

PIRSA Fisheries & Aquaculture Cost Recovery Program

PRAWN FISHERY (SPENCER GULF & WEST COAST)

FOR THE YEAR ENDING AT 30 JUNE 2018



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Information current as of June 2017

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Summary Table – Spencer Gulf Prawn Fishery

2016-17 (\$)	Program Area	2017-18 (\$)	COMMENTS	DAYS	FTE
RESEARCH COSTS					
554,494	Stock Assessment and Monitoring	583,080	Year 3 of 4 year SARDI project scope (30 June 2019)		
14,651	Economic Assessment	14,819	As per contracted services 2017-18		
1,470	Other Research	1,502	Contribution towards Threatened and Endangered Species		
PIRSA RELATED COSTS*					
40,923	Policy and Management	41,823	Same level of service as previous year	45	0.23
9,928	Legislation	10,146	Same level of service as previous year	10	0.05
21,332	Licensing	21,802	Same level of service as previous year	30	0.15
14,423	Directorate	14,740	Same level of service as previous year	16	0.08
39,299	Compliance	40,163	Same level of service as previous year	32	0.16
72,828	Vessel	74,430	Same level of service as previous year	10	0.05
OTHER COSTS					
69,765	FRDC	79,008	Funding based on 0.25% of rolling three year average GVP		
207,065	Co-Management Services	207,065	Co-Management Services contract for 2017-18.		
\$1,046,177	TOTAL	1,088,578			

Licence Fee (\$)	
2017-18	27,912
2016-17	26,825

* 'PIRSA Related Costs' section in longer-term program of indexation (to 30 June 2019). Indexation rate of 2.2% has been applied to 'PIRSA Related Costs', which is consistent with the rate to be applied for the 2017-18 regulated fees and charges process.

Summary Table – West Coast Prawn Fishery

2016-17 (\$)	Program Area	2017-18 (\$)	COMMENTS	Days	FTE
RESEARCH COSTS					
34,235	Stock Assessment and Monitoring	35,384	Year 2 of 3 year SARDI project scope.		
113	Other Research	116	Contribution towards Threatened and Endangered Species		
PIRSA RELATED COSTS*					
7,275	Policy and Management	7,435	Same level of service as previous year	8	0.04
993	Legislation	1,014	Same level of service as previous year	1	0.01
1,422	Licensing	1,453	Same level of service as previous year	2	0.01
1,803	Directorate	1,842	Same level of service as previous year	2	0.01
7,368	Compliance	7,531	Same level of service as previous year	6	0.03
14,566	Vessel	14,886	Same level of service as previous year	2	0.01
OTHER COSTS					
6,424	FRDC	6,540	Funding based on 0.25% of rolling three year average GVP		
\$74,199	TOTAL	76,201			

Licence Fee (\$)	
2017-18	25,401
2016-17	\$24,733

* 'PIRSA Related Costs' section in longer-term program of indexation (to 30 June 2019). Indexation rate of 2.2% has been applied to 'PIRSA Related Costs', which is consistent with the rate to be applied for the 2017-18 regulated fees and charges process.

Program Daily Charge Out Rate

DAILY RATE (\$)	Compliance	Directorate	Legislation	Licensing	Policy	Vessel
Total Employee Expenses	609	575	685	460	582	2,307
Total Operating Expenses	325	136	123	71	150	3,252
Deprecation and Capital Costs	78	0	0	8	0	1,308
Total Other Expenses*	213	193	193	185	193	403
TOTAL DAILY RATE	1,224	904	1,002	723	925	7,269

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 continue to be managed in accordance with the PIRSA Cost Recovery Policy. This policy requires commercial fishery licence fees to fund services related to commercial fisheries management costs. PIRSA Fisheries & 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 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.

Management Objectives 2016/17 to 2018/19 – Spencer Gulf Prawns

Management Plan Objectives	Outcomes 2015/16 to 2018/19	Policy and Management	Compliance	Assessment and Research	Leasing and Licensing
<p>Maintain ecologically sustainable prawn biomass</p> <p>Optimum utilisation and equitable distribution</p>	<p>Maintain stocks and ecosystem in line with the management plan under the Fisheries Management Act 2007</p> <p>Sufficient data and information are available to undertake real time management</p> <p>Review management plan under Fisheries Management Act 2007 in 2018/19</p> <p>Maximise value within ecologically sustainable limits</p>	<p>Real-time management in accordance with the harvest strategy</p> <p>Preparation, attendance and participation in management committee meetings</p> <p>Continue implementation and management of existing programs</p> <p>Lead review of management plan in 2018/19</p>	<p>Implement compliance program, in accordance with risk assessment</p> <p>Support implementation of management plan</p> <p>Support review of management plan in 2018/19</p>	<p>Conduct and report on surveys</p> <p>Produce biennial stock assessment reports to assess fishery performance, in accordance with management plan (2016/17 & 2018/19)</p> <p>Produce annual stock status advice note to inform harvest strategy</p> <p>Support implementation of management plan. Provide scientific advice to management committee for harvest strategy development</p> <p>Progress the use of the bio-economic model</p> <p>Support review of management plan in 2018/19</p>	<p>Support implementation of management plan</p> <p>Provide ongoing support for licensing queries</p> <p>Support review of management plan in 2018/19</p>
<p>Protect and conserve aquatic resources, habitats and ecosystems</p>	<p>Progress actions and conditions for MSC auditing purposes</p> <p>Progress DotE WTO accreditation under EPBC Act</p>	<p>Support implementation of actions and conditions for MSC auditing</p> <p>Continue implementation and management of existing programs</p>	<p>Implement compliance program, in accordance with risk assessment</p> <p>Advise on implementation and monitoring of T90</p>	<p>Support implementation of actions and conditions for MSC</p> <p>Provide scientific advice on T90 and BRDs</p>	

