

Cost Recovery Implementation Statement for the Sardine Fishery

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 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

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
RESEARCH COSTS					
298,928	Stock Assessment and Monitoring	762,741	1 year research project scope DEPM egg survey and stock assessment and monitoring		
54,919	Sardine-Dolphin Interactions	54,102	As per year 1 year research project scope		
15,901	Economic Assessment	16,378	As per contract services 2023-24		
PIRSA RELATED COSTS *					
70,000	Fisheries Management	73,360	Same level of service as previous year	80	0.40
14,130	Legislation	14,805	Same level of service as previous year	15	0.08
19,908	Licensing	20,874	Same level of service as previous year	21	0.11
6,090	Directorate	6,377	Same level of service as previous year	7	0.04
114,840	Compliance	200,550	Increased service level from 90 – 150 days	150	0.75
48,020	Vessel	50,323	Same level of service as previous year	7	0.04
12,852	VMS	13,468	Same level of service as previous year	14	0.07
19,030	Quota Monitoring	19,932	Same level of service as previous year	22	0.11
	Information Services	29,444	Logbook Program – Entry, validation, management and reporting of data		
OTHER COSTS					
64,291	FRDC	66,558	Funding based on 0.25% of rolling three year average GVP		
20,000	Observer Coverage	109,675	PIRSA to recover half the costs of the increased 20% Observer Coverage program as contracted with Kempwilson Pty Ltd (trading as Seatec) till 30 June 2024 (total cost being \$219,350).		
758,909	TOTAL	1,438,587			

* 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 2023-24 (\$)	
Sardine Quota Unit Fee	48.40
Sardine Base Fee	5,940
Licence Fees 2022-23 (\$)	
Sardine Quota Unit Fee	24.30
Sardine Base Fee	5,600

Program Daily Charge Out Rate 2023-24

	DAILY RATE (\$)						
	Compliance	Directorate	Legislation	Licensing	Fisheries Management	Quota	Vessel
Total Employee Expenses	692	640	764	521	618	453	2,568
Total Operating Expenses	350	127	64	145	166	151	2,972
Deprecation and Capital Costs	56	0	0	0	0	0	1,027
Total Other Expenses*	239	145	159	328	133	304	621
TOTAL DAILY RATE	1,337	911	987	994	917	906	7,189

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

Management Plan Objectives	Outcomes	Fisheries Management	Compliance	Assessment and Research	Leasing and Licensing
<p>Maintain harvest of sardines, anchovies and by-product species at ecologically sustainable levels.</p> <p>Optimum utilisation and equitable distribution.</p>	<p>Stock and ecosystem maintenance in line with the Management Plan under the <i>Fisheries Management Act 2007</i>.</p> <p>Finalise replacement management plan and implement in consultation with SASIA Management Committee.</p> <p>Implement carry-over policy into legislation.</p>	<p>Review and progress rules review outcomes, including:</p> <ul style="list-style-type: none"> review netting closure exemption in Port Lincoln & Coffin Bay. <p>Administer Sardine TACC-setting in accordance with Harvest Strategy.</p> <p>Administer Anchovy TACC-setting.</p> <p>Preparation, attendance and participation at SASIA meetings and provision of advice, as required.</p> <p>Support maintaining Marine Stewardship Council (MSC) certification.</p> <p>Implement replacement management plan for the fishery</p>	<p>Implement compliance program, in accordance with risk assessment.</p> <p>Support implementation of Management Plan.</p> <p>Pre-season briefings with licence holders.</p>	<p>Support implementation of Management Plan.</p> <p>Provide scientific advice to PIRSA Fisheries & Aquaculture and Research and Management Committee of SASIA.</p> <p>Undertake and deliver fishery assessment report, consistent with Harvest Strategy.</p> <p>Undertake fishery-independent DEPM surveys, consistent with Harvest Strategy.</p> <p>Provide scientific advice to industry for fishery-dependent sampling.</p> <p>FRDC project – improve estimates of egg production, including CUFES methodology, for</p>	<p>Support implementation of Management Plan.</p> <p>Provide ongoing support for licensing, quota and transfer queries.</p>

