



Government of South Australia

Primary Industries and Regions SA

PIRSA FISHERIES & AQUACULTURE

COST RECOVERY PROGRAM

2015-16

SARDINE FISHERY

FINAL DOCUMENT

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SUMMARY TABLE - SARDINE FISHERY

2014-15	PROGRAM AREA	2015-16	COMMENTS	DAYS	FTE
RESEARCH COSTS					
325,399	Stock Assessment and Monitoring	623,877	One year program, as per SARDI project scope.		
13,066	Economic Assessment	13,458	Contracted services		
36,507	Observer Coverage	75,602	As per contract with Protec Marine. Contract in place to 30 June 2017. Contracted Services (84 Observer nights + 10 trips to West Coast).		
PIRSA RELATED COSTS					
71,746	Policy and management	71,536	Same level of service as previous year	80.00	0.40
14,248	legislation	14,643	Same level of service as previous year	15.00	0.08
15,755	licensing	14,683	Same level of service as previous year	21.00	0.11
6,318	directorate	6,204	Same level of service as previous year	7.00	0.04
106,870	compliance	108,680	Same level of service as previous year	90.00	0.45
49,780	vessel	50,128	Same level of service as previous year	7.00	0.04
12,600	VMS	12,600	Maintained at \$900 per licence holder	14.00	0.07
13,834	Quota Monitoring	13,183	Same level of service as previous year	22.00	0.11
OTHER COSTS					
25,000	FRDC	50,827	Funding based on 0.25% of rolling three year average GVP		
4,200	Co-Management Services	7,450	Industry has confirmed amount with Marine Scalefish sector for 2015-16.		
695,323	TOTAL	1,062,871			

Licence Fee	2015-16
MS Base Fee	\$5,175
Net Fee	\$70,744
Total	\$75,919
<i>Licence Fee</i>	<i>2014-15</i>
<i>MS Base Fee</i>	<i>\$5,171</i>
<i>Net Fee</i>	<i>\$44,495</i>
<i>Total</i>	<i>\$49,666</i>

PROGRAM DAILY CHARGE OUT RATE

DAILY RATE (\$)	Compliance	Vessel	Quota	VMS	Directorate	Legislation	Licensing	Policy
Total Employee Expenses	593	2,222	365	390	565	604	422	549
Total Operating Expenses	318	2,189	39	388	131	181	82	154
Deprecation and Capital Costs	68	2,324	-	-	-	-	-	-
Total Other Expenses*	229	426	195	144	190	191	195	191
TOTAL DAILY RATE	1,208	7,161	599	923	886	976	699	894

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. It excludes the costs of servicing government and costs too far removed from the activity such as Ministerial Offices, Office of the Chief Executive, Strategic Communications and Engagement and the PIRSA Policy Unit, for example.

INTRODUCTION

Wild catch commercial fisheries in South Australia will continue to be managed in accordance with the previously established PIRSA Cost Recovery Policy. This policy requires commercial fishery licence fees to fund services related to commercial fisheries management costs. PIRSA Fisheries & Aquaculture will continue to manage the process of consulting with service providers and relevant industry associations to establish fishery based management programs which will 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 Policy and 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.

SARDINE FISHERY MANAGEMENT OBJECTIVES 2014/15 – 2016/17

Fishery	Management Plan Objectives	Outcomes 2014/15 to 2016/17	Policy and Management	Compliance	Assessment and Research	Systems & Information
Sardine Fishery	<p>Maintain harvest of sardines 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>Review and progress rules review outcomes, including:</p> <ul style="list-style-type: none"> • permanent transferability of quota • standardise quota declaration process • 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 in accordance with harvest strategy</p> <p>Preparation, attendance and participation at SASIA meetings and provision of advice, as required</p>	<p>Implement compliance program, in accordance with risk assessment</p> <p>Support implementation of management plan</p> <p>Attend SASIA meetings and provide advice on compliance issues, as required</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</p> <p>Provide scientific advice to industry for fishery-dependent sampling</p> <p>FRDC project – incorporation of the continuous underway fish egg sampler (CUFES) methodology into DEPM model</p>	<p>Support implementation of management plan</p> <p>Provide ongoing support for licensing, quota and transfer queries</p>

Fishery	Management Plan Objectives	Outcomes 2014/15 to 2016/17	Policy and Management	Compliance	Assessment and Research	Systems & Information
	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>Progress DotE WTO accreditation under EPBC Act</p>	<p>Real-time monitoring of TEPs interactions with industry</p> <p>Preparation, attendance and participation in TEPs working group meetings</p> <p>Develop 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>Continue implementation and management of existing programs</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>Mortalities collected and processed</p> <p>Preparation, attendance and participation in TEPs working group meetings</p>	<p>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 TEPs working group meetings</p>	
	Cost effective and consultative co-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>Review and progress rules review outcomes</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

PROGRAM: FISHERIES POLICY AND MANAGEMENT

PROGRAM MANAGER

Keith Rowling, Manager Fisheries Policy and Management Unit
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PROGRAM SUMMARY

The Fisheries Policy and Management Unit of PIRSA Fisheries & 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 Policy and 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 Agriculture, Food and Fisheries, Chief Executive and Executive Director on matters relating to fisheries
- Represent the Director, Fisheries & Aquaculture Policy and Director, Operations 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 requirements under EPBC Act 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 Policy and Management Program.

