

# **Cost Recovery Implementation Statement for the Pipi Fishery and Net Sector (Lakes and Coorong)**

**1 July 2023 to 30 June 2024**



**Government  
of South Australia**  
Department of Primary  
Industries and Regions

# Cost Recovery Implementation Statement

Information current as of February 2023  
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# Introduction

Wild catch commercial fisheries in South Australia are managed in accordance with the Department of Primary and Industries and Regions (PIRSA) Cost Recovery Policy. This policy requires commercial fishery licence fees to fund services related to commercial fisheries management costs. PIRSA Fisheries and Aquaculture continue to manage the process of consulting with service providers and relevant industry associations to establish fishery-based management programs, which form the basis of annual licence fees.

For each sector, the program required to manage the fishery has the following components:

- Assessment and Research Services.
- Fisheries Management Services.
- Compliance Services, including communication, enforcement and monitoring activities.
- Support Services, including Legislation, Licensing and Business Services (Directorate).

This documentation provides a framework to assist in establishing appropriate research, policy, compliance and support services to manage a fishery.

For further information relating to Cost Recovery Reviews, Policy and Framework, they can be found at [https://www.pir.sa.gov.au/fishing/commercial\\_fishing/pirsa\\_services\\_to\\_fisheries\\_industry](https://www.pir.sa.gov.au/fishing/commercial_fishing/pirsa_services_to_fisheries_industry)

Consistent with Principle 7 of the PIRSA Cost Recovery Policy, an annual schedule of meetings for stakeholder engagement and support for the cost recovery process in relation to commercial fisheries is outlined below:

Annual schedule of meetings		
Date	Activity	Parties
Sept/Oct	Review long-term objectives for fishery and update if necessary. Identify priority outcomes for upcoming financial year.	PIRSA and industry association
October	Develop policy, research and compliance work programs in readiness for discussions (fisheries managers with industry) in November.	PIRSA
November	Discuss proposed programs with relevant industry associations and reach agreement on programs for the upcoming period. Industry associations to consult with wider industry.	PIRSA and industry association
February	Formal meetings with industry associations to finalise work programs and summarise costs.	PIRSA and industry association
March	Submit proposed licence fees to Minister. Prepare Ministerial Notice briefing to vary and prescribe lease and licence fees for the next financial year.	PIRSA and government agencies
June	Invoices sent for annual licence fees.	PIRSA

\* Dates above are indicative only and may vary due to unforeseen circumstances that may arise throughout any year.\*\*

## Summary Table

2022-23		Program Area	2023-24		Comments	Days	FTE
Pipi (\$)	Lakes and Coorong (\$)		Pipi (\$)	Lakes and Coorong (\$)			
RESEARCH COSTS							
213,466	163,233	Stock Assessment and Monitoring	198,320	173,534	Year 1 research project scope		
5,406	6,112	Economic Assessment	5,569	6,296	As per contract services 2023-24		
	1,715	Other Research	0	1,101	Contribution towards Threatened and Endangered Species		
PIRSA RELATED COSTS							
35,000	35,000	Fisheries Management	36,680	36,680	Same level of service as previous year	80	0.40
4,710	4,710	Legislation	4,935	4,935	Same level of service as previous year	10	0.05
6,162	6,162	Licensing	6,461	6,461	Same level of service as previous year	13	0.07
1,740	1,740	Directorate	1,822	1,822	Same level of service as previous year	4	0.02
63,800	51,040	Compliance	66,850	53,480	Same level of service as previous year	90	0.45
17,300		Quota Monitoring	18,120		Same level of service as previous year	20	0.10
13,417	19,516	Information Services	13,707	19,799	Logbook Program – Entry, validation, management and reporting of data		
OTHER COSTS							
14,869	11,070	FRDC	13,401	11,088	Funding based on 0.25% of rolling three year average GVP		
	91,000	Co-Management Services	20,000	62,500	Co-Management Services requested for 2023-24		
\$362,453	371,782	TOTAL	385,865	377,696			

\* The indexation rate of 4.8% confirmed by the Department of Treasury and Finance has been applied to the 2023/24 PIRSA program costs

Licence Fees for 2023-24 (\$)			
Lakes and Coorong Access Fee	1,942	Pipi Base	7,910
Net Sector Base	2,244	Pipi Unit Fee	299
Net Fee	193		

<i>Licence Fees for 2022-23 (\$)</i>			
<i>Lakes and Coorong Access Fee</i>	<i>2,745</i>	<i>Pipi Base</i>	<i>5,680</i>
<i>Net Sector Base</i>	<i>1,630</i>	<i>Pipi Unit Fee</i>	<i>300</i>
<i>Net Fee</i>	<i>182</i>		



## Program Daily Charge Out Rate 2023-24

	DAILY RATE (\$)					
	Compliance	Quota	Directorate	Legislation	Licensing	Fisheries Management
Total Employee Expenses	692	453	640	764	521	618
Total Operating Expenses	350	151	127	64	145	166
Depreciation and Capital Costs	56	0	0	0	0	0
Total Other Expenses*	239	304	145	159	328	133
<b>TOTAL DAILY RATE</b>	<b>1,337</b>	<b>906</b>	<b>911</b>	<b>987</b>	<b>994</b>	<b>917</b>

**Please Note:** All dollar values have been rounded to the nearest dollar figure.

\* Other expenses includes ICT, finance, human resources, WHS, accommodation, insurance and other costs incurred corporately in providing services to divisions, apportioned across PIRSA using a range of cost drivers such as number of logons, headcount, volume data and other workload indicators, in accordance with PIRSA's cost recovery policy.

## Fishery Management Objectives (Net Sector)

Management Plan Objectives	Outcomes	Fisheries Management	Compliance	Assessment and Research	Leasing and Licensing
Ensure LCF resources are harvested within ecologically sustainable limits.	Implementation of Management Plan under the <i>Fisheries Management Act 2007</i> , including Harvest Strategies.	<p>Assist the finfish sector with transitioning to electronic reporting.</p> <p>Monitor the effectiveness of the recovery strategy for Black Bream.</p> <p>Develop and implement Greenback Flounder recovery strategy.</p> <p>Consult with industry to address emerging issues.</p> <p>Review fishery regulations</p>	<p>Support implementation of Management Plan.</p> <p>Implement compliance plan in accordance with risk assessment.</p> <p>Support review of Management Plan.</p>	<p>Support implementation of Management Plan.</p> <p>Annual fishery and environmental statistical report, including stock assessment for Yelloweye Mullet</p> <p>Fishery assessment reports and advice notes as required.</p> <p>Support development of recovery strategy for Greenback flounder.</p>	Support Management Plan implementation and review.
Optimum utilisation and equitable distribution of the LCF resources.	<p>Monitor and manage catches of each sector within allocated shares.</p> <p>Mitigate interactions with long-nosed fur seals.</p>	Catch and effort managed within allocations and changes in shares detected and acted on appropriately.		FRDC project Developing alternative strategies for managing seal-fisher interactions in the South Australian Lakes and Coorong Fishery'.	
Minimise impacts on the ecosystem.	Participate in relevant environmental water flow Initiatives.			Produce overall TEPS report.	