	R&D of T90 gear implemented, if appropriate	Support and participate in research to develop BRD with industry. If appropriate industry to implement. Continue to monitor cuttlefish catches and minimise interactions Progress the implementation of any successfully proven bycatch reduction devices			
Enable effective and participative management of the fishery	Effective engagement with the industry, in accordance with agreed co-management arrangements	Preparation, attendance and participation at association meetings and provision of advice, as required	Attend association meetings and provide advice on compliance issues, as required	Attend association meetings and provide scientific on compliance issues, as required	Provide ongoing support for licensing queries

Management Objectives 2016/17 to 2018/19 – West Coast Prawns

Management Policy Objectives – West Coast	Outcomes 2016/17 to 2018/19	Fisheries Policy and Management	Compliance	Assessment and Research	Leasing and Licensing
Maintain ecologically sustainable prawn biomass	Stock maintenance Review of the management policy, including harvest strategy following delivery of stock assessment	Real-time management in accordance with management policy Review and implement new management policy, including performance indicators and reference points to inform harvest strategy in 2016/17 Hold recruitment monitoring workshop in 2016/17	Implement compliance program, in accordance with risk assessment Support review of management policy	Conduct and report on surveys as described in the management policy for the fishery Development of a recruitment index for the fishery Support review of management policy, including performance indicators and reference points to inform harvest strategy development Produce annual stock status report or advice note to inform harvest strategy	Support development of management policy Provide ongoing support for licensing queries
Optimum utilisation and equitable distribution of the resources.					
Ensure optimal utilisation and equitable distribution	Annual Report for DotE	Continue implementation and management of existing programs. Develop options to assess by-catch.	Implement compliance program, in accordance with risk assessment		
Cost-effective, efficient and participative management of the fishery	Effective engagement with the industry, in accordance with agreed co-management arrangements	Preparation, attendance and participation at association meetings and provision of advice, as required	Attend association meetings and provide advice on compliance issues, as required	Attend association meetings and provide scientific on compliance issues, as required	Provide ongoing support for licensing queries.

Fisheries Policy and Management Program

PRAWN FISHERY (SPENCER GULF & WEST COAST)

FOR THE YEAR ENDING AT 30 JUNE 2018

All enquiries

Program Manager

Jon Presser, General 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 Deputy Chief Executive 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 recommendations under EPBC Act assessment.

Objectives

To provide day-to-day fisheries management services for the Spencer Gulf and West Coast Prawn 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 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 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

- Provision of clear instructions for complex legal drafting or compilation of drafts of simple legislative instruments in consultation with the legal manager as necessary for the management of the Spencer Gulf and West Coast Prawn 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 Spencer Gulf and West Coast Prawn Fishery
- Prepare policies to support fisheries management
- Prepare submissions to enable regular assessment of the Spencer Gulf and West Coast Prawn Fishery under the EPBC Act
- Prepare annual report to the Australian Government on EPBC Act requirements for the Spencer Gulf and West Coast Prawn fisheries
- Prepare 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. Strong industry and government involvement in co-management relationship and adherence to formally agreed co-management arrangements.
2. Develop and implement management plan. Management plans to include harvest strategies that protect sustainability of the fishery based on ESD risk assessment processes.
3. Australian Government recommendations met in relation to EPBC assessment.
4. Setting of TACC for Spencer Gulf and West Coast Prawn Fishery

Program Effort Allocation

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

Strategy/Activities	Days	FTE	Cost (\$)
Policy and Management – Spencer Gulf	45	0.23	41,823
Policy and Management – West Coast	8	0.04	7,435

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

Legal Services Program

PRAWN FISHERY (SPENCER GULF & WEST COAST)

FOR THE YEAR ENDING AT 30 JUNE 2018

All enquiries

Program Manager

Lambertus Lopez, Manager, Legal and Legislative Programs
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Program Summary

PIRSA Fisheries & Aquaculture Directorate provides legal services to the Deputy Chief Executive 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 Spencer Gulf & West Coast Prawn 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 & 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 described, 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 and initiatives used to manage risks and reflect the anticipated split of effort and associated costs.

Strategy/Activities	Days	FTE	Cost (\$)
Policy and Management – Spencer Gulf	10	0.05	10,146
Policy and Management – West Coast	1	0.01	1,014

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

Leasing and Licensing Program

PRAWN FISHERY (SPENCER GULF & WEST COAST)

FOR THE YEAR ENDING AT 30 JUNE 2018

All enquiries

Program Manager

Rob Falco, Manager, Leasing and Licensing
Telephone: 08 8204 1374 Email: Rob.Falco@sa.gov.au

Program Summary

The fisheries leasing & licensing within PIRSA Fisheries & 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 & 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.

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 invoices.
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 Deputy Chief Executive, 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 and initiatives used to manage risks and reflect the anticipated split of effort and associated costs.

Strategy/Activities	Days	FTE	Cost (\$)
Leasing and Licensing – Spencer Gulf	30	0.15	21,802
Leasing and Licensing – West Coast	2	0.01	1,453

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

Directorate Program

PRAWN FISHERY (SPENCER GULF & WEST COAST)

FOR THE YEAR ENDING AT 30 JUNE 2018

All enquiries

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' contractual agreements, and co-management services contractual agreements with industry associations
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 Deputy Chief Executive, Director Fisheries and Aquaculture Policy, Director Operations, PIRSA fisheries managers, and the Office of the Minister and other parties as needed.
8. Ongoing review, development and documentation of the cost recovery model, framework, processes and roles.
9. Meet agreed timeframes on management and administration of external contractual services.
10. 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 – Spencer Gulf	16	0.08	14,740
Directorate – West Coast	2	0.01	1,842

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

Fisheries Compliance Operations Program

PRAWN FISHERY (SPENCER GULF & WEST COAST)

FOR THE YEAR ENDING AT 30 JUNE 2018

All enquiries

Program Manager

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Compliance 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 Spencer Gulf & West Coast Prawn 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 outputs of the Spencer Gulf & West Coast Prawn Compliance Plan are primarily delivered by teams located in Port Lincoln and Fisheries Patrol Vessel Southern Ranger. Support is also provided as required from the three Regional Operation teams and the Intelligence and Strategic Support team.