PROGRAM STRATEGIES AND SUPPORTING ACTIONS & 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
7. Participate in industry development initiatives related to fisheries management
8. Attending to general correspondence and enquiries relevant to fisheries
9. Provide advice to 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

- Prepare day-to-day necessary legislative instruments and/or advice required for the management of the Sardine Fishery (regulations, closure notices, licence conditions, Ministerial exemptions etc).
- Provide advice to the Minister or his/her delegate on setting total allowable commercial catch and effort levels for the Sardine Fishery
- Prepare policies to support fisheries management
- Prepare submissions to enable regular assessment of the Sardine Fishery under the EPBC Act
- Prepare annual report to the Australian Government on EPBC Act requirements for the Sardine Fishery
- Facilitate the completion of regular fisheries status reports
- Develop and maintain day-to-day productive working relationships and outcomes through cooperative management and collaboration with stakeholders
- Further the development of co-management arrangements

Performance Indicators:

1. Progress rules review outcomes.
2. Australian Government requirements met in relation to EPBC assessment.
3. Setting of TACC for Sardine Fishery.

PROGRAM EFFORT ALLOCATION

The table below includes an abbreviated suite of core activities reflect the anticipated split of effort and associated costs.

Strategy/Activities	Days	FTE	Cost (\$)
Policy and Management	80	0.4	71,536
TOTALS	80	0.4	71,536

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

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PROGRAM: LEGAL SERVICES

PROGRAM MANAGER

Lambertus Lopez, Manager, Legal and Legislative Programs
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PROGRAM SUMMARY

The Legal and Legislative Unit of PIRSA Fisheries & Aquaculture provides legal services to the Group 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 abalone 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 including the implementation of statutory and administrative changes to government, 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 & INITIATIVES

ANTICIPATED OUTCOMES

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 delegation, permit or exemption instruments as required under the *Fisheries Management Act 2007* (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 involving liaison with the Office of Parliamentary Counsel and the Crown Solicitor's Office and inter agency consultation to ensure that proposed regulatory arrangements are accurately drafted and scrutinised before being implemented.
2. Review licensing arrangements required on an as needs basis to appropriately implement approved fishery management policy and measures within the limitations of the Act. The service includes working with the Licensing program (part of Systems and Information) where necessary to implement efficient administrative systems and finalise forms and instruments that are legally sound.
3. Problem solve together with the provision and co-ordination of legal advisory services in liaison with the Crown Solicitor's office relating to the 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.

4. Coordinate applications for Ministerial exemptions under Part 10 Division 1 and Permits under Part 7 Division 2 of the Act.
5. Additional legal services to support, on an as needs basis, the decision-making of the Director Fisheries and Aquaculture policy 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) or new administrative or compliance arrangements (for example, changes to licensing processes, conditions, introduction of closures).
- 6 Support compliance for statutory interpretation, problem solving and correspondence advice (per above).

PROGRAM EFFORT ALLOCATION

The table below includes an abbreviated suite of core activities reflect the anticipated split of effort and associated costs.

Strategy/Activities	Days	FTE	Cost (\$)
Legislation	15	0.08	14,643
TOTALS	15	0.08	14,643

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

PROGRAM: LEASING AND LICENSING

PROGRAM MANAGER

Erin Conlon, Manager, Leasing & Licensing
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PROGRAM SUMMARY

The Fisheries Leasing & Licensing Section of PIRSA Fisheries & Aquaculture is responsible for the management of Licensing, Quota Monitoring and VMS 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 & 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 quarterly activity report (as required), within one month at the end of each quarter.

Services to directly support the fishery:

1. Renew and maintain fishery licences.
2. Database management for licence renewal.
3. Collect licence fees and associated payments.
4. Compose and send quarterly instalment notices.
5. Record and track unpaid renewals.
6. Compose and send late payment instalment notices for un-paid quarterly instalments.
7. Draft and issue notices to Fishers.
8. 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 licence renewal forms, application for licence transfers, boat changes, gear enquiries and fishing regulations.
9. Regularly update information about licence holders.
10. Research and prepare documents for public record.
11. Liaise with government stakeholders to verify the credentials of fishers.

12. Liaise with PIRSA Fisheries & Aquaculture, SARDI Aquatic Sciences, Crown Solicitors and other state and local agencies on matters relevant to the fishery.
13. Draft and update licence conditions over the duration of the licensing year as determined by the Executive Director, Fisheries and Aquaculture and the Director, Fisheries and Aquaculture Policy.
14. Provide information to licence holders relating to the requirements pursuant to licence administration.
15. Manage calls from fishers regarding late payment notices, fees and general enquiries about their licences.
16. Provide support regarding an increased frequency of last minute administrative enquiries from fishers. e.g., master changes and quota transfers, as well as provide advice and support to fishers on licence information, to complete the required forms.