Management Plan Objectives	Outcomes	Fisheries Management	Compliance	Assessment and Research	Leasing and Licensing
				incorporation into DEPM model. Support development of new Sardine Harvest Strategy.	
Protect and conserve aquatic resources, habitats and ecosystems.	<p>Real-time monitoring of threatened, endangered and protected species (TEPS) interactions.</p> <p>Review of Code of Practice (CoP) to mitigate TEPS interactions (ongoing).</p> <p>Manage observer program.</p> <p>Support progress to meet any conditions of the DAWE WTO accreditation under EPBC Act.</p>	<p>Real-time monitoring of TEPS interactions with industry.</p> <p>Preparation, attendance and participation in SASIA TEPS working group meetings.</p> <p>Support development of suitable performance indicators and decision rules to inform mitigation of dolphin interactions and observer coverage.</p> <p>Assist in the review of CoP.</p> <p>Manage observer contract and authorisations.</p> <p>Coordinate annual meeting of scientific observers.</p> <p>Continue implementation and management of existing programs.</p> <p>Administer consultation and setting of observer coverage in the fishery.</p> <p>Assist with Marine Stewardship Council (MSC) certification, both</p>	<p>Implement compliance program, in accordance with risk assessment.</p> <p>Real-time monitoring of TEPS interactions with industry.</p> <p>TEPS interactions investigated.</p> <p>Any mortalities collected and processed.</p> <p>Preparation, attendance and participation in Wildlife Interaction Working Group meetings.</p> <p>Prepare and present information for annual meetings with scientific observers.</p>	<p>Support industry's real-time monitoring of TEPS interactions with industry.</p> <p>Assist in ongoing review of CoP.</p> <p>TEPS annual report.</p> <p>Maintenance of observer data in SARDI database.</p> <p>Preparation, attendance and participation in Wildlife Interaction Working Group meetings.</p>	

Management Plan Objectives	Outcomes	Fisheries Management	Compliance	Assessment and Research	Leasing and Licensing
		<p>with industry and the assessment group.</p> <p>Support continuous improvement to mitigation of interactions of the fishery with protected marine mammals including TEPS interaction mitigation research in consultation with the TEPS interaction mitigation research Steering Committee</p>			
Cost effective and participative management of the fishery.	Effective engagement with industry.	<p>Preparation, attendance and participation at SASIA meetings.</p> <p>Regular communication with industry and Executive Officer, SASIA.</p> <p>Attend annual meeting of skippers.</p>	<p>Annual session with licence holders.</p> <p>Attend SASIA meetings and provide advice on compliance issues, as required.</p>	Attend SASIA meetings and provide scientific advice, as required.	Provide ongoing support for licensing, quota and transfer queries.

Fisheries Management Program

Program Manager:

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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 Executive Director, Fisheries and Aquaculture, Minister for Primary Industries and Regional Development and the 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 Sardine 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

Program delivery

1. Participate in inter- and intra-departmental meetings and workshops on issues relevant to fisheries management.

2. 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.
3. Liaise within PIRSA, with other government agencies and with industry representatives in implementing decisions relevant to fisheries management.
4. 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.
5. Coordinate consultation with fishery stakeholders through established co-management processes.
6. Participate in industry liaison in the field and on vessels to strengthen fishery management knowledge and understanding and develop rapport with licence holders and divers.
7. Participate in industry development initiatives related to fisheries management.
8. Attending to general correspondence and enquiries relevant to fisheries.
9. Provide advice to the Minister in relation to the management of fisheries and Ministerial correspondence.
10. Communicate on fisheries management issues to key stakeholder groups and the broader community.

Anticipated outcomes

1. Prepare day-to-day necessary legislative instruments and/or advice required for the management of the Sardine Fishery (regulations, catch limits, closure notices, licence conditions, Ministerial exemptions etc).
2. Prepare policies to support fisheries management.
3. Prepare regular fisheries status reports.
4. Develop and maintain day-to-day productive working relationships and outcomes through cooperative management and collaboration with stakeholders.
5. Deliver quality and timely responses to correspondence.
6. Further the development of co-management arrangements.
7. Facilitate development of replacement management plan in consultation with SASIA Management Committee.
8. Support research on improvements in mitigation and monitoring measures for TEPS interactions
9. Implement ongoing quota carry-over arrangement consistent with any policy on such arrangements.

