G. Ferguson pers. Comm.).

A review of the decision framework in the harvest strategy has been implemented following new information on the density dependence on the stocks limiting growth and recruitment. The proposed changes to the harvest strategy are expected to be more conservative and should smooth out some of the fluctuating biomass estimates.

3.2.2 Update on information related to Principle 2

During a desk review of the full-assessment and annual surveillance reports which is required for all certificate transfers, an anomaly in the scoring of PI 2.5.3 was identified. The scoring table for this indicator showed that 2 elements (b and e) were not met. However further considerations by the audit team confirmed that only one of the scoring issues (e) does not meet the SG80. The overall score has not changed. The revised rationales are provided in section 4.3 below. Interim milestone scores for the conditions are also provided below.

Bycatch info

Information on bycatch caught by commercial rakes has been recorded since May 2017, in the comments section of the FI data sheets on Day 3 of each FI sub-survey. Information includes the bycatch species, the location (km from Murray River mouth) and the date (Table 2).

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

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

A summary of bycatch information recorded during FI sub-surveys from 8 May 2017 to 1 May 2019 is shown in Table 3. Raw data are stored in an Excel spreadsheet and archived on the SARDI network. Overall bycatch remains very low and includes species like the Australian swimmer crab.

Table 3. Summary of bycatch recorded from fishery independent sub-surveys from May2017 to May 2019.

Date of sub- survey	Common name	Species	No.	Comment
08-May-17	Australian swimmer crab	Ovalipes australiensis	2	
03-Nov-17	Flathead sandfish	Lesueurina platycephala	1	
03-Nov-17	Australian swimmer crab	Ovalipes australiensis	2	
27-Nov-18	Australian swimmer crab	Ovalipes australiensis	1	
20-Feb-19	Australian swimmer crab	Ovalipes australiensis	13	
1-May-19	Greenback flounder	Rhomposolea tapirina	1	Possibly Long-snouted flounder (Ammotretis rostratus)
1-May-19	Australian swimmer crab	Ovalipes australiensis	9	

The audit team recommends including the bycatch information into the annual SARDI advice alongside the annual survey results.

A draft ERA report was provided to the assessment team (SARDI, 2019). The draft report indicates that bycatch species are confirmed as low risk.

The FRDC project has not progressed since the last audit and is currently on hold.

3.2.3 Updates on the management system and Principle 3

A new fishery manager, Dr Belinda McGrath-Steer, was appointed in March 2019 and the fishery's export approval has been extended for another year until 2022.

Following the winter harvest trials to determine an appropriate season (as part of the FRDC Supporting Harvest Strategy project), a ministerial exemption has been in place to allow all year fishing (the commercial season includes the entire financial year). Winter fishing has again been determined for the 2019/20 season and a spatial separation remains between the commercial and recreational sectors.

In January 2019, a temporary exclusion zone of 10 km was determined due to a red algae bloom, however this did not impact the commercial sector.

The Management Plan is currently under review and is scheduled for completion in November 2019. It will be subject to a public consultation period before seeking Ministerial approval. The Management Plan Review Committee has met twice and the next meeting is scheduled for 26th September 2019.

Industry representatives advised that there have been no significant operational changes in the fishery in the last 12 months. Of note however was a contraction in the number of vehicles on the beach (reduced by approximately 25%) and recent changes in quota holding. Traditional owners are actively fishing and have increased their quota holding from 6% to approximately 10% of all the quota.

SARDI and PIRSA (via the LCFMAC and its working groups) are reviewing the pipi harvest strategy in response to new information about factors affecting biomass estimates.