	Progress DAWE recommendations.				
Cost-effective, efficient and participative management of the fishery.	Support industry to maintain MSC accreditation.  Effective engagement with industry in accordance with agreed co-management arrangements.	Liaise with industry and attend LCFMAC and LCCC meetings as appropriate.  Consult with SFA and GPHA on policy and management issues.  Finalise and implement consultative arrangements in line with Co-management arrangements.	Support ongoing MSC accreditation.  Liaise with industry and attend LCFMAC and LCCC meetings as appropriate.	Liaise with industry and attend LCFMAC meetings as appropriate.	Provide ongoing support for licensing, quota and transfer queries.

## Fishery Management Objectives (Pipi Sector)

Management Plan objectives	Outcomes	Fisheries Management	Compliance	Assessment and Research	Leasing and Licensing
Ensure LCF Pipi resources harvested within ecologically sustainable limits.	Implement Management Plan under the <i>Fisheries Management Act 2007</i> , including Harvest Strategy.  Facilitate industry economic and market development initiatives.	Consult with industry to address emerging issues.  Consult with industry in relation to setting the 2024/25 TACC.  Review fishery regulations.	Support implementation of new Management Plan.  Implement compliance plan in accordance with risk assessment.  Support implementation of new Management Plan.	Annual advice note regarding Harvest Strategy performance indicators for Pipi.  Continue development of a method for estimating relative abundance of pre-recruits to the Pipi fishery.  Undertake independent review of the science program for Pipi, including the fishery independent survey .	Support development of new Management Plan.
Optimum utilisation and equitable distribution of the resources for the benefit of the community.					
Minimise impacts on the ecosystem.	Progress DAWE recommendations.		Implement compliance plan in accordance with risk assessment.	Produce overall TEPS report.	
Cost-effective, efficient and participative management of the fishery.	Finalise and implement agreed co-management arrangements.	Consult with SFA and GPHA on policy and management issues.  Liaise with industry and attend meetings as appropriate.	Liaise with industry and attend meetings as appropriate.	Liaise with industry and attend meetings as appropriate.	Provide ongoing support for licensing, quota and transfer queries.

# Fisheries Management Program

## Program Manager:

Sam Stone, Manager Community Fisheries

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## Program summary

The Fisheries Management Unit of PIRSA Fisheries and Aquaculture undertakes activities such as day-to-day management, long-term planning and policy development for South Australian commercial, recreational and Aboriginal traditional fisheries.

The Fisheries Management unit has the following core functions:

- Administer the *Fisheries Management Act 2007* and regulations.
- Day-to-day management of fisheries resources, to ensure catch and effort levels are commensurate with resource sustainability.
- Develop and implement Management Plans, including Harvest Strategy development and ESD risk assessment, in accordance with the *Fisheries Management Act 2007*.
- Provide advice to the Minister for Primary Industries and Regional Development and Chief Executive on matters relating to fisheries.
- Represent the Executive Director, Fisheries and Aquaculture on committees and other forums on matters related to the administration of the *Fisheries Management Act 2007*.
- Develop over-arching policy frameworks to support fisheries management.
- Build and maintain relationships with key stakeholders, with a particular focus on the commercial and recreational fishing sectors.
- Progress Australian Government recommendations under EPBC Act (1999) assessment.

## Objectives

To provide day-to-day fisheries management services to the Lakes and Coorong Fishery to government and industry, as well as advice and facilitation of fisheries policy and management issues, through the Fisheries Management Program.

## Program strategies and supporting actions and initiatives

### Anticipated outcomes

1. Provision of clear instructions for complex legal drafting or compilation of drafts of simple legislative instruments in consultation with the legal manager as necessary for the management of the Lakes and Coorong Fishery (regulations, closure notices, licence conditions, Ministerial exemptions etc).

2. Provide advice to the Minister or his/her delegate on setting total allowable commercial catch and effort levels for the Lakes and Coorong Fishery.
3. Prepare policies to support fisheries management.
4. Prepare submissions to enable regular assessment of the Lakes and Coorong Fishery under the EPBC Act.
5. Prepare annual report to the Australian Government on EPBC Act requirements for the Lakes and Coorong Fishery.
6. Prepare regular fisheries status reports.
7. Develop and maintain day-to-day productive working relationships and outcomes through cooperative management and collaboration with stakeholders.
8. Further the development of co-management arrangements.

### Performance indicators

1. Strong industry and government involvement in co-management relationship and adherence to formally agreed co-management arrangements.
2. Develop and implement Management Plan. Management Plans to include Harvest Strategies that protect sustainability of the fishery based on ESD risk assessment processes.
3. Australian Government recommendations met in relation to EPBC assessment.
4. Setting of TACC and TACE for Lakes and Coorong Fishery.

### Program effort allocation

The table below includes an abbreviated suite of core activities and initiatives used to manage risks and reflect the anticipated split of effort and associated costs.

Activity	Days	FTE	Cost (\$)
Fisheries Management – Pipi	40	0.20	36,680
Fisheries Management – Lakes and Coorong	40	0.20	36,680

**Please Note:** All dollar values have been rounded to the nearest dollar figure.

	Deliverables	Due date
1.	Review the Fisheries Management ( <i>Lakes and Coorong</i> ) Regulations 2009 and other relevant legislation if required, and support implementation of amendments if required	30 June 2024
2.	Participate in inter and intra-departmental meetings and workshops on issues relevant to fisheries management.	Ongoing
3.	Liaise within the Fisheries and Aquaculture Division, with SARDI Aquatic Sciences, other parts of PIRSA and other State and Commonwealth agencies on matters relevant to fisheries management.	Ongoing
4.	Liaise within PIRSA, with other government agencies and with industry representatives in implementing decisions relevant to fisheries management.	Ongoing
5.	Conduct regular assessment or review of existing management arrangements for fisheries management, including analysis of statistical information on fisheries and interactions with threatened, endangered and protected species, within fisheries policy.	Ongoing
6.	Consult with industry and SARDI in regard to the recovery strategy for Greenback flounder.	Ongoing
7.	Coordinate consultation with fishery stakeholders through established co-management processes. <ul style="list-style-type: none"> <li>Lakes and Coorong Fishery Management Advisory Committee (LCFMAC)</li> </ul>	Ongoing
8.	Participate in industry liaison in the field and on vessels to strengthen fishery management knowledge and understanding and develop rapport with licence holders.	Ongoing
9.	Participate in industry development initiatives related to fisheries management.	Ongoing
10.	Attend to general correspondence and enquiries relevant to the Lakes and Coorong Fishery.	Ongoing
11.	Provide advice to Minister in relation to the management of fisheries and Ministerial correspondence.	Ongoing
12.	Communicate on fisheries management issues to key stakeholder groups and the broader community.	Ongoing
13.	Continue to support MSC accreditation for the Pipi sectors Support process for finfish sector MSC re-accreditation	Ongoing

# Legal Services Program

## Program Manager:

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## Program summary

PIRSA Fisheries and Aquaculture Directorate provides legal services to the Executive Director and all other members of the Division, in particular the policy group, on a daily basis. Among other things these services include strategic advice and problem-solving, review of draft documentation and correspondence, statutory interpretation and the provision of general advice and statutory interpretation, in consultation with the Crown Solicitor's Office where necessary, regarding any legal issues relating to proposed actions and the implementation or administration of Lakes and Coorong fisheries management and regulatory arrangements through existing legislative frameworks and licence conditions. Consideration is also given to the impacts and effects of other related legislation if and when required.