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

A diagrammatic representation of the PIRSA compliance model is shown as a Program Logic Model (Appendix 1). This identifies the high level relationships and intended causal links between fisheries compliance inputs, outputs and intended program outcomes.

The elements of the compliance Program Logic Model are also linked to a new assessment tool (Maturity Model) that was developed during National Fisheries Compliance Committee (NFCC) workshops. The Maturity Model allows a weight of evidence approach to assess the efficacy of the compliance outputs and the outcomes achieved. This is designed to support decisions that achieve a shared view between Sardine industry and PIRSA and the existence of a mature sustainable fishery.

Compliance Inputs

Compliance inputs are the resources and constraints that frame the delivery of the compliance outputs or activities. This covers policies, legislative and regulatory frameworks, program funding, human resourcing, information technology systems and research. The compliance inputs for the Spencer Gulf & West Coast Prawn Fishery are identified herein.

Legislative and Regulatory Framework

Fisheries Management Act 2007

Fisheries Management (Fish Processors) Regulations 2007

Fisheries Management (General) Regulations 2007 Schedule 2

Fisheries Management (Demerit Points) Regulations 2009

Fisheries Management (Prawn Fisheries) Regulations 2006

Spencer Gulf & West Coast Prawn Management Plan

Program Effort, Funding & 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 Spencer Gulf & West Coast Prawn 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.

It should be noted that for the year ending 30 June 2016 PIRSA expended 1.9 Days of effort above the estimated program. The table below includes the number of days predicted to reflect the anticipated split of effort and associated costs to deliver the compliance outputs for 2017/18.

Table 1: SGP Effort Allocation by Compliance Output

Compliance Outputs	Days	FTE	Cost (\$)
Education Awareness	3	0.015	3,765
Effective Deterrence, Monitoring & Surveillance	28	0.14	35,143
Enforcement	1	0.005	1,255
TOTAL OFFICER DAYS	32	0.16	40,163
Fisheries Patrol Vessel Southern Ranger	10		74,430

Table 2: WCP Effort Allocation by Compliance Output

Compliance Outputs	Days	FTE	Cost (\$)
Education Awareness	1	0.005	1,255
Effective Deterrence, Monitoring & Surveillance	4	0.02	5,021
Enforcement	1	0.005	1,255
TOTAL OFFICER DAYS	6	0.03	7,531
Fisheries Patrol Vessel Southern Ranger	2		14,886

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.

IT Systems, Technology & 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

Compliance Delivery Outputs

The coordination of compliance outputs is guided by an industry specific compliance plan which was developed in consultation with the Spencer Gulf & West Coast Prawn 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 Prawns. 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 education meetings 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, Bycatch and other issues impacting the Spencer Gulf & West Coast Prawn 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

Enforcement

- Investigate reports of non-compliance and where appropriate take action
- Issue expiations and caution notices
- Communicate enforcement outcomes in formal reporting
- Service of suspension notices

Risk Assessment and Management (work priorities)

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

1. Fish in Closed Areas or Outside Prescribed Areas and Times
2. Take Protected or Non Permitted Species
3. By-Catch
4. Use Illegal Fishing Gear.
5. Interactions with Obstructions on the Sea Floor (SGP Only)

Anticipated Compliance Outcomes

PIRSA will assess the efficacy of the compliance program by evaluating particular outcomes. The outcomes will be in the form of stakeholder awareness, behavior and impact. The evaluation in the form of a maturity model will be used to establish an order of magnitude to support decision making and progress towards a common view of a mature fishery and ultimately co-management.

Awareness

Awareness is a short term outcome that is necessary to prevent unnecessary use of enforcement activities. Awareness constitutes and improved community and stakeholder attitude towards compliance, an improved understanding of legislation and regulation, improved stakeholder buy-in and participation and community support for offence detection. The attributes for each are articulated herein.

Improved community and stakeholder attitude

- Confidence in compliance ability to use statutory and discretionary powers appropriately
- Understanding of the public value of compliance
- Comprehension of services delivered by compliance against the objects of The Act
- Confidence in compliance ability to sustain resource allocation equity amongst direct resource users.

Improved understanding of legislation and regulation

- Understanding fishing obligations
- Legislation and regulation is considered simple and fair to follow.

Improved stakeholder buy-in and participation

- Actively engage with compliance in development of risk assessments, reporting frameworks, reviewing rules
- Collaborative problem solving

Community support for offence detection and sanctions

- Actively provide relevant information
- Industry driven initiatives

Behaviour

Successful outcomes and long term sustainable fisheries are ultimately driven by behavior that is in the interest of sustainability, ongoing economic viability and public value. The behavioural outcomes that are important to PIRSA include stewardship, voluntary compliance and proactive approaches to compliance issues. The attributes for each are articulated herein.

Stewardship

Stewardship is the aggregation of a number of actions and behaviours where industry is entrusted with the management of the Spencer Gulf & West Coast Prawn resource and the associated compliance of its members within the regulatory and legislative input constraints.

Some of the behaviours of stewardship include:

- An acceptance of change from traditional approaches and attitudes to strong partnerships between government, industry and key stakeholder groups.
- An established mutual trust and respect between government, industry and key stakeholders
- An alignment of values that gives rise to industry and PIRSA communicating the same message focusing on the sustainability of the aquatic resource and associated ongoing economic viability as the primary drivers.