Services to support fisheries management:

1. Participate in inter and intra departmental meetings and workshops on issues relevant to the fishing industry.
2. Liaise with relevant staff within PIRSA Aquaculture and Fisheries in implementing decisions relevant to the fishery.
3. Interrogate the PIIMS database to extract information for other stakeholders to use in preparing reports.
4. Prepare reports requested by internal and external customers including maintenance of a public register of licence holders.
5. Liaise with information technology providers to maintain PIIMS and administer licensing requests.
6. Generate quota management reports to update stakeholders on varying Total Allowable Commercial Catch (TACC) returns and end of season quota holdings.

PROGRAM EFFORT ALLOCATION

The table below includes an abbreviated suite of core activities reflect the anticipated split of effort and associated costs.

Strategy/Activities	Days	FTE	Cost (\$)
Leasing and Licensing	21	0.11	14,683
Quota Monitoring	22	0.11	13,183
TOTALS	43	0.22	27,866

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

PROGRAM: DIRECTORATE

PROGRAM MANAGER

Chiara Ciui, Business Manager
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PROGRAM SUMMARY

Business Strategy, within Directorate of PIRSA Fisheries & 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 & Aquaculture Business Strategy Unit.

PROGRAM STRATEGIES AND SUPPORTING ACTIONS & INITIATIVES

ANTICIPATED OUTCOMES

1. Coordinate and facilitate cost recovery processes and program agreements, including liaising with program providers, managers and financial services as required.
2. Attend meetings relating to cost recovery, licence setting and related policy issues.
3. Develop and review cost recovery policy, processes and program agreements.
4. Manage major service providers' service level agreements.
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.
6. Provide advice on procurement and invoicing requirements.
7. Consult with the Group Executive Director, Director, Fisheries and Aquaculture Policy, Director, Operations, PIRSA fisheries managers, and the Office of the Minister and other parties as needed.
8. Management of industry funds and services.
9. Plan, coordinate and facilitate the cost recovery process with industry associations and program providers in a timely and efficient manner.
10. Ongoing review, development and documentation of the cost recovery model, framework, processes and roles.
11. Meet agreed timeframes on management and administration of external contractual services.
12. Appropriate management of industry funds and services.

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.

Strategy/Activities	Days	FTE	Cost (\$)
Directorate	6,204	7	0.04
TOTALS	6,204	7	0.04

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

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PROGRAM: FISHERIES COMPLIANCE OPERATIONS

PROGRAM MANAGER

Andrew Carr

Regional Manager

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STATE COORDINATOR

Brett Williss

Senior Fisheries Officer

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COMPLIANCE PROGRAM SUMMARY

PIRSA Fisheries and Aquaculture teams undertake coordinated compliance activities to educate fishers, deter opportunistic and financially motivated fishery related crimes and enforce the rules and regulations.

In consultation with industry a dedicated compliance plan has been developed for the Sardine fishery. This compliance plan was developed to direct effort and ensure compliance activities are intelligence driven, efficient and cost effective and outcome focussed. The compliance plan is underpinned by three core strategies (Education and Awareness, Effective Deterrence and Appropriate Enforcement) and is focussed towards increasing voluntary compliance and maximising effective deterrence.

A detailed analysis of intelligence and information holdings is conducted to identify the major risks for the fishery. A series of strategies, actions, and initiatives are detailed and used to focus the primary compliance effort in order to manage the risks and achieve targeted outcomes.

OBJECTIVES

This program provides a compliance framework to monitor and regulate fishing activities that support the sustainable commercial take of Sardine in the Sardine Fishery in accordance with the Act and the Sardine Fishery Management Plan.

The plan provides a focus for the teams to undertake coordinated compliance activities to educate fishers, deter opportunistic and financially motivated fishery related crimes, and enforce the rules and regulations of the fishery.

Any risks or emerging trends/issues of significance that arise outside the plan are addressed as required.

The risks and strategies are regularly reviewed and assessed for relevance to ensure compliance activities meet the following objectives:

- Meet the objectives of the *Fisheries Management Act 2007*;
- To promote compliance with the *Fisheries Management (Marine Scalefish Fisheries) Regulations 2006*;
- To support meeting the goals and objectives of the Sardine Fishery Management Plan;
- To promote increased voluntary compliance;
- To deliver an effective education and awareness program;
- Continue developing effective deterrence strategies;
- Undertake appropriate enforcement activities;
- Increase integrity in fishery management systems and/or quota systems;
- Promote positive interactions & collaboration with stakeholders;
- To deliver an efficient and effective compliance program.

COMPLIANCE EFFORT

- Monitoring of Sardine fishery management and quota systems for compliance and integrity;
- Offence identification and response;
- Operational and Investigation Planning and Surveillance;
- Risk assessments, trend and threat analysis;
- Master Operational Planning Process;
- Legislative review for efficacy and relevance;
- Industry liaison and education.

ANTICIPATED OUTCOMES

The principal outcome of this compliance program is to support sustainable management of the Sardine fishery by:

- Increased voluntary compliance;
- Continued development of effective deterrence strategies;
- Accurate intelligence and risk predictions;
- Successful enforcement outcomes for repeat or serious offences;
- Development of efficient and cost effective compliance strategies;
- Continued development of stakeholder engagement programs;
- Reduced incidence of reported illegal activity
- Reduced incidence of documentation errors and inconsistencies
- Increased integrity in fishery management systems and/or quota systems
- Increased positive interactions & collaboration with stakeholders

PROGRAM DELIVERY

The Fisheries & Aquaculture Operations Group comprises three Regional Operations teams, an Offshore Patrol team and an Intelligence & Strategic Support team.