## Objectives

To provide legal services supporting the implementation of necessary, appropriate and effective statutory and administrative changes to government administration of all fishery sectors, as well as strategic advice and facilitation of related policy development, legislative and regulatory issues, through the Legal Services Program.

## Program strategies and supporting actions and initiatives

### Program effort allocation

The table below includes an abbreviated suite of core activities and initiatives used to manage risks and reflect the anticipated split of effort and associated costs.

Activity	Days	FTE	Cost (\$)
Legislation - Pipi	5	0.025	4,935
Legislation – Lakes and Coorong	5	0.025	4,935

**Please Note:** All dollar values have been rounded to the nearest dollar figure.



## Anticipated outcomes

	Deliverables	Due date
1.	Co-ordinate the introduction, amendment or revocation of Fisheries legislation in line with Fisheries Policy decisions i.e. Act or regulation amendments, the introduction of new regulations and drafting of other legislative and administrative instruments such as delegations, licences, permits, closures or exemption instruments as required under the <i>Fisheries Management Act 2007</i> (the Act). New regulations or amendments require the drafting of Cabinet submissions and supporting documentation, including the preparation of drafting instructions, for consideration by Cabinet. This service includes co-ordinating the cabinet process and working with the Office of Parliamentary Counsel and the Crown Solicitor's Office and other government agencies to ensure that proposed regulatory arrangements are accurately described, drafted and scrutinised before being implemented.	Ongoing
2.	Review licensing arrangements required on an as needs basis to lawfully implement approved fishery management policy and measures within the limitations of the Act. The service includes working with the Licensing program (part of Leasing and Licensing) and policy program to ensure licence conditions are effective and where necessary to implement efficient administrative systems and finalise forms and instruments that are legally sound.	Ongoing
3.	Problem solve and review policy developments together with the provision and co-ordination of legal advisory services in liaison with the Crown Solicitor's office relating to and the lawful implementation and administration of the Act, regulations and fisheries management policies, interaction with other Acts, and the defence of those policies and arrangements raised in litigation or industry correspondence.	Ongoing
4.	Coordinate applications for Ministerial exemptions under Part 10 Division 1 and Permits under Part 7 Division 2 of the Act and review draft notices.	Ongoing
5.	Additional legal services to support and review, on an as needs basis, the legislative compliance of decision-making documentation created for the Executive Director, Fisheries and Aquaculture and the Director Operations and other delegates of the Minister under the Act to safeguard the ongoing sustainability of a fishery in any particular year (where required), depending on positive or negative scientific indicators, to implement new fisheries management arrangements (for example the introduction or variation of a quota system, carry over of quota arrangements) or new administrative or compliance arrangements (for example, changes to licensing processes, conditions, introduction of closures).	Ongoing
6.	Support compliance for statutory interpretation, problem solving and correspondence advice (per above).	Ongoing

# Leasing and Licensing Services Program

## Program Manager:

Todd Sutton, Manager, Leasing and Licensing

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## Program summary

The Fisheries Leasing and Licensing unit of PIRSA Fisheries and Aquaculture is responsible for the management of licensing and quota monitoring services.

This business unit provides a range of services related to the timely processing and management of information leading to the issue of licences and other reporting services.

The unit administers a licensing call centre for licence inquiries and other administrative services. The success of these functions is based on maintaining the Primary Industries Information Management System (PIIMS) database.

## Objectives

To provide leasing and licensing services to government and industry through the Leasing and Licensing Program.

## Program strategies and supporting actions and initiatives

### Anticipated outcomes

1. Issue licences to licence holders in an accurate and timely manner.
2. Provide accurate and timely information related to licences.
3. Provide reports as required.

### Program effort allocation

The table below includes an abbreviated suite of core activities and initiatives used to manage risks and reflect the anticipated split of effort and associated costs.

Activity	Days	FTE	Cost (\$)
Leasing and Licensing - Pipi	6.5	0.035	6,461
Leasing and Licensing – Lakes and Coorong	6.5	0.035	6,461
Quota Monitoring – Pipi	20	0.10	18,120

**Please Note:** All dollar values have been rounded to the nearest dollar figure.

	Deliverables	Due date
	<b>Services to directly support the fishery</b>	
1.	Issue and maintain fishery licences.	Ongoing
2.	Database management for licence and licence holder information.	Ongoing
3.	Monitor and support eBusiness systems.	Ongoing
4.	Quota monitoring and management including applying overcatch and undercatch adjustments	Ongoing
5.	Collect licence fees and associated payments.	Ongoing
6.	Compose and send quarterly instalment notices.	Ongoing
7.	Record and track unpaid invoices.	Ongoing
8.	Compose and send late payment instalment notices for unpaid quarterly instalments.	Ongoing
9.	Draft and issue notices to fishers.	Ongoing
10.	Process requests for information from fishers who make such inquiries over the counter, through the call centre, via facsimile or e-mail. For example, helping fishers to process information relevant to licensing and quota, application for licence transfers, boat changes, gear enquiries and fishing regulations.	Ongoing
11.	Regularly update information about licence holders.	Ongoing
12.	Research and prepare documents for public record.	Ongoing
13.	Liaise with government stakeholders to verify the credentials of fishers.	Ongoing
14.	Liaise with PIRSA Fisheries and Aquaculture, SARDI Aquatic Sciences, Crown Solicitors and other state and local agencies on matters relevant to the fishery.	Ongoing
15.	Draft and update licence conditions over the duration of the licensing year as determined by the Executive Director, Fisheries and Aquaculture.	Ongoing
16.	Provide information to licence holders relating to the requirements pursuant to licence administration.	Ongoing
17.	Manage calls from fishers regarding late payment notices, fees and general enquiries about their licences.	Ongoing
18.	Provide support regarding an increased frequency of last-minute administrative enquiries from fishers. e.g., master changes, boat variations	Ongoing

	and quota transfers, as well as provide advice and support to fishers on licence information, to complete the required forms.	
	<b>Services to support fisheries management</b>	
1.	Participate in inter and intra departmental meetings and workshops on issues relevant to the fishing industry.	Ongoing
2.	Liaise with relevant staff within PIRSA Fisheries and Aquaculture in implementing decisions relevant to the fishery.	Ongoing
3.	Interrogate the PIIMS database to extract information for other stakeholders to use in preparing reports.	Ongoing
4.	Prepare reports requested by internal and external customers including maintenance of a public register of licence holders.	Ongoing
5.	Liaise with information technology providers to maintain PIIMS and administer licensing requests.	Ongoing
6.	Generate quota management reports to update stakeholders on varying Total Allowable Commercial Catch (TACC) returns and end of season quota holdings (Pipi sector).	Ongoing

# Directorate Program

## Program Manager:

Randel Donovan, A/General Manager Regulatory and Business Services

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## Program summary

Business Services, within the Directorate Unit of PIRSA Fisheries and Aquaculture, provides a range of services to support fisheries management. These include coordinating the cost recovery process and establishing agreements with service providers; coordinating program provider reports; administering external contracts and agreements; and providing audit, financial and human resource functions.

## Objectives

To provide support services to government and industry, as well as advice and facilitation of corporate related policy and management issues, through the Directorate Program that incorporates the Fisheries and Aquaculture Business Services unit.

## Program strategies and supporting actions and initiatives

### Program effort allocation

The table below includes an abbreviated suite of core activities and initiatives used to manage risks and reflect the anticipated split of effort and associated costs.