- PIRSA compliance appears seamless to industry. Inputs and outputs are shared. Joint investigations and national problem solving actions are taken by all, collectively and with representative groups engaged in partnership.
- Minimal conflict exists with other stakeholder groups or industry has clear mechanisms or a demonstrated capacity to address the conflict.

Voluntary compliant behavior

- All appropriate attempts to understand and adhere to rules and regulations are made by industry.
- PIRSA Fisheries and Aquaculture compliance is contacted when industry is unable to meet regulatory requirements so an alternative legal solution can be arranged.
- Industry members report other commercial fishers who fail to meet regulatory requirements.

Proactive approaches to compliance issues (incl. participation in governance process)

- Use established industry structures to collaborate on compliance issues to deliver the shared objective of sustainability and public value.
- Actively participate and respond to compliance issues.
- Highlight deficiencies in compliance programs and suggest improvements.
- Influence other industry participants to promote voluntary compliance.

Impact

The awareness and behavior changes will lead to a longer term impact that is reflected in economic and ecological sustainability, broad confidence in the allocation of Sardine between user groups, a confidence in the ability of PIRSA to manage Spencer Gulf & West Coast Prawn resources and an industry that is free from the influence of serious and organised crime. The attributes for each impact is articulated herein.

Ecological and economic sustainability of aquatic resources

- SARDI stock status assessments reflect an ecological sustainability
- Industry reflect economic sustainability

Confidence and equity in resource allocation and access

- Recreational, commercial and Aboriginal fishing stakeholders are confident that the division of Sardine resources is fair and equitable.
- Investment support continues for ecologically and economically sustainable harvest of Prawns.

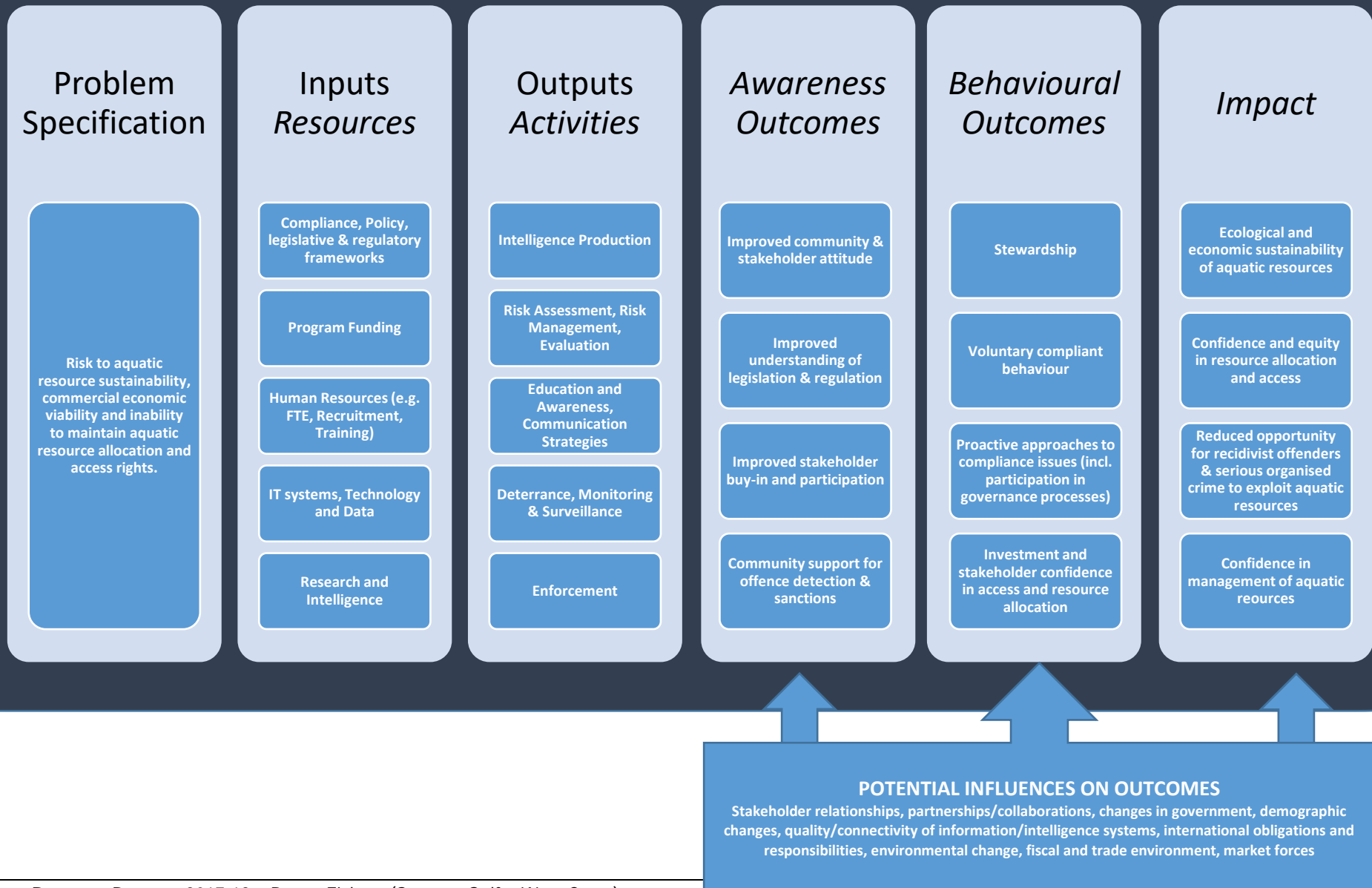
Reduced opportunity for recidivist offenders and Serious Organised Crime to exploit aquatic resources

- Regulators, law enforcement and industry have closed opportunities for Serious Organised Crime to participate in the Spencer Gulf & West Coast Prawn industry.
- Industry has not had any impact resulting from Serious Organised Crime activities for a significant period of time.