The compliance program dedicated to the Sardine fishery is primarily delivered by Fisheries Officers from the West Region, at-sea by Fisheries Patrol Vessel Southern Ranger and with support, as required, by officers from the Intelligence & Strategic Support Group.

PROGRAM STRATEGIES AND SUPPORTING ACTIONS & INITIATIVES

The compliance program is tailored to the Sardine fishery and uses a number of initiatives and actions that fall under the three core strategies of Education & Awareness, Effective Deterrence and Appropriate Enforcement. These initiatives and actions are outlined in the Sardine fishery compliance plan which has been developed in consultation with the sector.

PROGRAM EFFORT ALLOCATION

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 the fishery

PIRSA has continually reviewed the Sardine 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 an abbreviated suite of the core activities and initiatives used to manage the risks. The table also includes days allocated to reflect the anticipated split of effort and associated costs.

Strategy/Activities	Days	FTE	Cost
<p>Education Awareness</p> <ul style="list-style-type: none"> • Conduct pre-season education meetings with Skippers 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, TEPS and issues impacting the Sardine fishery • Ongoing one on one education during inspections 	6	0.03	\$7,245
<p>Effective Deterrence</p> <ul style="list-style-type: none"> • 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 adherence to TEPS Code of Conduct related procedure, inspections of catch at sea, when landed, and at change of ownership in fish processing premises. • Conduct intelligence driven operations and use appropriate enforcement action • Respond to reported incidents/issues • Communication Strategy 	71	0.35	\$85,736

Enforcement			
<ul style="list-style-type: none"> Investigate reports of TEPS mortalities, non-compliance and where appropriate take action Issue expiations, cautions and court enforced actions. 	13	0.07	\$15,699
TOTALS	90	0.45	\$108,680

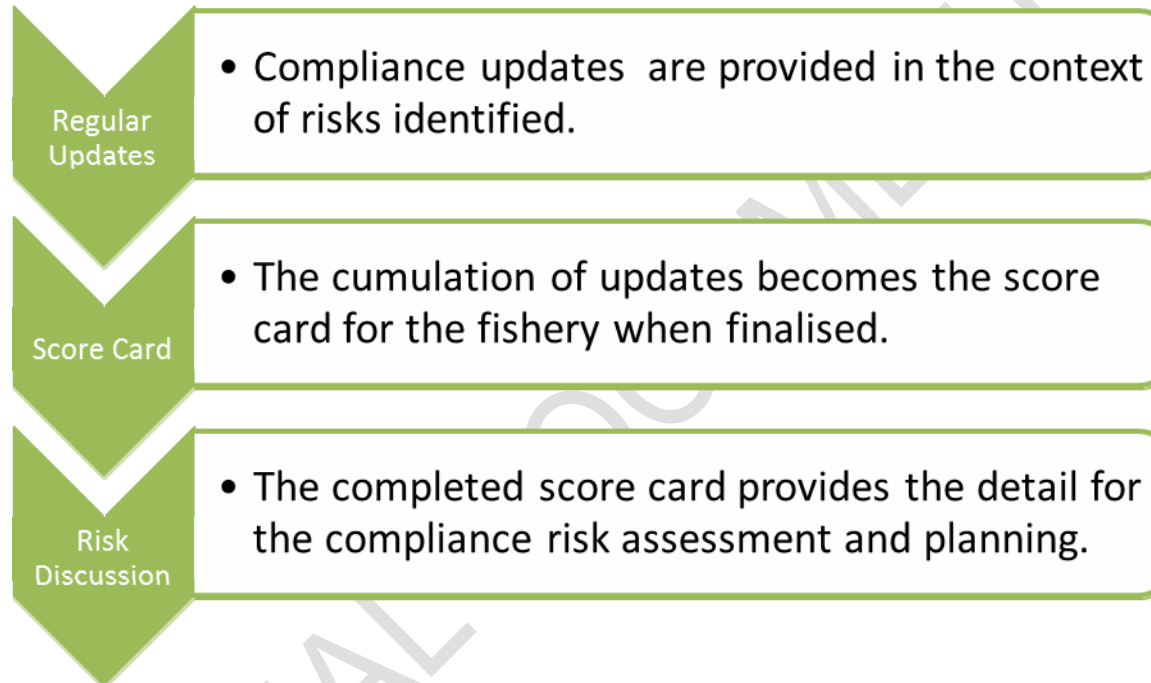
Fisheries Patrol Vessel (FPV) Southern Ranger	Days	Cost
<p>The offshore patrol vessel FPV Southern Ranger is integral to the overall compliance strategy. It is the only State owned vessel with capability to operate in both inshore and offshore waters and in a broad range of sea and weather conditions.</p> <p>FPV Southern Ranger is important for compliance in the Sardine fishery as it provides an effective deterrence in areas traditionally fished by sardine fishers. The crew of FPV Southern Ranger will be conduct targeted and opportune inspections of the Sardine fleet during the fishing season, to ensure fishers are adhering to the respective by-catch regulations. Southern Ranger will also monitor for industry non-compliance with TEPS protocols and periodically monitor unloading at sea.</p>	7	\$50,128