Activity	Days	FTE	Cost (\$)
Directorate - Pipi	2	0.01	1,822
Directorate – Lakes and Coorong	2	0.01	1,822

**Please Note:** All dollar values have been rounded to the nearest dollar figure.

## Anticipated outcomes

	Deliverables	Due date
1.	Coordinate and facilitate cost recovery processes and program agreements, including liaising with program providers, managers and financial services as required.	Ongoing
2.	Meet with industry on matters relating to cost recovery, licence setting and related policy issues.	Ongoing
3.	Develop and review cost recovery policy, processes and program agreements.	Ongoing
4.	Manage major service providers' contractual agreements, and co-management services contractual agreements with industry associations.	Ongoing
5.	Project manage and administer external contractual services and agreements – including liaising with PIRSA Accredited Purchasing Unit, preparing acquisition plans and selecting evaluation criteria, managing tender processes, drafting purchase recommendations and liaising with the Crown Solicitor's office to develop contractual agreements.	Ongoing
6.	Provide advice on procurement and invoicing requirements.	Ongoing
7.	Consult with the Chief Executive, Executive Director, Fisheries and Aquaculture, Director Operations, PIRSA fisheries managers, and the Office of the Minister and other parties as needed.	Ongoing
8.	Ongoing review, development and documentation of the cost recovery model, framework, processes and roles.	Ongoing
9.	Meet agreed timeframes on management and administration of external contractual services.	Ongoing
10.	Appropriate management of industry funds and services.	Ongoing

# Fisheries Compliance Operations Program

## Net Sector

### Program Manager:

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## Program summary

PIRSA Fisheries and Aquaculture teams coordinate compliance activities (outputs) to build awareness and behavioural outcomes that have a long term beneficial impact in the Lakes and Coorong Fishery. The objective of the compliance activities (outputs) is to minimise the risks to aquatic resource sustainability, resource allocation and access rights and ultimately commercial economic viability.

The coordination of the compliance outputs is guided by an industry specific compliance plan which was developed in consultation with members of the Lakes and Coorong Fishing Industry. These outputs are aimed at educating fishers, deterring opportunistic and financially motivated crimes, enforce the rules and regulations and reducing overall compliance risks to resource sustainability.

## Legislative and regulatory framework

*Fisheries Management Act 2007*

*Fisheries Management (Lakes and Coorong Fisheries) 2009*

*Regulations Fisheries Management (Fish Processors) Regulations 2017*

*Fisheries Management (General) Regulations 2017 Schedule 2*

*Fisheries Management (Demerit Points) Regulations 2009*

*Lakes and Coorong Fishery Management Plan*

## Program effort, funding and resources

The level of effort required to deliver the compliance program in accordance with the dedicated plan is reviewed annually taking into account:

- previous effort required to deliver established programs developed over last 10 years.
- the identified risks to the fishery and any associated changes.
- shifts or changes to the fishery management.

- changes to fishing practices.
- additional pressures or influences on fishers or the fishery.
- intelligence holdings.
- trends or change behaviours that required monitoring and/or investigation.
- cost effectiveness and identified efficiencies.
- any other relevant information required to deliver an effective compliance program to monitor and enforce the rules and regulations for each fishery.

PIRSA has continually reviewed the Lakes and Coorong fishery compliance program, gaining efficiencies through data driven and targeted operations and re-directing compliance effort where necessary to address current and emerging issues and risks.

The following table includes the number of days predicted to reflect the anticipated split of effort and associated costs to deliver the compliance outputs for 2023/24.

Compliance Outputs	Days	FTE	Cost (\$)
Education Awareness	10	0.05	13,370
Effective Deterrence, Monitoring and Surveillance	10	0.05	13,370
Enforcement	20	0.10	26,740
<b>TOTAL OFFICER DAYS</b>	<b>40</b>	<b>0.20</b>	<b>53,480</b>

**Please Note;** to comply with Work Health and Safety obligations and evidentiary requirements, operational activities are generally required to be undertaken by a minimum of two (2) officers at any time.



## IT systems, technology and data

Fisheries and Aquaculture Compliance Operations are supported by a number of electronic systems which continue to be refined to allow optimum delivery of information in a reliable and timely way. Some of the key systems that assist to drive the compliance outputs include:

- iBase and Analyst Notebook (Intelligence system).
- FACT (Fisheries and Aquaculture Information Collection Tool).
- Timewise (Effort Reporting Tool).
- Evidence.com (Video Evidence Collection Tool).
- PIIMS (Primary Industries Information Management System – Quota and Licence Information).
- eCatch.
- eBrief (prosecutions system).
- Commercial Fishing Application.

## Delivery outputs

The coordination of compliance outputs is guided by an industry specific compliance plan which was developed in consultation with the Lakes and Coorong Industry. The plan ensures compliance effort is intelligence driven, efficient, and cost effective and outcome focused. The compliance plan comprises three core outputs (Education and Awareness, Effective Deterrence and Appropriate Enforcement) and is optimised towards increasing voluntary compliance and maximising effective deterrence.

Analysis of intelligence and information holdings is regularly conducted to identify the major risks to the sustainable harvest of Lakes and Coorong resources. The combination of strategies, actions, and initiatives are critical to focus the primary compliance effort to manage the risks and achieve targeted outcomes. The details are identified herein.

### Intelligence

- Information collection, evaluation and collation.
- Analysis and testing of information voracity.
- Provide recommendations for targeted operations.
- Develop strategic assessments.

### Education and awareness

- Conduct education meetings with new entrants into the fishery and participate in industry days.
- Provide electronic distribution of educational material to fishers and licence holders.
- Ensure all interested parties understand their respective obligations.

- Develop Industry communication programs to facilitate discussion of topics such as compliance inspection outcomes and issues impacting the Lakes and Coorong fishery.
- Ongoing one on one education during inspections.

## **Effective deterrence, monitoring and surveillance**

- Ensure all aspects of monitoring, such as reporting of relief days, and associated chain of custody requirements in maintaining records are met.
- Ensure all aspects of commercial fishing activities are monitored such as inspections of catch at sea, when landed, in transit and at fish processing premises.
- Conduct intelligence driven operations that give rise to appropriate enforcement action.
- Respond to reported incidents/issue.
- Communicate activities in formal reporting.
- Follow up of incorrect, incomplete reporting

## **Enforcement**

- Investigate reports of non-compliance and where appropriate take action.
- Issue expiations and cautions notices.
- Prepare briefs of evidence for the Crown Solicitors Office to consider court enforced actions.
- Communicate enforcement outcomes in formal reporting.
- Service of suspension notices.

PIRSA will assess the efficacy of the compliance program by evaluating particular outcomes. The outcomes will be in the form of stakeholder awareness, behaviour and impact. Evaluating these outcomes will support decision making and progress towards a common view of a mature fishery and ultimately co-management.

PIRSA use information obtained from intelligence, monitoring, surveillance and enforcement processes to assess compliance and sustainability risks to the fishery. This subsequently informs work priorities for service delivery. The priorities are prone to change during the fishing season however the following are currently relevant to the Lakes and Coorong Fishery.

1. Quota Management System (QMS) Integrity
2. Taking Undersize.
3. Fail to Supply Periodic Return Data.

## **Deliverables**

In line with the annual performance report, the compliance deliverables will be presented separately.