Confidence in management of aquatic resources

- Positive public perception in the management of Spencer Gulf & West Coast Prawn stocks.
- Positive consumer perception for commercially harvested Spencer Gulf & West Coast Prawns.
- An absence of adverse industry publicity.

Ecologically Sustainable Development (ESD) and Risk Management Framework



Stock Assessment and Monitoring Program

PRAWN FISHERY (SPENCER GULF & WEST COAST)

FOR THE YEAR ENDING AT 30 JUNE 2018

All enquiries

Client Contact Details

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Principal Investigator (West Coast Prawn Fishery)

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Research Chief, SARDI Aquatic Sciences
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SCHEDULE 1 - RESEARCH PROJECT SCOPE

1. PROJECT DETAIL

1.1 Title SPENCER GULF PRAWN FISHERY

1.2 Client Contact Details

Name: PIRSA FISHERIES AND AQUACULTURE
Address: GPO Box 1625, Adelaide, SA 5001
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1.3 Principal Investigator

Name: Dr Craig Noell
Position: Research Scientist, Inshore Crustaceans
Address: SARDI Aquatic Sciences
2 Hamra Ave, West Beach, SA 5024
Email: Craig.Noell@sa.gov.au
Telephone: 8207 5428
Facsimile: 8207 5406

1.4 Timeframe

Commencement Date: 1 July 2015
Completion Date: 30 June 2019

1.5 Summary

This research scope has been prepared in response to an agreement between PIRSA Fisheries and Aquaculture, the Spencer Gulf and West Coast Prawn Fishermen's Association (SGWCPFA) and SARDI Aquatic Sciences to move to a four-year research program (2015/16—2018/19) for the Spencer Gulf Prawn Fishery (SGPF).

The main reason for changing the frequency of fishery assessment reports from annual to biennial is to provide opportunities for other core fundamental research to be carried out in the non-assessment years. Given that the stock status and harvest strategy will still be determined prior to the commencement of each fishing season (based on fishery-independent surveys), this four-year program is considered to be a cost-effective approach to exploring other fundamental needs and interests in the fishery without compromising the main objective of determining annual stock status and the harvest strategy. It also provides industry and SARDI with greater stability and certainty across multiple years.

An annual review process will be undertaken in March each year to review the programs, by PIRSA, SARDI and the Association's representatives. An additional review of the logbook program will be undertaken should the fishery move to an electronic log system that may alter the fishery logbook services delivered by SARDI.

The research program for the SGPF is underpinned by:

- Consistent fishery-independent surveys (FIS) conducted before, mid and toward the end of the fishing season in collaboration with industry, using industry vessels.
- Provision of software and assistance for analysing fishery-independent survey data to inform harvest strategies.
- Provision of advice on the effectiveness of real time management (RTM).
- Assessment of the fishery against the performance indicators (PIs) of the Management Plan.
- Provision of advice on annual stock status and harvest strategy prior to the commencement of the next fishing season.
- Provision of a biennial (previously annual) fishery assessment report.
- Annual juvenile prawn abundance surveys (incorporating disease monitoring).
- Provision of advice to deliver against conditions of Marine Stewardship Council (MSC) accreditation.

In response to research needs identified in consultation with PIRSA Fisheries and Aquaculture and industry, this four-year scope also includes: 1) further development of the stock assessment program; and 2) ongoing ecosystem monitoring and evaluation (including an analysis of the change in footprint of the fishery). These additional research projects will be undertaken in the first (2015/16) and third (2017/18) years of the four-year program when there is no fishery assessment report being delivered.

1.6 Proposed Research Program (see Appendix for summary of work schedule)

1.6.1 Fisheries statistics and fishery logbook (annual)

- Manage a comprehensive fishing logbook program. Collate fishing logbook returns and provide an in-confidence service.
- Validate returns (consultation with fishers to correct returns).
- Entry and storage of catch and effort, FIS and fishery-dependent survey (FDS) data.
- Database administration, maintenance and development.
- Provide end of fishing season status report incorporating catch and effort data.

1.6.2 Fishing strategy development and real-time management (annual)

- Run annual workshops (or as required) to educate participating survey skippers, crews and observers on the importance of surveys and data collection requirements.
- Manage and coordinate FIS observer program in collaboration with industry, using industry vessels (NOTE: the cost of hiring commercial vessels is included in the budget).
- Provide survey results and advice to PIRSA Fisheries and Aquaculture and the Spencer Gulf and West Coast Prawn Fishermen's Association (SGWCPFA) immediately following stock assessment surveys to inform fishing strategy development and RTM.

- Provide feedback to the Executive Officer of the SGWCPFA on performance of survey participants (i.e. accuracy, timeliness and quality of survey data provided).

1.6.3 Stock assessment (biennial – 2016/17 and 2018/19)

- Review and update biological synopsis on western king prawns.
- Analysis of FIS and fishery-dependent survey (FDS) data.
- Analysis of fishery-dependent catch and effort data.
- Analysis of fishing performance with respect to criteria of the fishing strategy.
- Assessment against the biological performance indicators (PIs) in the Management Plan.
- Determine stock status in accordance with reference points in the Management Plan.
- Recommend future research needs.
- Prepare a stock assessment report.

1.6.4 Stock status advice (annual)

- Determine annual harvest strategy and stock status in accordance with reference points in the Management Plan.
- Prepare advice note prior to the start of the next season.

1.6.5 Juvenile abundance surveys (annual)

- Collect samples of juvenile prawns at selected locations in upper Spencer Gulf for monitoring abundance and disease.
- Undertake laboratory processing/sorting of the samples and enter and validate the data.
- Report on the abundance of juveniles.