The Lakes and Coorong Consultative Committee meet twice a year and includes a representative from the conservation community and the District Council. The pipi fishery specific compliance activity report for 2018/19 (PIRSA, 2019b) was provided to the assessment team. The compliance program remains comprehensive, sanctions continue to be applied and only a few offences were detected. Fishery independent research projects underway includes refinement of the logbook recorded catch locations using the new 'Deckhand" electronic reporting system and a translocation project. A comparative study on the difference in size of those harvested by the fishery (after grading) compared to those measured in the fishery independent survey to determine size frequency is being conducted. At the same time, pipis around the maximum legal length or smaller are being translocated to other parts of the beach that do not have good numbers of recruits. In the future the beach will be surveyed every few hundred metres to see if translocation of the smaller pipis have increased biomass in the area. There are also plans to conduct a small tagging study to detect movement. Industry are interested in trialling an experiment to 'thin' out the pipi beds and relocate them to an area where they may grow faster (i.e. closer to the mouth of the Murray River). Mortality associated with handling and translocation can also be assessed.

All licensed fishermen are included in the unit of certification. Industry advised that there have been no changes to operational or processing practices that may impact on traceability. The Goolwa Pipi Company are using the Ecolabel on their product and have been in contact with the MSC recently regarding the ecolabel agreement.

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 2.1
MSC Fisheries Standard	Version 1.3
MSC General Certification Requirements	Version 2.3
MSC Surveillance Reporting Template	Version 2.01

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	On target	75	
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

Table 6 – Total Allowable Catch (TAC) and catch data				
ТАС	Year	2018/19	Amount	650 t
UoA share of TAC	Year	2018/19	Amount	650 t
UoC share of total TAC	Year	2018/19	Amount	650 t
Total green weight catch by UoC	Year (most recent)	2018/19	Amount	644.8 t
Total green weight catch by UoC	Year (second most recent)	2017/18	Amount	648t

4.1.2Total Allowable Catch (TAC) and catch data

4.2 Conditions

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	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.
	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.
	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.
	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 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
	By the first surveillance audit the client will seek an agreement with SARDI to include by-catch monitoring within the fishery independent assessment surveys.
	By the second surveillance audit the client will provide by- catch monitoring within the SARDI cost recovered research services.
Client action plan	By the third surveillance audit the by-catch information will be incorporated into the fishery survey reporting process.
	By the fourth surveillance audit an assessment of the by- catch monitoring program will be included into the tri-annual fishery stock assessment report.
	A by-catch monitoring approach for the Pipi sector will be determined at the next LCFMAC meeting in November 2018.
Updated Client action plan at second surveillance audit	By the third surveillance audit the by-catch information will be incorporated into the fishery survey reporting process.
	By the fourth surveillance audit an assessment of the by- catch monitoring program will be included into the tri-annual fishery stock assessment report.
Consultation on condition	The client consulted with SARDI research staff to establish action plan.

Progress on Condition (Year 1)	 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. 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. Bycatch species caught in commercial nets will continue to be recorded during fishery independent surveys. 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. 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
Status	On target
Progress on Condition (Year 2)	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 (Ovalipes australiensis) 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. 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).	
Status	Behind target	
	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.	
Progress on Condition (Year 3)	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.	
	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.	
	The condition remains open until the bycatch data is fully analysed and the ERA is completed and published.	
Status	On target	
Additional information	The CAB may provide any additional information for this condition here.	

Table 8 – Condition 2		
Performance Indicator	3.2.2	
Score	75	
Justification	 While there is a considerable amount of publicly available information on the fishery, there is no centralized site for accessing this information. This does not facilitate stakeholder understanding of the fishery, its management or its performance. Further, as noted earlier, there is a lack of publicly available information on the rationale for management decisions taken in the fishery. Some information on fishery performance and management action is generally available on request to stakeholders and SG 60 is met. However, there is a general absence of explanation for any actions or lack of action associated with findings and relevant 	