# Fisheries Compliance Operations Program

## Pipi Fishery

### Program Manager:

Gary Darter, A/Regional Manager

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### State Coordinator:

Penny Heycock, Fisheries Officer

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## Program summary

PIRSA Fisheries and Aquaculture teams coordinate compliance activities (outputs) to build awareness and behavioural outcomes that have a long term beneficial impact in the Pipi Fishery. The objective of the compliance activities (outputs) is to minimise the risks to aquatic resource sustainability, resource allocation and access rights and ultimately commercial economic viability.

The coordination of the compliance outputs is guided by an industry specific compliance plan which was developed in consultation with the Pipi Industry. These outputs are aimed at educating fishers, deterring opportunistic and financially motivated crimes, enforce the rules and regulations and reducing overall compliance risks to resource sustainability.

## Legislative and regulatory framework

*Fisheries Management Act 2007*

*Fisheries Management (Lakes and Coorong Fishery) Regulations 2009*

*Fisheries Management (Marine Scale Fishery) Regulations 2017*

*Fisheries Management (Fish Processors) Regulations 2017*

*Fisheries Management (General) Regulations 2017 Schedule 2*

*Fisheries Management (Demerit Points) Regulations 2017*

*Pipi Fisheries Management Plan*

## Program effort, funding and resources

The level of effort required to deliver the compliance program in accordance with the dedicated plan is reviewed annually taking into account:

- previous effort required to deliver established programs developed over last 10 years.
- the identified risks to the fishery and any associated changes.
- shifts or changes to the fishery management.
- changes to fishing practices.
- additional pressures or influences on fishers or the fishery.
- intelligence holdings.
- trends or change behaviours that required monitoring and/or investigation.
- cost effectiveness and identified efficiencies.
- any other relevant information required to deliver an effective compliance program to monitor and enforce the rules and regulations for each fishery.

PIRSA has continually reviewed the Pipi fishery compliance program, gaining efficiencies through intelligence driven and targeted operations and re-directing compliance effort where necessary to address current and emerging issues and risks. The table below includes the number of days predicted to reflect the anticipated split of effort and associated costs to deliver the compliance outputs for 2022/23.

Compliance Outputs	Days	FTE	Cost (\$)
Education Awareness	10	0.05	13,370
Effective Deterrence, Monitoring and Surveillance	20	0.10	26,740
Enforcement	20	0.10	26,740
<b>TOTAL OFFICER DAYS</b>	<b>50</b>	<b>0.25</b>	<b>66,850</b>

**Please Note;** to comply with Work Health and Safety obligations and evidentiary requirements, operational activities are generally required to be undertaken by a minimum of two (2) officers at any time.

## IT systems, technology and data

Fisheries and Aquaculture Compliance Operations are supported by a number of electronic systems which continue to be refined to allow optimum delivery of information in a reliable and timely way. Some of the key systems that assist to drive the compliance outputs include:

- iBase and Analyst Notebook (Intelligence system).
- FACT (Fisheries and Aquaculture Information Collection Tool).
- Timewise (Effort Reporting Tool).
- Evidence.com (Video Evidence Collection Tool).
- PIIMS (Primary Industries Information Management System – Quota and Licence Information).
- eCatch.
- eBrief (prosecutions system).

- Commercial Fishing Application.

## **Delivery outputs**

The coordination of compliance outputs is guided by an industry specific compliance plan which was developed in consultation with the Papi Industry. The plan ensures compliance effort is intelligence driven, efficient, and cost effective and outcome focused. The compliance plan comprises three core outputs (Education and Awareness, Effective Deterrence and Appropriate Enforcement) and is optimised towards increasing voluntary compliance and maximising effective deterrence.

Analysis of intelligence and information holdings is regularly conducted to identify the major risks to the sustainable harvest of Papi. The combination of strategies, actions, and initiatives are critical to focus the primary compliance effort to manage the risks and achieve targeted outcomes. The details are identified herein.

### **Intelligence**

- Information collection, evaluation and collation.
- Analysis and testing of information voracity.
- Provide recommendations for targeted operations.
- Develop strategic assessments.

### **Education and awareness**

- Conduct pre-season education meetings and participate in industry days.
- Provide electronic distribution of educational material to fishers and licence holders.
- Ensure all interested parties understand their respective obligations.
- Develop Industry communication and relationship programs to facilitate discussion of topics such as compliance inspection outcomes and issues impacting the Papi Fishery.
- Ongoing one on one education during inspections.

### **Effective deterrence, monitoring and surveillance**

- Ensure the Quota Management System are monitored such as prior reporting and chain of custody requirements in catch disposal records (CDR) including auditing.
- Ensure all aspects of commercial fishing activities are monitored such as inspections of catch at sea, when landed, in transit and at change of ownership in fish processing premises.
- Conduct intelligence driven operations that give rise to appropriate enforcement action.
- Respond to reported incidents/issues.
- Communicate activities in formal reporting.

## **Enforcement**

- Investigate reports of non-compliance and where appropriate take action.
- Issue expiations and caution notices
- Prepare briefs of evidence for the Crown Solicitors office to consider court enforced actions.
- Communicate enforcement outcomes in formal reporting.
- Service of suspension notices.

## **Risk assessment and management (work priorities)**

PIRSA use information obtained from intelligence, monitoring, surveillance and enforcement processes to assess compliance and sustainability risks to the fishery. This subsequently informs work priorities for service delivery. The priorities are prone to change during the fishing season however the following are currently relevant to the Pipi Fishery.

1. Quota Management System Integrity.
2. Take Undersize.
3. Fail to Supply Periodic Returns to SARDI

# Stock Assessment and Monitoring Program

## Finfish Sector

### Fisheries and Aquaculture Contact Person:

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### SARDI Contact Person:

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## 1. Project details

### 1.1 Title

Lakes and Coorong Fishery (Finfish)

### 1.2 Subcontractor/Collaborator

Not applicable

### 1.3 Timeframe

Commencement Date: 1 July 2023

Completion Date: 30 June 2024

### 1.4 Summary

This Project Scope outlines SARDI's research program for South Australia's Lakes and Coorong Fishery (LCF) for finfish for 2023/24. The primary objective of the program is to provide scientific information and assessment of stock status for the different LCF finfish species, including a stock assessment for Yelloweye Mullet, to support the ecologically sustainable management of the fishery. The program conforms to the research and reporting plan outlined in the Management Plan for the South Australian Commercial Lakes and Coorong Fishery, enabling application of the Harvest Strategy for finfish.

The primary output of the research program is a comprehensive fishery assessment report that will include a stock assessment for Yelloweye Mullet and provide: (1) assessments of stock status for Mulloway, Black Bream, Greenback Flounder, Golden Perch and Bony Herring; (2) a summary of spatial and temporal patterns in fleet dynamics; (3) annual estimates of the environmental and biological performance indicators to inform the Harvest Strategy for finfish; and (4) and identify future research needs and priorities. An additional output for 2023/24 is development and implementation of a fishery-independent survey (FIS) for Black Bream and Greenback Flounder, in conjunction with PIRSA Fisheries and Aquaculture and industry.