Performance indicators

1. Australian Government requirements met in relation to EPBC assessment.
2. Setting of TACC for Sardine Fishery
3. Setting observer coverage levels in the fishery.
4. Implementation of replacement Management Plan

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	80	0.4	73,360

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

	Deliverables	Due date
1.	Participate in inter- and intra-departmental meetings and workshops on issues relevant to fisheries management.	Ongoing
2.	Liaise within the Fisheries and Aquaculture Division and SARDI Aquatic Sciences, other government agencies and local government on the application, development and implementation of decisions relevant to fisheries management as required.	Ongoing
3.	Liaise with the Executive Officer of the South Australian Sardine Industry Association (SASIA) and licence holders in the fishery on the application, development and implementation of decisions relevant to fisheries management.	Ongoing
4.	Coordination of the spatial, seasonal and vessel application of the scientific observer program with the observer program provider contracted by PIRSA.	Ongoing
5.	Participation in SASIA meetings of licence holders to discuss interactions with Threatened, Endangered and Protected Species (TEPS) and management of the fishery as it relates to the target species.	Ongoing
6.	Attending to general correspondence and enquiries relevant to fisheries.	Ongoing
7.	Provide advice to the Minister in relation to the management of fisheries and Ministerial correspondence.	Ongoing
8.	Communicate on fisheries management issues to key stakeholder groups and the broader community.	Ongoing
9.	Review and discuss the effectiveness of the observer coverage arrangements, in consultation with the SASIA Executive Officer.	Ongoing
10.	Support research on improvements in mitigation and monitoring measures for TEPS interactions including TEPS interaction mitigation research in consultation with the TEPS interaction mitigation research Steering Committee	April 2024
11.	Implement ongoing quota carry-over arrangement consistent with PIRSA policy on such arrangements.	March 2024
12.	Implement replacement management plan.	30 September 2023
13.	Coordinate and facilitate a meeting of licence holders in the fishery to seek advice on the setting of the TACC for the 2024 season of the South Australian Sardine Fishery.	November 2023
14.	Coordinate and facilitate a meeting of licence holders in the fishery to seek advice on the setting of the level of observer coverage for the 2024 season of the South Australian Sardine Fishery.	November 2023

Legal Services Program

Program Manager:

Lambertus Lopez, Manager, Legal and Legislative Programs

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Program summary

PIRSA Fisheries & 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. The manager works in consultation with the Crown Solicitor's Office where necessary, regarding any legal issues relating to proposed actions and the implementation or administration of Sardine 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	15	0.08	14,805

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

Anticipated outcomes

	Deliverables	Due date
1.	Co-ordinate and review 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 and review of 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.	Review of decision making briefings and drafted instruments for Ministerial exemptions under the Act.	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, implementation of closures).	Ongoing
6.	Support compliance for statutory interpretation, problem solving and correspondence advice (per above).	Ongoing

Leasing and Licensing

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	21	0.11	20,874
Quota Monitoring	22	0.11	19,932

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

	Deliverables	Due date
	Services to directly support the fishery	
1.	Issue and maintain fishery licences.	Ongoing
2.	Database management for licence and licence holder information.	Ongoing
3.	Quota monitoring and management including applying over-catch and under-catch adjustments.	Ongoing
4.	Collect licence fees and associated payments.	Ongoing
5.	Compose and send quarterly instalment notices.	Ongoing
6.	Record and track unpaid invoices.	Ongoing
7.	Compose and send late payment instalment notices for unpaid quarterly instalments.	Ongoing
8.	Draft and issue notices to fishers.	Ongoing
9.	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 and master changes, gear enquiries and fishing regulations.	Ongoing
10.	Regularly update information about licence holders.	Ongoing
11.	Research and prepare documents for public record.	Ongoing
12.	Liaise with government stakeholders to verify the credentials of fishers.	Ongoing
13.	Liaise with PIRSA Fisheries and Aquaculture, SARDI Aquatic Sciences, Crown Solicitors and other state and local agencies on matters relevant to the fishery.	Ongoing
14.	Draft and update licence conditions over the duration of the licensing year as determined by the Executive Director, Fisheries and Aquaculture.	Ongoing
15.	Provide information to licence holders relating to the requirements pursuant to licence administration.	Ongoing
16.	Manage calls from fishers regarding late payment notices, fees and general enquiries about their licences.	Ongoing
17.	Provide support regarding an increased frequency of last-minute administrative enquiries from fishers e.g. master changes, boat variations and quota transfers, as well as provide advice and support to fishers on licence information, to complete the required forms.	Ongoing
	Services to support fisheries management	

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.	Ongoing

Directorate Program

Program Manager:

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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	7	0.04	6,377

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 – Observer Coverage	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
11.	Provide an Annual Report on PIRSA's service delivery on the cost recovery agreement to the Executive Officer.	September

Fisheries Compliance Operations Program

Program Manager:

Andrew Carr, Regional Manager

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State Coordinator:

Yolande Markey, Senior 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 Sardine 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 Sardine Industry. These outputs are aimed at educating fishers, deterring opportunistic and financially motivated crimes, enforcing the rules and regulations and reducing overall compliance risks to resource sustainability.