1.6.6 Stock assessment program development (2015/16 and 2017/18)

- Investigate cost-effective alternatives to the February stock assessment survey for obtaining an index of recruitment (2015/16), while maintaining the harvest strategy's integrity.
- Investigate alternatives to the length-frequency sampling for estimating recruitment and egg production (2017/18).
- Evaluate the effectiveness of the current stock assessment survey design (i.e. location and number of survey shots) (2017/18).

1.6.7 Ecosystem monitoring (2015/16 and 2017/18)

- Cost-effective monitoring and evaluation of fishery impacts on the ecosystem; performance indicators to be developed.
- Recommend reference points and decision rules as required.
- Includes developing an agreed method to undertake future footprint analysis in 2015/16.

2. PROJECT DESCRIPTION

2.1 BACKGROUND

Production from the SGPF has been relatively stable between 1600 t and 2400 t throughout the history of the fishery. Since 1978 effort has effectively halved. Fishing strategies are developed from a combination of FIS, FDS and data collected during commercial fishing.

SARDI provides an independent assessment of the status of the resource against the PIs of the Management Plan. This assessment is underpinned by prawn survey data collected in a fishery-independent manner. The assessment also incorporates an evaluation of the RTM practices of the fishery. SARDI has developed spreadsheets to aid electronic data capture during surveys and regularly provide training to observers and crew on the survey data requirements through a series of workshops.

SARDI also conducts other research that relates to South Australia's prawn fisheries, such as by-catch surveys (to inform risk assessments), ecosystem-based fisheries management, juvenile abundance and disease-monitoring surveys and bio-economic modelling.

2.2 NEED

Multiple FIS are required throughout the fishing season to report against the PIs of the SGPF, thus providing the basis for assessment of the fishery or determining stock status. Immediate assessment of FIS data, enhanced through electronic data capture and analysis, enables assessment against the criteria of the Management Plan and subsequent development of appropriate fishing strategies. FIS also provide information on egg production and recruitment to the fishery.

In addition to preparing fishery assessments and stock status advice, there has been a request to conduct annual juvenile prawn abundance and disease-monitoring surveys, undertake footprint analysis and continue ecosystem monitoring of the fishery, and further develop the stock assessment program.

2.3 OBJECTIVES

2.3.1 Collect and analyse FIS and FDS data to:

- Develop fishing strategies in accordance with the decision rules of the Management Plan.
- Assess performance of the fishery with respect to fishing strategy criteria and against the biological PIs of the Management Plan.
- Determine stock status.

2.3.2 Collect, collate and analyse fisher logbook information to:

- Determine spatial and temporal patterns in catch and effort.
- Assess performance of the fishery with respect to fishing strategy criteria and against the biological PIs of the Management Plan.
- Assess the effectiveness of RTM.

2.3.3 Determine abundance of juvenile prawns in upper Spencer Gulf and identify any signs of disease.

- 2.3.4** Development of the stock assessment program through priority research activities:
- Investigate cost-effective alternatives to the February stock assessment survey for obtaining a reliable index of recruitment.
 - Investigate alternatives to the length-frequency sampling for obtaining more accurate and cost-effective estimates of recruitment and egg production.
 - Determine whether the number of trawl shot locations of the current survey design can be rationalised for stock assessment.
- 2.3.5** Evaluate impacts of the fishery on the ecosystem through ongoing monitoring of selected species incidentally taken as by-catch.
- 2.3.6** Develop a method for routine determination of change in footprint and develop reference points that support real-time spatial management.

2.4 METHODS

2.4.1 Fisheries statistics and fishery logbook

- Collate and validate (through consultation with fishers to correct returns) fishing logbook returns.
- Enter catch and effort, FIS and fishery-dependent survey (FDS) data.

2.4.2 Fishing strategy development and real-time management

- Run annual workshops (or as required) to educate skippers, crews and observers on the importance of surveys and data collection requirements.
- Manage and coordinate FIS observer program.
- Prepare and distribute spreadsheets for skippers (e-logs) to provide catch rate and prawn size data through email.
- Collate and analyse survey data including spatial analysis.

2.4.3 Stock assessment

- Literature review of biology of western king prawns.
- Analyse trends in biomass through FIS data.
- Analyse spatial and temporal trends in fishery-dependent catch and effort data.
- Assess performance of fishery with respect to fishing strategy criteria and biological performance indicators (PIs) in the Management Plan.
- Determine stock status in accordance with reference points in the Management Plan.

2.4.4 Stock status advice

- Analyse trends in biomass through FIS data.
- Determine stock status in accordance with reference points in the Management Plan.

2.4.5 Juvenile surveys

- Collect juvenile prawns from False Bay and Port Pirie (upper Spencer Gulf) using a 'jet net'.
- Sort juvenile prawns in the laboratory from preserved samples.

- Enter data and calculate abundance.

2.4.6 Development of the stock assessment program

- Use the prawn bio-economic model or other analyses to investigate cost-effective alternatives to the February stock assessment survey for obtaining an index of recruitment.
- Assess the variability in prawn-size grading among the survey vessels to:
 - Determine a more accurate and cost-effective measure of recruitment and egg production than length-frequency sampling; and
 - Enable other agreed research activities to be undertaken by observers during surveys.
- Use post-stratification techniques and existing stock assessment survey data to evaluate the cost-effectiveness of the current survey design.
- Have regular discussion with PIRSA and industry on the information needs and future application of the bio-economic model.
- Incorporate relevant outputs in future fishery assessments.