## **2. Project description**

### **2.1 Background**

The core stock assessment and monitoring program for the LCF for finfish for 2023/24 is comprised of several components:

1. Annual fishery assessment report that includes a stock assessment for Yelloweye Mullet, and provides: (i) assessments of stock status for Mulloway, Black Bream, Greenback Flounder, Golden Perch and Bony Herring; (ii) analysis of spatial and temporal patterns in LCF fleet dynamics; (iii) annual estimates of the environmental and biological performance indicators to inform the Harvest Strategy for finfish; and (iv) and identify future research needs and priorities.
2. Commercial catch sampling program targeting Yelloweye Mullet, through the SAFCOL fish market and regional fish processors.
3. Provision of annual estimates of the environmental and biological performance indicators to inform the Harvest Strategy for finfish.
4. Development and implementation of a FIS for Black Bream and Greenback Flounder, in conjunction with PIRSA Fisheries and Aquaculture and industry.
5. Delivery of information and advice to PIRSA Fisheries and Aquaculture, industry and other stakeholders as requested by PIRSA.

Secondary outputs include presentations provided to PIRSA Fisheries and Aquaculture and the Lakes and Coorong Fishery Management Advisory Committee (LCFMAC) on stock assessment and other information as required.

This research program builds on previous research by SARDI Aquatic Sciences that includes stock assessment reports for Mulloway (2003, 2011, 2014, 2020, 2023), Yelloweye Mullet (2005, 2013, 2021), Golden Perch (2004, 2011, 2012), Black Bream (2008, 2016) and Greenback Flounder (2007, 2016), and annual fishery statistics reports from 2006–2019.

### **2.2 Need**

This research program addresses the need for scientific information to support the sustainable utilisation of finfish resources in the LCF and application of the Harvest Strategy for finfish identified in the Management Plan for the fishery.

### **2.3 Objectives**

- 2.3.1 To provide to PIRSA, a fishery assessment report that includes a stock assessment for Yelloweye Mullet, determines stock status for five other finfish species, describes patterns in fleet dynamics, provides estimates of the environmental and biological performance indicators to inform the Harvest Strategy for finfish, and identifies future research needs and priorities.
- 2.3.2 To develop and implement a FIS for Black Bream and Greenback Flounder, in conjunction with PIRSA Fisheries and Aquaculture and industry. Data to be incorporated into annual fishery assessments to provide information on relative abundance and recruitment.
- 2.3.3 To provide ongoing and ad hoc scientific advice.



## **2.4 Methods**

To undertake the assessment and reporting, SARDI will:

- 2.4.1 Analyse fishery-dependent catch and effort data from fishery catch returns;
- 2.4.2 Undertake market sampling at the SAFCOL fish market and regional fish processors to collect age and length frequency data for Yelloweye Mullet;
- 2.4.3 Obtain and analyse Coorong Hydrodynamic Model outputs and daily water level data for the Lower Lakes and provide annual estimates of the three environmental performance indicators to inform the Harvest Strategy for finfish;
- 2.4.4 Provide SARDI observers for a FIS for Black Bream and Greenback Flounder to facilitate collection, collation and analyses of relative abundance and recruitment data; and
- 2.4.5 Document and interpret research findings into the annual fishery assessment report.

### 3. Deliverables

The key deliverables of the 2023/24 LCF (finfish) stock assessment and monitoring program are tabulated below; additional work related to the core program is also identified:

Funding Source	Deliverable	Due Date
This SLA	LCF assessment report that includes a stock assessment for Yelloweye Mullet .	15 May 2024
This SLA	Presentations of LCF assessment report and other research to PIRSA Fisheries and Aquaculture, industry and the LCFMAC delivered as required.	30 June 2024
This SLA	Develop and implement three (July, November, February) fishery-independent surveys for Black Bream and Greenback Flounder in conjunction with PIRSA Fisheries and Aquaculture and industry.	30 June 2024
Other SLA	Assessment of the South Australian Marine Scalefish Fishery	30 June 2024
PIRSA	Support the implementation of the Finfish harvest strategy and LCF Management Plan	30 June 2024
PIRSA	Work with PIRSA Fisheries and Aquaculture and industry to support the recovery of Black Bream and Greenback Flounder.	30 June 2024
PIRSA	Work with PIRSA Fisheries and Aquaculture and industry, as required, in fisher-LNFS interactions	30 June 2024
FRDC	Project completion: Seal-fisher-ecosystem interactions in the Lower Lakes and Coorong: understanding causes and impacts to develop longer-term solutions (FRDC project 2018/036; Principal Investigator: Dr Jason Earl).	30 June 2024
FRDC	Project completion: Evaluation of a smart-phone application to collect recreational fishing catch estimates, including an assessment against an independent probability-based survey, using South Australia as a case study (FRDC project 2020/056; Principal Investigator: Dr Crystal Beckmann).	31 December 2023

#### 3.1 Service Provided

- 3.1.1 *Collect, collate, store and analyse data from market sampling to generate size and age structures for Yelloweye Mullet*

- Undertake a targeted market sampling for Yelloweye Mullet that involves measurements from representative samples from fishery catches and collections of otoliths to determine ages of fish.
- Age fish from their otoliths using validated ageing protocols and established QA procedures.
- Generate age structures from otolith-based age estimates.
- Interpret data on population structure in terms of population dynamics.

#### 3.1.2 *Analyse, integrate and interpret fishery and biological data*

- Undertake stock assessment of Yelloweye Mullet, including analysis of size and age structures.
- Describe key patterns in LCF fleet dynamics.
- Summarise annual commercial and recreational fishery data for multiple LCF taxa at the regional scale.
- Summarise all data and findings on stock status in a fishery assessment report.
- Provide presentations to industry and PIRSA on the status of each permitted LCF species as required.

#### 3.1.3 *Collect, collate and store the environmental data required to inform the finfish Harvest Strategy*

- Obtain Coorong Hydrodynamic Model outputs for the Coorong estuary.
- Obtain daily water level data for the Lower Lakes.
- Collate, interrogate and analyse the above environmental data to provide estimates of the environmental performance indicators for the 2023/24 reporting year (1 February 2023–31 January 2024).
- Compare the annual estimates of the environmental performance indicators against reference points in the Management Plan to inform the Harvest Strategy for finfish.

#### 3.1.4 *Develop and implement FIS for Black Bream and Greenback Flounder, in conjunction with PIRSA Fisheries and Aquaculture and industry*

- Liaise with industry to refine FIS methodology and sampling equipment.
- Train fishers and scientific observers.
- Manage and coordinate surveys in July 2023 (3 nights), November 2023 (3 nights), and March 2024 (3 nights).
- Collect, collate, and store relative abundance data.
- Collect, collate, and store basic biological data e.g., reproduction, length, weight.
- Collect, store, and process otoliths for age determination in the laboratory.

- Summarise all data and findings in fishery assessment report.

## **3.2 Outcomes**

The principal outcome will be the provision of relevant fishery, biological and environmental information and scientific advice to support the sustainable management of the LCF.

## **3.3. Outputs and extension**

The key outputs and extensions are:

- A fishery assessment report that will include a stock assessment for Yelloweye Mullet, and provide (1) assessments of stock status for Mulloway, Black Bream, Greenback Flounder, Golden Perch and Bony Herring; (2) a summary of spatial and temporal patterns in fleet dynamics; (3) annual estimates of the environmental and biological performance indicators to inform the Harvest Strategy for finfish; (4) summary of data and findings from the FIS for Black Bream and Greenback Flounder; and (5) and identify future research needs and priorities, to be delivered on 15 May 2024;
- Presentations to PIRSA Fisheries and Aquaculture, industry and stakeholders as required.