Legislative and regulatory framework

Fisheries Management Act 2007

Fisheries Management (Fish Processors) Regulations 2007

Fisheries Management (General) Regulations 2017 Schedule 2

Fisheries Management (Demerit Points) Regulations 2017

Marine Scalefish Fisheries (Sardine Quota) Variation Regulations 2020

Fisheries Management (Marine Scalefish Fisheries) Regulations 2017

Fisheries Management (Vessel Monitoring Scheme) Regulations 2017

Sardine 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 Sardine 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:

Table 1: Sardine - Effort Allocated Against Compliance Outputs

Compliance Outputs	Days	FTE	Cost (\$)
Education Awareness	10	0.05	13,370
Effective Deterrence, Monitoring and Surveillance	118	0.59	157,766
Enforcement	22	0.11	29,414
TOTAL OFFICER DAYS	150	0.75	200,550
Offshore Patrol Vessel	7		50,323

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 Notebooks (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).
- Vessel Monitoring System (VMS).

- 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 Sardine 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 Sardines. 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.
- Analysis and testing of information voracity.
- Provide recommendations for targeted operations.
- Develop strategic assessments.

Education and awareness

- Conduct pre-season skipper and crew education meetings including TEPS awareness and participate in industry days.
- Provide electronic distribution of educational material to fishers and licence holders at the start of the season.
- Ensure all interested parties understand their respective obligations and the compliance focus for the coming season.
- Develop Industry communication & relationship programs to facilitate discussion of topics such as compliance inspection outcomes, Threatened Endangered Protected Species (TEPS) and other issues impacting the Sardine fishery.
- Ongoing one on one education during inspections.

Effective deterrence, monitoring and surveillance

- Ensure all aspects of 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/issue.

- Communicate activities in formal reporting.
- Follow up of incorrect, incomplete reporting

Enforcement

- Investigate reports of non-compliance and where appropriate take action.
- Investigate reports of interference, harassment and mortalities involving TEPS.
- 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.

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 Sardine Fishery.

1. Quota Management System Integrity.
2. Threatened Endangered Protected Species Interactions.
3. Take of Non-Permitted By-Catch.

Deliverables

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

Stock Assessment and Monitoring Program

Sardine Fishery

Fisheries and Aquaculture Contact Person:

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SARDI Contact Person:

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1. Project details

1.1 Title

Sardine Fishery

1.2 Subcontractor/collaborator

Not applicable

1.3 Timeframe

Commencement Date: 1 July 2023

Completion Date: 30 June 2024

1.4 Summary

This is a one-year research scope for Australia's largest fishery by weight, the South Australian Sardine Fishery (Sardine Fishery). This stock assessment and monitoring program will provide PIRSA Fisheries and Aquaculture with the information required for the ecologically sustainable management of the Sardine Fishery during the period of 2023/24.

The main activities are:

- (1) Processing catch samples provided by observers;
- (2) Undertaking a fishery-independent survey using the Daily Egg Production Method (DEPM) and delivering a spawning biomass report; and
- (3) Integrating fishery-dependent and fishery-independent data using SardEst and delivering a stock assessment report.

The Harvest Strategy for the Sardine Fishery has three tiers. The frequency of delivery of spawning biomass and stock assessment reports is determined by tier. Currently, the Sardine Fishery is managed at Tier 2.

The core components of the work for 2023/24 are to (1) deliver the report on the DEPM-based spawning biomass estimate for 2023 (by October 2023), (2) deliver the stock assessment report for 2022 (by November 2023), and (3) undertake a DEPM-based spawning biomass estimate for 2024, including targeted sampling of adult sardines (to be delivered by October 2024, i.e. the next SLA).

2. Project description

2.1 Background

The South Australian Sardine Fishery (Sardine Fishery) is Australia's largest fishery by weight. This scope and costing is for the stock assessment and monitoring required to inform the ecologically sustainable management of the Sardine Fishery in the one-year period of 2023/24.