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

All values have been rounded to the nearest dollar figure

FINAL DOCUMENT

SARDINE FISHERY – 15/16 RISK ASSESSMENT & COMPLIANCE PROGRAM



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SARDINE FISHERY RISKS

THREATENED, ENDANGERED & PROTECTED SPECIES (TEPS)	Likelihood: Likely	Consequence: Major	Risk Rating	Extreme
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Risk Attribute	<ul style="list-style-type: none"> Skippers fail to report or inaccurately report TEPS interactions and mortalities Non-adherence to TEPS procedures leading to increased TEPS interaction rates and mortalities Leak or misuse of information relating to TEPS interactions including mortalities impacting Industry reputation Accidental entrapment leading to death of TEPS including dolphins
Legislative & Regulatory Framework	<ul style="list-style-type: none"> Fisheries Management Act 2007
Implication	<ul style="list-style-type: none"> Skippers fail to report or inaccurately report TEPS interactions and mortalities leads to inaccurate reporting and erodes confidence in Industry integrity TEPS related information highly sensitive – potential risk to reputation, social, political implications Unbalanced TEPS interactions data
Control Measure	<ul style="list-style-type: none"> Pre-season briefings including distribution of Sardine Fisher User Guide, Induction of new entrants to Industry Compliance attend quarterly TEPS meetings, Skippers meeting, provision of TEPS (Compliance) updates At sea monitoring by (but not limited to) Fisheries Patrol Vessel (FPV) Southern Ranger to observe Skipper adherence to TEPS requirements Investigation of TEPS mortalities to determine adherence to TEPS Code of Conduct, offences under FMA 2007 Section 71 RM regular liaison with Sardine Industry EO re: Real Time TEPS reporting initiative driven by EO

SARDINE FISHERY RISKS

QUOTA MANAGEMENT SYSTEM INTEGRITY	Likelihood: Likely	Consequence: Severe	Risk Rating	Moderate
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Risk Attribute	<ul style="list-style-type: none"> • Inconsistent approach to determination of catch weight across Industry due to variance in Fish Processors (FP) catch weight determination methodology • Non-compliance with requirements of Quota Management System (QMS) including late CDR submission • Errors and or omissions on CDR including inaccurate reporting of fishing zones fished • Inaccurate catch data • Under declaration of fish caught • Absence of Prior Report (PR) • VMS not switched on or operating
Legislative Framework	<ul style="list-style-type: none"> • Fisheries Management (Marine Scalefish Fisheries) Regulations 2006
Implication	<ul style="list-style-type: none"> • Reduced compliance with requirements of QMS undermines integrity of system • Inconsistent approach to catch weight determination leading to over and under declaration of catch weight leading to impact on individual and Industry TACC • Inaccurate knowledge of what is taken from the sea can affect scientific modelling • Risk of catch weight exploitation (quota evasion) heightened including via late CDR submission • Compliance presence is required to ensure weaknesses in QMS not systematically exploited • Ability for Compliance to monitor fishing vessel movements (Gulf, outside Gulf fishing) compromised
Control Measure	<ul style="list-style-type: none"> • Checks at landing, in transit, at sea and at FP • Comparison and audit of Part A (estimated) CDR v Part B (declared) to identify obvious and large discrepancies. CDR errors and abnormal weight variations investigated • Prior Report (to fishing, to landing, zones fished) audit • Cross checking of CDR's against PR's • Follow up on CDR irregularities including late submission • Compliance attend Industry meetings and regularly liaise with Industry EO • Participate in quota, gear, rules and FP reviews

SARDINE FISHERY RISKS

QUOTA EVASION	Likelihood: Likely	Consequence: Moderate	Risk Rating	Moderate
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Risk Attribute	<ul style="list-style-type: none"> • Inconsistent catch weighing practices producing inaccurate catch weights (Part B on CDR) leading to under / over declaration of individual transferable quota (ITQ) • Provides opportunity for collusion with FP's (fisher underestimation of catch weight, FP reports same weight) • Provides opportunity for "skimming" by FP's • Failure to complete CDR, delayed submission of CDR, errors and or omissions on CDR's • Undeclared (no PR, no CDR) unloads at sea
Legislative Framework	<ul style="list-style-type: none"> • Fisheries Management (Marine Scalefish Fisheries) Regulations 2006
Implication	<ul style="list-style-type: none"> • Commercial advantage • Inaccurate knowledge of what is taken from the sea can affect scientific modelling • Compliance presence required to deter fishers from actively participating in quota evasion • Skipper has to catch more ITQ; more fish coming from the sea • Scientific modelling compromised • Absence of PR reduces ability of Compliance to check catch and accuracy of CDR's • Damage to Industry reputation, social, political implications
Control Measure	<ul style="list-style-type: none"> • Pre-season briefings including distribution of Sardine Fisher User Guide, Induction of new entrants to Industry • Boarding vessels at sea, checks at landing, in transit and at FP's • Audits including CDR & VMS; feedback to related stakeholders • Potential outcomes of fines, prosecution, de-merit points, damage to Skipper / LH / FP reputation serve as deterrent