2.4.7 Ecosystem monitoring (including footprint analysis)

- Review the ecosystem monitoring needs in the fishery subject to MSC re-certification, implications/outcomes from the ecosystem-based fisheries management report, and findings from other research on by-catch mitigation.
- Import spatial data from catch and effort database (it is anticipated that an electronic logbook system will be in operation at this time, which will facilitate real-time analysis).
- Develop code to filter and analyse spatial data, and generate outputs (including calculated fishing intensity and area, maps to aid visualisation by the fleet, and change in footprint) in real time.
- Evaluate trends from available data.
- Develop performance indicators, reference points and, potentially, decision rules from the footprint analysis to support real-time spatial management.
- A report on the footprint analysis will be prepared.
- Ongoing monitoring of selected by-catch species encountered by the fleet as measure of impact on the ecosystem.
- Incorporate footprint analysis/ecosystem monitoring in stock assessment reports.

3. DELIVERABLES

3.1 Service Provided:

3.1.1 Data collection

Collection of fisheries statistics:

- Manage a comprehensive fishing logbook program
- Collate fishing logbook returns and provide an in-confidence service

- Validate returns (consultation with fishers to correct returns)
- Entry and storage of data
- Database administration, maintenance and development.

Collection of biological information:

- Regular training of observers and crew on the survey data requirements
- Collection and storage of prawn size and abundance distributions from FIS and FDS
- Collection and storage of prawn size-grading information
- Collection and storage of basic biological data e.g. fecundity, length-weight relationships for prawns

3.1.2 Analysis and reporting

Analysis and interpretation:

- In stock assessments:
 - Analyse trends in biomass through FIS data
 - Analyse spatial and temporal trends in fishery-dependent catch and effort data
 - Assess performance of fishery with respect to fishing strategy criteria and biological performance indicators (PIs) in the Management Plan
- Real-time analysis to inform fishing strategy development
- Provide an analysis of survey data for determining stock status and annual harvest strategy for the following season
- Determine annual abundance of juvenile prawns
- Further development of stock assessment methods to assist management of the fishery
- Ecosystem monitoring and evaluation
- Footprint analysis and development of performance indicators and reference points for real-time spatial management

Industry and policy liaison:

- Participate and contribute to meetings with PIRSA Fisheries and Aquaculture as required
- Participate and contribute to SGWCPFA Management Committee meetings as required
- Participate and contribute to SGWCPFA Research Subcommittee meetings as required
- Respond to requests from PIRSA Fisheries and Aquaculture as required

Reporting:

- Complete survey reports immediately after each FIS to support RTM (triannual)
- Advice note on the stock status of the SGPF prior to the commencement of the next fishing season (annual)
- Advice note to PIRSA Fisheries and Aquaculture on a review of the February stock assessment survey (2015/16)
- Stock assessment report on the SGPF to PIRSA Fisheries and Aquaculture (biennial – 2016/17 and 2018/19)

- Juvenile prawn abundance (annual)
- When additional research is undertaken (2015/16 and 2017/18):
 - Report on footprint analysis
 - Integration of revised stock assessment methods in future stock assessment reports
- Report on ecosystem monitoring in future stock assessment reports
- Update relevant chapters in fishery stock status reports (South Australian and national) as required

3.2 Outcomes:

- Timely completion of survey question sets after each survey
- Advice on the harvest strategy and stock status classification prior to the start of the next fishing season
- Stock assessment of the SGPF
- Advice on potential alternatives to conducting February stock assessment survey for estimating an index of recruitment and for contributing towards stock status determination
- Time series of juvenile prawn abundance
- Advice to support fishery management from stock assessment outputs
- Ongoing monitoring of impacts of the fishery on the ecosystem and development of PIs and reference points that can be implemented in real time to enhance spatial management

3.3 Outputs and Extension:

- Presentation to PIRSA Fisheries and Aquaculture and the Management Committee of the SGWCPFA on the stock assessment of the SGPF (biennial)
- Stock assessment report (biennial – 2016/17 and 2018/19)
- Advice note to PIRSA Fisheries and Aquaculture on harvest strategy and stock status prior to the start of the next fishing season (annual)
- Advice note to PIRSA Fisheries and Aquaculture on a review of the February stock assessment survey (2015/16)
- Report, by 30 September each year, to PIRSA Fisheries and Aquaculture on results of juvenile prawn abundance surveys (annual)
- Report on footprint analysis and development of performance indicators to support real-time spatial management (2015/16)
- Incorporate ecosystem monitoring in stock assessment reports
- Integrate revised stock assessment methods and/or updated bio-economic model outputs in future stock assessment reports.

4. FUNDING ARRANGEMENTS

4.1 PROJECT COSTING POLICY

This four-year research program Scope and Costing has been costed at a Discounted rate.

4.2 PROJECT COST

PROJECT COST (ex gst)	2015/16	2016/17	2017/18	2018/19
SUBTOTAL	471,232	554,494	583,080	571,930
GST	No GST	No GST	No GST	No GST
TOTAL	471,232	554,494	583,080	571,930

4.3 MILESTONE AND PAYMENT SCHEDULE

4.3.1 Four-year research program

2015/16

Date	Milestone	Payment (\$) Ex GST
30 September 2015	Stock status Advice Note	
31 December 2015	First half payment	235,616
31 December 2015	Advice Note: Stock assessment survey review	
30 April 2016	Report: Footprint analysis	
31 May 2016	Second half payment	235,616
SUBTOTAL		471,232
GST		No GST
TOTAL COST		471,232

2016/17

Date	Milestone	Payment (\$) Ex GST
30 September 2016	Stock status Advice Note	
31 December 2016	First half payment	277,297
30 April 2017	Report: Fishery Stock Assessment	
31 May 2017	Second half payment	277,297
SUBTOTAL		554,494
GST		No GST
TOTAL COST		554,494