The main activities are:

- Processing catch samples provided by observers;
- Undertaking a fishery-independent survey (using the Daily Egg Production Method, DEPM) and producing a spawning biomass report; and
- Integrating fishery-dependent and fishery-independent data (using SardEst) and producing a stock assessment report.

Catch samples are processed in all years.

The Harvest Strategy for the Sardine Fishery has three tiers. At Tier 3 spawning biomass and stock assessment reports are delivered in alternate years. At Tier 2, spawning biomass reports are delivered annually and stock assessment reports are provided every second year. At Tier 1, spawning biomass and stock assessments reports are delivered annually.

Catch and effort data

Catch and effort data in the Sardine Fishery have been collected continuously since the inception of the fishery in 1991. These data are primary inputs to stock assessment reports.

Catch Sampling

Catch-at-size/age and other biological data have been collected for Sardine Fishery since 1995 and are primary inputs to stock assessments.

Spawning Biomass Reports

The spawning biomass of Australian Sardine off South Australia has been estimated using the DEPM since 1995. Spawning biomass reports assess the status of the stock in relation to the limit and target reference points for the primary performance indicator identified in the Management Plan (i.e. spawning biomass). Estimates of spawning biomass are also primary inputs into stock assessments.

Stock Assessment Reports

Stock assessment reports integrate all available data, including fishery-dependent data on catch, effort, size and age structure as well as fishery-independent information on other aspects of the biology and ecology of Sardine, and estimates of spawning biomass obtained using the DEPM.

These reports assess the status of the stock (including explicit consideration of uncertainty), comment on the biological suitability of current management arrangements and identify future research needs

2.2 Need

Catch and effort data and catch-at-size age information from catch sampling need to be collected every year to support stock assessment of the Sardine Fishery.

Spawning biomass reports based on application of the DEPM need to be delivered annually to maintain the Sardine Fishery at Tier 2 of the Harvest Strategy. A DEPM survey is scheduled to occur in summer 2023, with results delivered in October 2023; a subsequent DEPM survey is scheduled for summer 2024.

Stock assessment reports will need to be delivered every second year if the Sardine Fishery is to remain at Tier 2 and annually if the fishery moves to Tier 1. A stock assessment will be delivered in November 2023; with a subsequent stock assessment scheduled for November 2025.

2.3 Objectives

- 2.3.1 Deliver 2023 spawning biomass report;
- 2.3.2 Deliver stock assessment report;
- 2.3.3 Complete 2024 DEPM survey including adult sampling;

2.4 Methods

- 2.4.1 Generate catch-at-size/age and other biological data needed for stock assessment;
- 2.4.2 Conduct expanded sardine egg surveys involving adaptive sampling to ensure optimal coverage of spawning area;
- 2.4.3 Undertake laboratory analyses of egg samples to estimate spawning area and egg production;
- 2.4.4 Conduct a dedicated survey to collect samples of adult sardine to update historical estimates of adult parameters used for DEPM analyses (occurs every 3 to 5 years);
- 2.4.5 Use historical data and newly collected data to estimate adult parameters, and integrate all DEPM data to provide estimates of spawning biomass; and
- 2.4.6 Collate fishery and fishery-independent data using an integrated model (SardEst) to assess stock status.

3. Deliverables

The key deliverables of the 2023/24 Sardine 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	End-of-season presentations to PIRSA Fisheries and Aquaculture and SASIA	30 November 2023
This SLA	2024 Egg and Adult surveys completed for DEPM	30 April 2024
Previous SLA	2023 Egg survey completed for DEPM	30 April 2023*
Previous SLA	2023 Egg survey (DEPM) biomass report delivered	31 October 2023*
Previous SLA	2022 stock assessment report delivered	30 November 2023
Other SLA	SASF dolphin interactions (2022) report delivered.	31 October 2023
Other SLA	End-of-season (2022) dolphin interactions presentations to PIRSA Fisheries and Aquaculture and SASIA	30 November 2023
PIRSA	Support finalisation of the Harvest Strategy and Management Plan	30 June 2024
FRDC	Project completion: Monitoring and mitigating interactions between small pelagic fisheries and dolphins: literature review and analysis of fishery data (FRDC Project No 2020-049; Principal Investigator Dr Roger Kirkwood)	1 July 2023
FRDC	Project completion: Assessment of the sustainability of common dolphin interactions with the South Australian Sardine Fishery (FRDC project 2019-063; Principal Investigator Dr Simon Goldsworthy)	1 July 2023
FRDC	Project completion: Evaluate use of genetic approaches (DNA-Metabarcoding) to estimate spawning area and monitor pelagic ecosystem (FRDC project 2019/014; Principal Investigator: Dr Gretchen Grammer)	31 December 2023
FRDC	Project commencement: Assessment of new technologies to improve application of the fishing Code of Practice and the reporting of dolphin interactions in the South Australian Sardine Fishery (FRDC Project No 2019-177; Principal Investigator Dr Roger Kirkwood)	31 December 2023