	recommendations emerging from research, monitoring, evaluation and review and SG 80 is not met. The assessment team is of the view that the proposed formation of a dedicated management advisory committee to oversee management issues relating to pipis will provide an opportunity for the fishery to ensure that a process is in place to demonstrate in a transparent way how and why decisions are taken on the LCF.		
Condition	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.		
	By the first surveillance audit the Lakes & Coorong Management Advisory Committee (L&CMAC) will be established.		
Client action plan	Negotiate with PIRSA / SARDI to provide for recommendations and decisions on TACC setting and fishery performance are published together with fishery management plans and the SARDI Stock Assessment reports on the PIRSA / SARDI website.		
Milestones	N/A		
Consultation on condition	The client consulted with PIRSA and SARDI to establish action plan.		
	The LFCMAC has been established and three meetings have been held. This MAC provides a forum whereby all issues can be considered in a timely manner. The minutes of these meetings together with correspondence between the MAC and PIRSA provide documented evidence of the decision- making processes for management actions and would be made available on request.		
Progress on Condition (Year 1)	The PIRSA/SARDI website has a section that contains PIRSA's management plan and user guide for the fishery together with SARDI's stock status report. In addition, any notice to fishers such as a change in TACC, are published on the website with an explanation for the change. Consolidation of information for this fishery on the website facilitates stakeholder understanding of the fishery, its management and performance.		
	The establishment of the LCFMAC and associated minutes, together with a consolidated presentation of information on the website, fosters interested stakeholders understanding as to how the resource is managed. Therefore SG80 is met		

	for PI 3.2.2 scoring issue (d) and this performance indicator has been rescored at 85.
Status	Closed

Table 9 – Conditi	ion 3
Performance Indicator	3.2.5
Score	70
Justification	Internal review of the LCF management system occurs predominantly through the requirements for occasional review of the management plan and the harvest strategies. Research is subject to internal review within SARDI. There is no system of regular internal review of the performance of the management system against the objectives of the management plan. Occasional external review of some aspects of the management system occurs through the DEH assessments under the EPBC Act. These assessments address the effectiveness of the system in sustaining target and bycatch species and managing broader ecosystem impacts and interactions with ETP species. However, they do not review the research plan nor do they assess the effectiveness of the system in delivering against some of the objectives of the Management Plan e.g. optimum utilisation and equitable distribution of fisheries resources or cost-effective and participative governance of the fishery. There is no requirement in place for external peer review of research conducted for the LCF. The current harvest strategy for Pipis has not been externally reviewed. The fishery-specific management system is subject to occasional internal review and some aspects are subject to occasional external review. However not all aspects of the management system are subject to regular internal review or occasional external review. Therefore SG 60 is met but neither SG 80 nor 100 are met.
Condition	By the second surveillance audit the client shall ensure that the management system is subject to regular internal and occasional external review.
Milestones	N/A
Client action plan	By the first surveillance audit the Lakes & Coorong Management Advisory Committee (L&CMAC) will be established.

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	By the second surveillance audit the L&CMAC TOR to provide for it to undertake an annual assessment of the fishery management plan against its objectives and performance targets.
Consultation on condition	The client consulted with PIRSA and SARDI to establish action plan.
Progress on Condition (Year 1)	The LCFMAC has been established and three meetings have been held. The LCFMAC terms of reference (TOR) explicitly provides for an annual assessment of the fishery management plan against its objectives and performance targets (Appendix 4- clause 4 (a) (ii)). Further, management plan obligations and review of the harvest strategy are a standing agenda item that will be addressed at the MAC meetings which will occur at least twice per year and thereby provide for a regular review of this part of the management system.
	The establishment of the LCFMAC and its associated TOR has strengthened the fishery against this performance indicator. The management system is now subject to regular review. Therefore SG80 is met for PI 3.2.5 scoring issue (b) and this performance indicator has been rescored at 80.
Status	Closed

4.3 **Re-scoring Performance Indicators**

The revised rational is provided in red below. The condition, however, remains open.

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 tsood B Met?	Information is adequate to identify the key elements of the ecosystem (e.g., trophic structure and function, community composition, productivity pattern and biodiversity). Y	Information is adequate to broadly understand the key elements of the ecosystem.	