SARDINE FISHERY RISKS

TAKE OF NON-PERMITTED BY-CATCH	Likelihood: Likely	Consequence: Minor	Risk Rating	Low
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Risk Attribute	<ul style="list-style-type: none"> Fail to release by-catch for risk of losing sardines Publication of by-catch pictures via social media such as Facebook Retention of by-catch for on board consumption
Legislative Framework	<ul style="list-style-type: none"> Fisheries Management (Marine Scalefish Fisheries) Regulations 2006
Implication	<ul style="list-style-type: none"> Failure to report by-catch has potential for adverse impact on approval of Exemption to fish specific areas such as Coffin Bay Publication on social media such as Facebook leading to potential risk to Industry reputation, social, political implications
Control Measure	<ul style="list-style-type: none"> Pre-season briefings including distribution of Sardine Fisher User Guide, Induction of new entrants to Industry Compliance attend Skippers meetings Monitoring of by-catch reporting by Skippers Unload inspections for evidence of un-reported catch Checks at sea Social media monitoring

FINAL DOCUMENT

SARDINE FISHERY RISKS

OTHER

Compliance risks identified within the fishery that may occur which will be addressed as they are detected

Other Risks:

- Fish closed areas
- Use net of non-lawful specifications
- Taking protected species
- Master or vessel not endorsed on a licence
 - Inconsistent understanding of legislated and regulatory obligations by commercial operators
 - Closure of lines of communication between PIRSA / Industry
 - Failure to lodge SARDI catch and effort returns
 - Inaccurate or misleading reporting of catch location and volume on SARDI returns
 - Assist / provide services to other agencies (i.e. SAPOL, threats at sea amongst Industry)

When Marine Scale fishing:

- Exceed relief day provision
- Take undersize
- Take over limit
- Fish closed areas / season
- Fail to attend gear
- Use gear not endorsed on license

		CONSEQUENCES						
		NEGLECTIBLE	MINOR	MODERATE	SEVERE	MAJOR	CATASTROPHIC	
		0	1	2	3	4	5	
LIKELIHOOD	REMOTE	1						
	RARE	2						
	UNLIKELY	3						
	POSSIBLE	4						
	OCCASIONAL	5						
	LIKELY	6		BY-CATCH	QUOTA MANAGEMENT SYSTEM INTEGRITY QUOTA EVASION		TEPS	

LIKELIHOOD DEFINITIONS		CONSEQUENCE DEFINITION	
LIKELY	It is expected to occur	CATASTROPHIC	Local extinctions are imminent / immediate
OCCASIONAL	May occur	MAJOR	Likely to cause local extinctions, if continued in longer term
POSSIBLE	Some evidence to suggest this is possible here	SEVERE	Affecting recruitment levels of stocks / or their capacity to increase
UNLIKELY	Uncommon, but has been known to occur elsewhere	MODERATE	Full exploitation rate, but long term recruitment / dynamics not adversely impacted
RARE	May occur in exceptional circumstances	MINOR	Possibly detectable, but minimal impact on population size and none on dynamics
REMOTE	Never heard of but not impossible	NEGLECTIBLE	Insignificant impacts to population. Unlikely to be measurable against background variability for this population

RISK RATING

Negligible	Low	Moderate	High	Extreme
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SCHEDULE 1 - PROJECT SCOPE

1. PROJECT DETAIL

1.1 Title: Spawning Biomass of Australian Sardine off South Australia

1.2 Client Contact Details

Name: PIRSA Fisheries and Aquaculture
Address: GPO Box 1625, Adelaide, SA 5001
Attention: Sean Sloan
Email: sean.sloan@sa.gov.au
Telephone: 8226 2318
Facsimile: 8226 0434

1.3 Principal Investigator

Name: Tim Ward
Position: Principal Scientist, Finfish Fisheries
Address: SARDI
Email: tim.ward@sa.gov.au
Telephone: 8207 5433
Facsimile: 8207 5406

1.4 Timeframe

Commencement Date: 1 July 2015
Completion Date: 30 June 2016

1.5 Summary

The South Australian Sardine Fishery (SASF) is Australia's largest fishery by weight, with a TACC of 34,000 t over the last five years (2010 to 2014). The TACC was increased to 38,000 t for 2015.

The SASF is managed under the *Fisheries Management Act 2007*.

Spawning biomass estimated using the Daily Egg Production Method (DEPM) has been used as the primary biological indicator for the SASF since 1995.

The Management Plan for the fishery provides for biennial or annual application of the DEPM and/or completion of a stock assessment report (depending on the exploitation rate and catch/risk level). The DEPM was applied in both 2013 and 2014 and the next DEPM survey is scheduled for 2016. A stock assessment report will be completed in 2015.