*In late 2022, SASIA requested and separately funded a DEPM survey and Spawning Biomass report for 2023 (\$517,874)

3.1 Service Provided:

3.1.1 *Catch-at age and other biological data*

- Analyse catch samples to determine size composition of catches.
- Analyse otoliths to determine the age composition of catches.

- Collect other biological data required to estimate life history parameters (e.g. growth rates, size and maturity) need for stock assessment modelling.

3.1.2 *DEPM surveys and spawning biomass report*

- Undertake plankton surveys to estimate egg production and spawning area.
- Estimate egg production and adult reproductive parameters using historical data.
- Undertake adult survey to update estimates of adult reproductive parameters (occurs every 3 to 5 yrs);
- Estimate spawning biomass and provide advice on stock status and uncertainty.

3.1.3 *Stock assessment report*

- Summarise relevant data in the stock assessment report.
- Integrate existing data using stock assessment model.
- Provide model generated estimates of spawning biomass.
- Assess stock status and uncertainty.
- Provide advice on the suitability of the current Harvest Strategy.

3.1.4 *Project management*

- Supervise project, quality control, manage deliverables.
- Respond to requests from PIRSA Fisheries and Aquaculture.

3.1.5 *Communication and reporting*

- Maintain effective communication with industry and from PIRSA Fisheries and Aquaculture.
- Attend industry meetings including preparation and follow up.
- Present results of the research program to industry and fisheries managers.
- Keep industry and fisheries managers informed about research projects relevant to the Sardine Fishery.
- Update SA fisheries status report as required.
- Contribute to review of harvest strategy and management plan

3.2 **Outcomes:**

- Verbal and written information provided on the age/size structure of catches, biology of sardine, environmental influences on population size and distribution, and ecological sustainability of the Sardine Fishery.

- Spawning biomass report that provides advice on the status of sardine off South Australia.
- Stock assessment report that provides advice on the status of sardine off South Australia.
- Verbal and written information provided on stock status including update of sardine chapter of SA status reports.

3.3. Outputs and extension:

- DEPM surveys and spawning biomass report.
- Fishery and catch-at age data and stock assessment report.
- Ongoing advice provided to fisheries managers and industry.

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

2023/24

Project	Total Funded 2023/24	Total In-kind 2023/24	Total Project Cost 2023/24
2024 DEPM Survey and Spawning Biomass Report	\$549,690	\$77,016	\$626,706
2024 Adult Survey	\$213,051	\$24,068	\$237,119
GST	NO GST	NO GST	NO GST
TOTAL	\$762,741	\$101,084	\$863,825

4.3 Milestone and Payment Schedule

2023/24	Milestone	Payment (\$) Ex GST
31 October 2023	Spawning Biomass Report (2023 survey)	
30 November 2023	Stock Assessment Report (2022 season)	
31 December 2023	First Half Payment 2023/24 SLA	\$381,370*
30 April 2024	2024 DEPM Survey (including Adult survey) completed	
31 May 2024	Second Half Payment 2023/24 SLA	\$381,371*
TOTAL		\$762,741*
GST		NO GST
TOTAL FUNDED		\$762,741*

* These total Project Costs and first and second half payments for 2023/24 reflect fishery remaining at Tier 2. If fishery changes to Tier 1 for 2024, then a stock assessment will need to be undertaken for the 2023 season and delivered in 2024. If this occurs, then these costs will need to be added to the total and the first and second half payments above. As the decision for this is likely to occur in November 2023, this may need to be added as a separate SLA.