PI	2.5.3	There is adequate I ecosystem	knowledge of the imp	oacts of the fishery on the
	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	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, and have not been investigated in detail.	Main impacts of the fishery on these key ecosystem elements can be inferred from existing information and some have been investigated in detail.	Main interactions between the fishery and these ecosystem elements can be inferred from existing information, and have been investigated.
	Met?	Y	Y	N
	Justification	The fishery has the potential to impact 3 of the ecosystem indicator and while limited levels of impact can be inferred (consistent with the SG60), none of these potential impacts have been studied in detail relation to the ecosystem condition, including resilience in the long of targeted pipi populations and their linkages to other aspects of the structure and function of the ecosystem, such as trophic consequen The impacts of the fishery on key ecosystem elements can be inferr and are likely to be low. Therefore, none of the direct fishery related impacts are considered "main' for the purpose of this assessment at 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 SC		the ecosystem indicators, ferred (consistent with the e been studied in detail in ng resilience in the long term es to other aspects of the ch as trophic consequences. In elements can be inferred the direct fishery related ise of this assessment and nteraction between the a) fail to comply with SG100.
C	Guidepost		The main functions of the Components (i.e., target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are known.	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.
	Met?		Y	Y
Justificatio		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</i> <i>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		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.	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.	
	Met?		Y	N	
e	Guidepost Justification	The impacts of the fishery on the habitats, ETP species, and a substantive number of the ecosystem indicators established by Lester et al. 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.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 theInformation is sufficient to support the development of strategies to manage ecosystem impacts.			
	Met?		N	Ν	
Dafa	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 capable of detecting any significant changes in risks to bycatch or tar species. However, this does not meet the requirement of SG80 where 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.			
Rele	ciices				

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PI 2.5.3	There is adequate knowledge of the impacts of the fishery of ecosystem	on the	
OVERALL PERFORMANCE INDICATOR SCORE:75			
Overall 75 (two scoring issues at SG60, two at SG80 and one at SG100)			
CONDITION	CONDITION NUMBER: 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.			

5 References

Ferguson, G. (2019) Lakes and Coorong Fishery for pipi (*Donax deltoides*) - summary of bycatch information from fishery independent surveys between 8 May 2017 and 1 May 2019, p1.

PIRSA (2019a) Draft Revised ecologically sustainable development (ESD) risk assessment of the South Australian Commercial Lakes and Coorong Fishery, pp 33.

PIRSA (2019b) Pipi Fishery – 18/19 Compliance Report.

SARDI (2019) Advice Note dated 6 May 2019 to PIRSA on 2018/19 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 2019 comprised:

- An Audit Plan was provided to the client, management, and scientists • before the meeting. The opening meeting included an exchange of information relevant to the surveillance audit.
- A meeting took place via conference call on the 3rd of September with client representatives, scientists and managers of the fishery (Table 8). Other stakeholders were notified of the time and location of the meeting. They were invited to participate or submit comments in writing. No requests for meetings or submissions were received.
- Necessary documents were sent to the CAB by the client prior to and after the meeting.

Table 6 - Meeting Attendees				
Meeting Attendees	Role	Organisation		
Sascha Brand-Gardner	Lead Auditor, Principle 3 expert	bio.inspecta Pty Ltd		
Sabine Daume	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		
Belinda McGrath-Steer	Management	PIRSA		

Table 9 Mosting Attendess

6.1.2Stakeholder participation

As required by FCP v2.1 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

The fishery was certified in 2016 with three conditions and a level 4 surveillance frequency was determined. Two conditions were closed at the year one surveillance audit on site and the program was revised to a level 2 to provide for the next 2 remote audits. Following the new FCP v2.1 and Table 5 FCP v2.1 7.28 the surveillance level has been adjusted to a level 4 to provide for an on-site audit to start the re-assessment as scheduled (Table 9).

Table 9– Fishery surveillance program							
Surveillance level	Year 1	Year 2	Year 3	Year 4			
Level 4	On-site surveillance audit	Off-site surveillance audit	Off-site surveillance audit	On-site surveillance audit and recertification 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	August 2020 (Proposed)				

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 11 and harmonisation is therefore required with the Governance and Policy PIs (3.1.1-3.1.3).

Table 11 – 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				

Table 12 – Scoring differences						
Performance Indicators (PIs)	Spencer Gulf Prawn	South Australian Sardine	Lakes & Coorong Pipi			
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

There are some slightly lower scores in the Lakes and Coorong Pipi 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.