## 4. Funding arrangements

### 4.1 Project costing policy

This Research Program Scope and Costing has been costed at a Discounted rate.

### 4.2 Project cost

Financial Year	Total Funded by Licence Holders \$ (GST N/A)	Total SARDI In-Kind (\$ No GST)	Total Project Cost (\$ No GST)
2023/24	\$173,534	\$35,139	\$208,673
<b>TOTAL PROJECT</b>	<b>\$173,534</b>	<b>\$35,139</b>	<b>\$208,673</b>

### 4.3 Milestone and payment schedule

Date	Milestone	Payment (\$) Ex GST
31 December 2023	First Half Payment 2023/24 SLA	\$86,767
15 May 2024	LCF assessment report, including stock assessment for Yelloweye Mullet delivered.	
31 May 2024	Second Half Payment 2023/24 SLA	\$86,767
<b>SUBTOTAL</b>		<b>\$173,534</b>
<b>GST</b>		<b>NO GST</b>
<b>TOTAL COST</b>		<b>\$173,534</b>

## 5. Project staff

Staff	2023/24 FTE
Principal Scientist	0.02
Research Scientist	0.56
Research Officers	0.15
<b>TOTAL</b>	<b>0.73</b>

## 6. Project cost summary

Cost	Detail	2023/24 Total (\$) Ex GST
Salaries (FTE)		0.73
Salaries (\$)		\$99,487
Operating (\$)		
Travel (\$)		\$2,000
Office and communication (\$)		\$1,000
Laboratory (\$)		\$1,250
Fieldwork (\$)		\$11,500
Capital equipment (\$)		
SARDI overhead (\$)		\$58,297
SARDI inkind (\$)		\$35,139
<b>Total Cost (\$)</b>		<b>\$208,673</b>
<b>Revenue – PRICE</b>		
Licence holders	83%	\$173,534
PIRSA F&A (\$)		
<b>Total Revenue (\$)</b>		<b>\$173,534</b>
<b>SARDI Investment (\$)</b>	<b>17%</b>	<b>\$35,139</b>

Explanation of costs above:

*Payment to industry for surveys - Direct costs of using industry vessels and staff to undertake surveys*

*Fieldwork - Fieldwork costs including vessels, travel and OHS requirements*

*Laboratory - Costs for processing samples*

*Travel - Costs for attending meetings with industry, PIRSA F&A and stakeholders*

*Office and communication - Stationery, communications and publications*

*SARDI Overhead - Indirect costs that cannot be directly attributed to a specific business activity, product, or service*

*SARDI in kind – SARDI investment through supporting costs for specific equipment, capital depreciation, infrastructure and research facilities.*

# Stock Assessment and Monitoring Program

## Pipi Sector

### Fisheries and Aquaculture Contact Person:

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## 1. Project details

### 1.1 Title

Lakes and Coorong Fishery (Pipi)

### 1.2 Subcontractor/Collaborator

Goolwa Pipi Harvesters Association

### 1.3 Timeframe

Commencement Date: 1 July 2023

Completion Date: 30 June 2024

### 1.4 Summary

This scope of work will provide PIRSA Fisheries and Aquaculture with the information required for the ecologically sustainable management of the Pipi fishery in South Australia.

The primary outputs are (1) a fishery assessment report for Pipi (due 30/6/2024), and (2) an annual presentation/advice note on the status of the Pipi stock based on biological performance indicators estimated from annual fishery-independent surveys of relative abundance and size structures

The primary biological performance indicators (relative abundance, presence/absence pre-recruits) are estimated from the fishery-independent surveys which are conducted cooperatively by fishers and SARDI. The biological performance indicators are used in the Harvest Strategy for Pipi to recommend an annual Total Allowable Commercial Catch (TACC) of Pipi through the Lakes and Coorong Fishery Management Advisory Committee (LCFMAC) in May each year. Supplemental information, based on fishery catch and effort data, is also provided.

This research scope also includes refinement of an index of relative abundance of pre-recruits targeting replacement of the existing indicator based on presence/absence of pre-recruits with a more robust quantitative indicator.

## 2. Project description

### 2.1 Background

This project supports sustainable management of the fishery for Pigi (*Donax deltoides*) and addresses a key finding of an industry workshop in 2007 that recommended that future assessments of the fishery should not rely solely on commercial CPUE.

The original Management Plan for the LCF (Sloan 2005) was reviewed and updated in 2015 and 2022 (PIRSA 2015; 2022) and now includes separate Harvest Strategies for finfish and Pigi. The first Harvest Strategy for Pigi was implemented in 2012/13 and utilised two primary biological performance indicators (fishery-independent relative abundance, presence/absence pre-recruits) to recommend a biologically acceptable TACC. The first review of the Harvest Strategy was in 2015/16 and the second review occurred in 2020/21 in conjunction with the second Management Plan review.

The methodology for estimating fishery-independent relative biomass was developed over three years and further evaluated after seven years (Ward et al. 2010; Ferguson et al. 2015). The strategy is to continue to build on the collaborative relationship between fishers, researchers, and managers and was established in 2007/08 to conduct cost-effective fishery-independent surveys through coordinated scientific sampling and structured commercial fishing.

This project builds on

- (1) stock assessment reports on Pigi in 2002/03; 2005/06; 2013/14, 2017/18, and 2021/22;
- (2) annual stock status presentations/advice notes from 2007/08 to 2022/23;
- (3) an FRDC project to support development of the harvesting strategy for the Lakes and Coorong Fishery for Pigi; and
- (4) winter fishing/market trials conducted in 2010 and 2011

### 2.2 Need

This project addresses the need for scientific information to support sustainable harvesting of Pigi in the LCF for Pigi and application of the Harvest Strategy for Pigi identified in the Management Plan. The importance of annual fishery-independent estimates of relative biomass was identified as key to addressing uncertainty around commercial CPUE at an industry workshop in 2007 and several subsequent studies (Ward et al. 2010; Ferguson et al. 2015; Ferguson and Hooper 2017).

Development of an index of Pigi pre-recruits has also been identified as useful for sustainable development of this fishery at the Pigi Harvest Plan Development Workshop (19 Dec 2011, PIRSA, Grenfell Centre) and important for further development of the existing fishery-independent survey method (Ward et al. 2010; Ferguson et al. 2015; Ferguson and Hooper 2017; Ferguson et al. 2021).



## **2.3 Objectives**

- 2.3.1 To provide PIRSA with an Advice Note on the status of the Pipi stock (May 2024).
- 2.3.2 To provide PIRSA and the LCFMAC with an update/presentation on the status of the Pipi stock (May 2024).
- 2.3.3 To provide a stock assessment of Pipi according to the schedule in the Management Plan (June 2024).
- 2.3.4 Conduct fishery-independent surveys to provide annual estimates of:
  - relative abundance of Pipi.
  - presence/absence of Pipi pre-recruits.
  - size/age frequency information to characterise the demographic structure of Pipi.
- 2.3.5 Refine the method for estimating relative abundance of pre-recruits to the Pipi stock.
- 2.3.6 Provide ongoing and ad hoc advice and information to PIRSA.