5. Project staff

Staff	FTE Spawning Biomass	FTE Adult Survey
Principal Scientist	0.20	0.10
Senior Research Scientist	0.60	0.00
Senior Research Officer	0.20	0.20
Research Officer	0.60	0.20
SUB-TOTAL	1.60	0.50

6. Project cost summary

Cost	Detail	2023/24 Total (\$) Ex GST
Salaries (FTE)		2.1
Salaries (\$)		268,977
Operating (\$)		
Payment to industry for surveys (\$)		
Fieldwork (Ngerin; \$)		272,556
Laboratory (\$)		46,000
Travel (\$)		6,000
Office & communication (\$)		1,500
Capital equipment (\$)		
SARDI overhead (\$)		167,708
SARDI inkind (\$)		101,084
Total Cost (\$)		863,825
Revenue – PRICE		
PIRSA F&A (\$)	88%	762,741
Total Revenue (\$)		762,741
SARDI Investment (\$)	12%	101,084

Explanation of costs above:

Logbook Program - Entry, validation, management and reporting of data

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

Sardine Fishery (Dolphin Interactions)

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1. Project details

1.1 Title

Interactions of the Sardine Fishery with short-beaked common dolphins

1.2 Subcontractor/Collaborator

Not Applicable

1.3 Timeframe

Commencement Date: 1 July 2023

Completion Date: 30 June 2024

1.4 Summary

This is a one-year research scope for reporting on the Interactions of the South Australian Sardine Fishery (SASF) with short-beaked common dolphins. This program will provide PIRSA Fisheries and Aquaculture with the information required for the ecologically sustainable management of the Sardine Fishery during the 2023/24 financial year.

For this fishing season the project will:

- (1) Integrate fishery and interaction data from fishery logbooks, wildlife interaction forms and observers data-sheets.
- (2) Examine the patterns of observer coverage.
- (3) Compare fishing patterns with and without an observer and the degree to which it is representative of fishing effort.
- (4) Compare rates of dolphin encirclement and mortality recorded by observers and in fishery logbooks when an observer was not present.
- (5) Compare the number of encirclements and mortalities estimated to have occurred each financial year using observer data with the numbers recorded in logbooks.

- (6) Assess the efficacy of the industry Code of Practice (CoP) in mitigating interactions with dolphins, when observers are present, and when they are not.
- (7) Provide an annual report, by calendar year, on all of the above.

2. Project description

2.1 Background

This project follows previous investigations by SARDI Aquatic Sciences of the interactions of the SASF with short-beaked common dolphins (*Delphinus delphis*). Interactions with dolphins were first identified in an observer program conducted in 2005. A CoP was established which successfully reduced interaction rates. Ongoing assessments of the effectiveness of the CoP are needed to ensure interactions are mitigated effectively.

The aim of this project is to assess the efficacy of the Code of Practice at mitigating interactions between the South Australian Sardine Fishery and short-beaked common dolphins. Efficacy of the Code of Practice will be reported by calendar year (i.e., Sardine quota periods) through the analysis of observer data and industry reported data. The project will:

- Integrate fishery and interaction data from fishery logbooks, wildlife interaction forms and observers data-sheets; and
- Analyse and report on these data annually.

Key performance indicators that will be reported are:

- Code of Practice (observer data):
 - Success at avoiding an encirclement event.
 - Success of release method and time for release procedure to start.
 - Mortality rate.
 - Observed versus reported encirclement rate.
- Representativeness of observer coverage
 - Assessment of coverage relative to spatial and temporal distribution of fishing effort by the fleet and at the individual boat level.

2.2 Need

All native animals within the state of South Australia are protected under the National Parks and Wildlife Act 1972. The area of jurisdiction of the SASF was defined under the 1996 Offshore Constitutional Settlement (OCS) for scale-fish species to include all waters from adjacent to the coast of South Australia out to the 200 nautical mile limit of the Australian Fishing Zone. The SASF is also subject to the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Section 196 of the EPBC Act prohibits the taking of any listed marine species in Commonwealth waters and Section 147 requires mitigation of any adverse impacts on the wider marine ecosystem.

2.3 Objectives

- 2.3.1 Assess the efficacy of the CoP in mitigating interactions with dolphins in the presence and absence of observers.

- 2.3.2 Compare rates of dolphin encirclement and mortality recorded by observers and in fishery logbooks when an observer was not present.
- 2.3.3 Use a stratified ratio approach to estimate the total number of encirclements per year from observer data and compare these to the total number recorded in fishery logbooks.
- 2.3.4 Report on the degree to which observer coverage represent commercial fishing for the financial year being reported.
- 2.3.5 Compare CPUE_{net-set} for observed and unobserved net-sets for the financial year being reported.