The estimate of spawning biomass for 2014 had a higher level of uncertainty than previous years due to a lack of adult samples from offshore areas, where most of the spawning occurred (unlike most previous years). The Spawning Biomass Report identified the urgent need to establish a reliable method for sampling adult sardines in offshore waters of South Australia to ensure that future estimates of spawning biomass are robust. Two alternative methods for sampling adults will be trialled: modified demersal trawling and non-targeted purse-seining.

The 2015-16 financial year research scope includes:

- Processing of catch samples provided by observers, laboratory time for length/age measurements including otolith removal and ageing, data entry and analysis.
- Completion and publication of the Stock Assessment Report.
- Completion of DEPM surveys (including offshore adult sampling) and associated laboratory time for sample processing.

The potential assessment program for the SASF over the next four years is outlined below.

Financial year	Report	Delivery date
2015-16	Stock Assessment Report (2014 season)	31 October 2015
	DEPM Survey	Feb/March 2016
2016-17	Spawning Biomass Report	31 October 2016
2017-18	Stock Assessment Report (2016 season)	31 October 2017
	DEPM Survey	Feb/March 2018
2018-19	Spawning Biomass Report	31 October 2019

2. PROJECT DESCRIPTION

2.1 BACKGROUND

This project includes collection of commercial catch and effort data, provision of catch-at-age data and a stock assessment report, completion of a DEPM survey and provision of advice to PIRSA.

Catch and effort data

Catch and effort data in the SASF have been collected continuously since the inception of the fishery in 1991. These data are primary inputs to the Stock Assessment Report

Catch-at-age data

Catch-at-age data has been collected for SASF since 1995 and are also primary inputs to Stock Assessment Reports.

Stock Assessment Reports

Stock Assessment Reports integrate all existing 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, including 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.

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).

2.2 NEED

A Stock Assessment Report that includes model generated estimates of spawning biomass needs to be completed in 2015 as the Management Plan for the SASF requires stock assessments be undertaken at least every two years and the last one was completed in 2013.

Commercial catch and effort statistics and catch-at-age samples need to be collected during 2015-16 in order to maintain the time series of data for use in future Stock Assessment Reports.

DEPM surveys need to be undertaken in 2016 as the Management Plan requires estimates of spawning biomass to be obtained at least every two years and the last one was completed in 2014.

A reliable method for sampling adult sardines in offshore waters of South Australia is needed to ensure that future estimates of spawning biomass are robust

2.3 OBJECTIVES

Collect and store catch and effort (fishery) data for the SASF

Generate catch-at-age and other biological data needed for stock assessment

Produce stock assessment report that assess stock status

Produce spawning biomass report that assess stock status

2.4 METHODS

Conduct sardine egg and adult surveys using methods consistent with previous years (plus adaptive sampling for egg survey using CUFES).

Conduct an offshore adult sampling program using a chartered trawler (and/or potentially a purse-seine vessel, if trials in 2015 prove successful)

Laboratory analyses of egg and adult samples to estimate DEPM parameters.

Integrate the data to provide estimates of spawning biomass.

3. DELIVERABLES

3.1 Service Provided:

Catch and effort data

- manage a comprehensive fishing logbook program;
- collate fishing logbook returns and providing a secure and commercial-in-confidence service;
- maintain database for SASF
- validate catch returns (consultation with fishers to correct errors);
- undertake timely entry and storage of fishery data,
- provide database administration, maintenance and development;
- collect, collate and report on catch and effort data;
- provide up-to-date data summaries to fishery scientists and managers on a timely basis;
- ensure quality control

Catch-at age data and stock assessment report

- analyse catch samples to determine size composition of catches;
- analyse otoliths to determine the age composition of catches;
- 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;
- identify future research needs.

DEPM surveys and spawning biomass report

- undertake plankton surveys to estimate egg production and spawning area;
- undertake adult surveys to estimate adult reproductive parameters;
- develop method for sampling adult sardine in offshore waters
- estimate spawning biomass and provide advice on stock status and uncertainty.

Update sardine chapter in status report for SA fisheries

3.2 Outcomes:

Catch and effort data

Validated up-to-date databases of catch and effort data maintained for the SASF

Catch-at age data and stock assessment report

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 SASF.

Stock Assessment Report that provides advice on the status of sardine off South Australia

DEPM surveys and spawning biomass report

Improved method for sampling adult sardine in offshore waters (trial modified demersal trawling and purse-seining)

Verbal and written information provided on stock status including update of sardine chapter of SA status reports

Stock Assessment Report that provides advice on the status of sardine off South Australia

3.3 Outputs and Extension:

Catch and effort data

Data summaries provided to fisheries managers on request.

Detailed data summary provided for inclusion in the Stock Assessment Report.

Catch-at age data and stock assessment report

Ongoing advice provided to fisheries managers and industry

Primary output is the Stock Assessment Report.

DEPM surveys and spawning biomass report

Ongoing advice provided to fisheries managers and industry

Primary output is the Spawning Biomass Report.