## **2.4 Methods**

- 2.4.1 Fishery-independent surveys of Pipi on the Youngusband Peninsula use the method developed between SARDI, PIRSA and industry described in Ward et al. (2010) and Ferguson et al. (2015):
  - Each annual estimate of relative biomass is based on three sub-surveys conducted between October to May.
  - Sampling is done by commercial fisher crews using standardised commercial Pipi rakes.
  - Each commercial crew is accompanied by one scientific observer.
  - The observer collects length frequency data using a Pipi rake with fine mesh.
  - The observer records numbers of non-targeted species from commercial Pipi rakes.
  - Collect, collate, and analyse data.
- 2.4.2 Refinement of a method for estimating relative abundance of pre-recruits:
  - Annual pre-recruit surveys, using a method based on the fishery-independent surveys, are conducted at a spatial scale consistent with that of the fishery.
  - Surveys are conducted during the main recruitment period in October/November and also in May/June to capture years when seasonally late recruitment occurs.
  - Surveys are conducted over several days to include the entire fishing ground.
  - Sampling is conducted with modified Pipi rake fitted with 20 mm mesh.
  - Pipi are graded into pre-recruits/recruits and each fraction weighed.
  - Collect, collate, and analyse data.

### 3. Deliverables

The key deliverables of the 2023/24 Pipi stock assessment and monitoring program are tabulated below; additional work related to the core program is also identified:

Funding Source	Deliverable	Due Date
This SLA	Fishery independent biomass surveys completed	31 May 2024
This SLA	Advice Note on survey biomass and Pipi stock status delivered	31 May 2024
This SLA	Fishery pre-recruit surveys completed	31 May 2024
This SLA	Survey biomass and stock status presentation to PIRSA Fisheries and Aquaculture, Industry and the LCFMAC delivered as required.	30 June 2024
This SLA	Stock assessment report	30 June 2024
PIRSA	External review of Pipi Stock Assessment completed	30 June 2024
PIRSA	Provide advice to PIRSA/industry on translocation of pipi stock	30 June 2024
PIRSA	Advice Note on bycatch from 2022/23 SARDI Pipi surveys delivered	30 June 2024
PIRSA	Support Pipi MSC annual review and audit	30 June 2024
FRDC/Goolwa Pipi Co.	Project continuation: Progress innovative Pipi harvesting based on real time biological and economic data (FRDC project 2017-151; Principal Investigator: Tom Robinson). Support modification of the existing project to encompass translocation. Contribute to and support writing of the final report.	30 June 2024
FRDC	Contribute to Status of Key Australian Fish Stocks Report	30 June 2024

#### 3.1 Service Provided

##### 3.1.1 *Fishery-independent (survey) data*

- Coordination of annual fishery-independent surveys.
- Training of new fishers and scientific observers.
- Collection, collation, and storage of data from field surveys.
- Collection and storage of size/age samples.
- Laboratory processing of size/age samples.
- Effective storage of relative abundance and size data.
- Collection and storage of biological data e.g., reproductive, length-weight data.

### 3.1.2 *Analysis, interpretation, and reporting*

- Analyse temporal/spatial trends in biomass through fishery-independent estimates of relative biomass.
- Analyse temporal/spatial trends in size/age structures.
- Assess performance of the fishery against biological performance indicators.
- Analyse temporal/spatial trends in fishery-dependent (catch and effort) data.
- Summarise information on non-targeted species from commercial Piri rakes in fishery-independent surveys
- Interpret the results of the research program in reports and presentations.

### 3.1.3 *Project management*

- Project Supervision.
- Management of Deliverables.
- Quality control.
- Liaise with PIRSA, industry, State and Commonwealth agencies on matters relevant to the fishery.
- Work with PIRSA and stakeholders to identify research priorities and to develop and implement new projects.
- Update relevant chapter in status report for SA fisheries.

## 3.2 **Outcomes**

Stock assessment of the LCF for Piri.

Scientific advice to support sustainable management of the LCF for Piri.

Support industry translocation initiative by providing scientific advice to PIRSA fisheries and stakeholders.

Timely completion of fishery-independent surveys of the Piri resource on Younghusband Peninsula.

## 3.3. **Outputs and extension**

Stock assessment report on piri as scheduled in the Management Plan (June 2024).

Advice Note to PIRSA Fisheries and Aquaculture on the stock status of piri including annual estimates of biological performance indicators (May 2024).

As required, presentation on piri stock status including annual estimates of biological performance indicators to PIRSA Fisheries and Aquaculture and the piri LCFMAC (May 2024).

## 4. Funding arrangements

### 4.1 Project costing policy

This Research Project Scope and Costing has been costed at a Discounted rate.

### 4.2 Project cost

Financial Year	Total Funded by Licence Holders \$ (GST N/A)	Total SARDI In-kind \$ (GST N/A)	Total Project Cost (\$ No GST)
<b>2023/24</b>	\$198,320	\$34,657	<b>\$232,977</b>
<b>TOTAL PROJECT</b>	<b>\$198,320</b>	<b>\$34,657</b>	<b>\$232,977</b>

### 4.3 Milestone and payment schedule

Date	Milestone	Payment (\$) Ex GST
31 December 2023	Pre-season (1 of 2) pre-recruit survey completed	
31 December 2023	Pre-season (1 of 3) fishery-independent biomass survey completed	
31 December 2023	First Half Payment 2023/24 SLA	\$99,160
31 May 2024	Mid and post-season (2,3 of 3) fishery-independent biomass survey completed	
31 May 2024	Post-season (2 of 2) pre-recruit survey completed	
31 May 2024	Advice Note and pipi stock status delivered Presentation provided to PIRSA and LCF MAC	
31 May 2024	Second Half Payment 2023/24 SLA	\$99,160
30 June 2024	Pipi stock assessment report delivered	
<b>SUBTOTAL</b>		<b>\$198,320</b>
<b>GST</b>		<b>NO GST</b>
<b>TOTAL COST</b>		<b>\$198,320</b>

## 5. Project staff

Staff	2023/24 FTE
Research Scientist	0.60
Research Officer	0.12
<b>TOTAL</b>	<b>0.72</b>

## 6. Project cost summary

Cost	Detail	2023/24 Total (\$) Ex GST
Salaries (FTE)		0.72
Salaries (\$)		99,074
<b>Operating</b>		
Payment to industry for surveys (\$)		29,250
Fieldwork (\$)		10,500
Laboratory (\$)		1,000
Travel (\$)		
Office & communication (\$)		1,000
Capital equipment (\$)		
SARDI overhead (\$)		57,496
SARDI inkind (\$)		34,657
<b>Total Cost (\$)</b>		<b>232,977</b>
<b>Revenue – PRICE</b>		
Licence holders (\$)	86%	198,320
PIRSA F&A (\$)		
<b>Total Revenue (\$)</b>	<b>85%</b>	<b>198,320</b>
<b>SARDI Investment (\$)</b>	<b>15%</b>	<b>34,657</b>

Explanation of costs above:

*Payment to industry for surveys* - Direct costs of using industry vessels and staff to undertake surveys

*Fieldwork* - Fieldwork costs including vessels, travel and OHS requirements

*Laboratory* - Costs for processing samples

*Travel* - Costs for attending meetings with industry, PIRSA F&A and stakeholders

*Office and communication* - Stationery, communications and publications

*SARDI Overhead* - Indirect costs that cannot be directly attributed to a specific business activity, product, or service

*SARDI in kind* – SARDI investment through supporting costs for specific equipment, capital depreciation, infrastructure and research facilities