2.4 Methods

Data from fishery logbooks, wildlife interaction forms and observers will be integrated and analysed to determine the extent and nature of interactions with dolphins. This will include examination of patterns of observer coverage and fishing patterns (e.g. CPUE) with and without an observer, as well as analysis of spatial and temporal patterns in encirclement and mortality rates. Observer data will be used to estimate total interactions, logbook reporting rates and assess the effectiveness of the CoP in reducing interactions with dolphins.

3. Deliverables

The key deliverables of the 2023/24 Sardine Fishery (Dolphin Interactions) monitoring program are tabulated below; additional work related to the core program is also identified:

Funding Source	Deliverable	Due Date
This SLA	SASF dolphin interactions (2022) report delivered.	31 October 2023
This SLA	End-of-season (2022) presentations on Sardine-Dolphin interactions to PIRSA Fisheries and Aquaculture and SASIA	30 November 2023
Other SLA	2023 Egg survey (DEPM) biomass report delivered	31 October 2023
Other SLA	Sardine stock assessment report delivered	30 November 2023
Other SLA	End-of-season presentations on DEPM biomass and stock assessment to PIRSA Fisheries and Aquaculture and SASIA	30 November 2023
PIRSA	Support finalisation of the Harvest Strategy and Management Plan	30 June 2024
FRDC	Project commencement: Assessment of new technologies to improve application of the fishing Code of Practice and the reporting of dolphin interactions in the South Australian Sardine Fishery (FRDC Project No 2019-177; Principal Investigator Dr Roger Kirkwood)	31 December 2023
FRDC	Project completion: Monitoring and mitigating interactions between small pelagic fisheries and dolphins: literature review and analysis of fishery data (FRDC project 2020/049; Principal Investigator: Dr Roger Kirkwood)	1 July 2023

FRDC	Project completion: Assessment of the sustainability of common dolphin interactions with the South Australian Sardine Fishery (FRDC project 2019-063; Principal Investigator Dr Simon Goldsworthy)	1 July 2023
FRDC	Project completion: Evaluate use of genetic approaches (DNA-Metabarcoding) to estimate spawning area and monitor pelagic ecosystem (FRDC project 2019-014; Principal Investigator: Dr Gretchen Grammer)	31 December 2023

3.1 Service Provided:

- Monitor interaction rates with dolphins.
- Estimate logbook reporting rates.
- Assess the effectiveness of the CoP.
- Provide ongoing advice to PIRSA and sardine industry.

3.2 Outcomes:

- Understanding of interaction rates and effectiveness of the CoP.
- Enhanced mitigation of interactions with dolphins.

3.3 Outputs and Extension:

- Report, by 31 October 2023, on SASF interactions with short-beaked common dolphins for the 2022 calendar year.
- Liaise with PIRSA Fisheries and Aquaculture and SASF.

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 \$ (GST N/A)
2023/24	\$54,102	\$11,071	\$65,173
TOTAL PROJECT	\$54,102	\$11,071	\$65,173

4.3 Milestone and payment schedule

2023/24	Milestone	Payment (\$) Ex GST
31 October 2023	Report–SASF dolphin interactions (2022)	
30 Nov 2023	End-of-season (2022) presentations to PIRSA Fisheries and Aquaculture and SASIA	
31 December 2023	First Half Payment 2023/24 SLA	\$27,051
31 May 2024	Second Half Payment 2023/24 SLA	\$27,051
SUBTOTAL		\$54,102
GST		NO GST
TOTAL FUNDED		\$54,102

5. Project staff

Staff	FTE 2023/24
Principal Scientist	0.01
Research Scientist	0.22
TOTAL	0.23

6. Project cost summary

Cost	Detail	2023/24 Total (\$) Ex GST
Salaries (FTE)		0.23
Salaries (\$)		33,233
Operating		
Travel (\$)		1,700
Office & communication (\$)		800
Capital equipment (\$)		
SARDI overhead (\$)		18,369
SARDI inkind (\$)		11,071
Total Cost (\$)		65,173
Revenue – PRICE		
Licence Holders (\$)	84%	54,102
Total Revenue (\$)	84%	54,102
SARDI Investment (\$)	16%	11,071

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