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

PROJECT COST	(\$ Ex GST
SUBTOTAL	580,398
GST	NO GST
TOTAL	580,398

4.3 MILESTONE AND PAYMENT SCHEDULE

Date	Milestone	Payment (\$) Ex GST
31 October 2015	Stock assessment report	
December 2015	First half payment 2015/16	290,199
May 2016	Second half payment 2015/16	290,199
SUBTOTAL		580,398
GST		NO GST
TOTAL COST		580,398

5. PROJECT STAFF

Staff (if identified)	Position	FTE Commitment	Funded/ In-Kind
Tim Ward	Principal Scientist	0.37	Funded
Alex Ivey	Research Officer	0.60	Funded
Jonathon Carroll	Research Scientist	0.30	Funded
Matthew Lloyd	Research Officer	0.21	Funded
Lorenzo Andreacchio	Research Officer	0.21	Funded
Damian Matthews	Research Officer	0.21	Funded
TOTAL		1.90	

SCHEDULE 2 - PROJECT COSTING

1. PROJECT COST SUMMARY

Cost	Detail	2015/16 Total (\$) Ex GST
Salaries	1.90fte	220,178
Operating		
Logbook program		15,832
Charter commercial trawler		100,000
Fieldwork		120,538
Laboratory		2,000
Travel		0
Office & communication		1,000
Capital equipment		0
SARDI overhead		120,850
Underpayment 2013/14 SLA		0
SARDI inkind		86,547
Total Cost		666,945
Revenue – PRICE		
PIRSA F&A	87%	580,398
Total Revenue		580,398
SARDI Investment	13%	86,547

Breakdown explanations:

Logbook Program

Entry, validation, management and reporting of data

Surveys/vessels

Costs of chartering industry, research or other vessels

Fieldwork

Fieldwork costs other than vessels, including travel and OHS requirements

Laboratory

Costs for processing samples

Travel

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

Office and communication

Stationary, communications and publications

SCHEDULE 1 - PROJECT SCOPE

1. PROJECT DETAIL

1.1 Title: Interactions of the Sardine Fishery with short-beaked common dolphins

1.2 Client Contact Details

Name: PIRSA Fisheries and Aquaculture
Address: GPO Box 1625, Adelaide, SA 5001
Attention: Sean Sloan
Email: sean.sloan@sa.gov.au
Telephone: 8226 2318
Facsimile: 8226 0434

1.3 Principal Investigator

Name: Tim Ward
Position: Science Leader, Fisheries
Address: SARDI
Email: tim.ward@sa.gov.au
Telephone: 8207 5433
Facsimile: 8207 5406

1.4 Timeframe

Commencement Date: 1 July 2015
Completion Date: 30 June 2016

1.5 Summary

The project will:

- receive, store and manage observer data from the South Australian Sardine Fishery (SASF);
- integrate fishery and interaction data from fishery logbooks, wildlife interaction forms and observers data-sheets;
- report on dolphin interaction and reporting rates;
- estimate total encirclements and mortalities
- assess the efficacy the industry Code of Practice (CoP);
- provide recommendations to mitigate interactions with dolphins.

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.

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** Examine patterns of observer coverage
- 2.3.2** Compare fishing patterns with and without an observer
- 2.3.3** Compare rates of dolphin encirclement and mortality recorded by observers and in fishery logbooks when an observer was not present
- 2.3.4** Compare the number of encirclements and mortalities estimated to have occurred each financial year using observer data with the numbers recorded in logbooks
- 2.3.5** Assess the efficacy of the CoP in mitigating interactions with dolphins.
- 2.3.6** Provide advice to mitigate future interactions with dolphins

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

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 30 October 2015 on SASF interactions with short-beaked common dolphins for the period up to 30 June 2014;
- 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

PROJECT COST	(\$) Ex GST
SUBTOTAL	43,479
GST	NO GST
TOTAL	43,479

4.3 MILESTONE AND PAYMENT SCHEDULE

Date	Milestone	Payment (\$) Ex GST
30 October 2015	Sardine/Dolphin interaction report	
31 December 2015	First half payment 2015/16	21,739
31 May 2016	Second half payment 2015/16	21,740
SUBTOTAL		43,479
GST		NO GST
TOTAL COST		43,479

5. PROJECT STAFF

Staff (if identified)	Position	FTE Commitment	Funded/ In-Kind
Tim Ward	Principal Scientist	0.03	Funded
Alex Ivey	Research Officer	0.10	Funded
Jonathan Carroll	Research Scientist	0.10	Funded
TOTAL		0.23	

SCHEDULE 2 - PROJECT COSTING

1. PROJECT COST SUMMARY

Cost	Detail	2015/16 Total (\$) Ex GST
Salaries	0.23fte	26,350
Operating		
Logbook program		0
Payment to industry for surveys		0
Fieldwork		0
Laboratory		0
Travel		1,700
Office & communication		800
Capital equipment		0
SARDI overhead		14,629
SARDI in-kind		10,477
Total Cost		53,956
Revenue – PRICE		
PIRSA F&A	81%	43,479
Total Revenue		43,479
SARDI Investment	19%	10,477

Breakdown explanations:

Logbook Program

Entry, validation, management and reporting of data

Surveys/vessels

Costs of chartering industry, research or other vessels

Fieldwork

Fieldwork costs other than vessels, including travel and OHS requirements

Laboratory

Costs for processing samples

Travel

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

Office and communication

Stationary, communications and publications

Capital equipment