2017/18

Date	Milestone	Payment (\$) Ex GST
30 September 2017	Stock status Advice Note	
31 December 2017	First half payment	291,540
31 May 2018	Second half payment	291,540
SUBTOTAL		583,080
GST		No GST
TOTAL COST		583,080

2018/19

Date	Milestone	Payment (\$) Ex GST
30 September 2018	Stock status Advice Note	
31 December 2018	First half payment	285,965
30 April 2019	Report: Fishery Stock Assessment	
31 May 2019	Second half payment	285,965
SUBTOTAL		571,930
GST		No GST
TOTAL COST		571,930

5. PROJECT STAFF

5.1 FOUR-YEAR RESEARCH PROGRAM

Staff (if identified)	Position	FTE 2015/16	FTE 2016/17	FTE 2017/18	FTE 2018/19	Funded/ In-Kind
Craig Noell	Principal Investigator	0.75	0.85	0.75	0.85	Funded
Stephen Mayfield		0.10	0.10	0.10	0.10	Funded
Graham Hooper		0.40	0.25	0.40	0.25	Funded
Casual OPS203		0.16	0.16	0.16	0.16	Funded
TBA OPS4		0.30	0.30	0.30	0.30	Funded
TOTAL		1.71	1.66	1.71	1.66	

SCHEDULE 2 - PROJECT COSTING

1. PROJECT COST SUMMARY

Cost	Detail	2015/16 Total (\$) Ex GST	2016/17 Total (\$) Ex GST	2017/18 Total (\$) Ex GST	2018/19 Total (\$) Ex GST
Salaries	1.71/1.66fte	183,001	179,995	193,956	190,734
Operating					
Logbook program		35,622	36,414	37,503	38,628
Payment to industry for surveys		126,015	220,515	220,515	220,515
Fieldwork		10,000	7,200	10,000	7,200
Laboratory		3,600	1,200	3,600	1,200
Travel		9,300	6,500	9,300	6,500
Office & communication		5,100	5,100	5,100	5,100
Capital equipment					
SARDI overhead		98,594	97,570	103,106	102,053
SARDI inkind		70,605	70,034	74,176	73,578
Total Cost		541,837	624,528	657,256	645,508
Revenue – PRICE					
PIRSA F&A	87%	471,232	554,494	583,080	571,930
Total Revenue		471,232	554,494	583,080	571,930
SARDI Investment	13%	70,605	70,034	74,176	73,578

Breakdown explanations:

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 – 63 survey nights

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, mobile phone and publications

Appendix. Proposed schedule of work for 2015/16–2018/19

2015/16	2016/17	2017/18	2018/19
1. Logbook program	1. Logbook program	Logbook program	1. Logbook program
2. FI surveys	2. FI surveys	FI surveys	2. FI surveys
3. Stock status advice note	3. Stock status advice note	Stock status advice note	3. Stock status advice note
-	4. Stock assessment report	-	4. Stock assessment report
4. Juvenile survey	5. Juvenile survey	Juvenile survey	5. Juvenile survey
5. Development of the Stock assessment program		Development of the Stock assessment program ¹	
6. Ecosystem monitoring (incl. footprint analysis)		6. Ecosystem monitoring	

¹ Note details being developed in a “working document” to be considered at research planning meeting to be organised by PIRSA Fisheries and Aquaculture in July 2017.

SCHEDULE 1 - RESEARCH PROJECT SCOPE

1. PROJECT DETAIL

1.1 Title WEST COAST PRAWN FISHERY

1.2 Client Contact Details

Name: PIRSA FISHERIES AND AQUACULTURE
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Attention: Sean Sloan
Email: Sean.Sloan@sa.gov.au
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1.3 SARDI Contact Details

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Facsimile: 8207 5406

1.4 Subcontractor/Collaborator

Company Name: Spencer Gulf and West Coast Prawn Fisherman's Association Inc. (SGWCPFA)

1.5 Timeframe

Commencement Date: 1 July 2016
Completion Date: 30 June 2019

1.6 Summary

This is the first three-year research scope for the West Coast Prawn Fishery (WCPF).

A full stock assessment report was delivered in 2014. Following the stock assessment, there is an ongoing need to monitor the stock status and provide scientific advice for sustainable harvests for this fishery. The research scope remains minimal to reduce costs whilst enabling stock status to be monitored. In 2016/17, the primary outputs are (1) fishery-independent surveys (November, March and June); (2) advice note summarising the survey results and catch and effort for the 2016 calendar year; (3) the analyses and assessments required to revise the harvest strategy under the management policy; and (4) a workshop to discuss the future research survey program for the fishery which will include developing an improved measure of fishery recruitment. To accommodate the additional work required to deliver components 3 and 4 above, no stock status report will be delivered in 2016/17. In 2017/18 and 2018/19, the primary outputs are fishery-independent surveys in November, March and June and an annual stock status report (for the previous calendar year) due 30 June in 2018 and 2019.

2. PROJECT DESCRIPTION

2.1 BACKGROUND

There are three licensed operators in the West Coast Prawn Fishery. The catch history of the fishery is punctuated by periods of high catch followed by periods of very low catch. Currently the biomass upon which the fishery is based appears to have recovered, with increasing survey catch rates and increasing commercial catch.

PIRSA Fisheries and Aquaculture, in conjunction with SARDI and industry, previously agreed to a minimalist research strategy that involved the conduct of FIS during November, March and June. Over the last two years, four observers were costed to SARDI, and one was supplied by industry. The same arrangements for observers are proposed for this agreement.

2.2 NEED

There is a need to monitor the status of the fishery on an annual basis with respect to the criteria and decision rules set out in the management policy. This need continues to be met through undertaking regular FIS and the preparation of an annual status report of the West Coast Prawn Fishery. Typically, the FIS program includes November, March and June surveys, the location and timing of which have been variable among years. Survey design will be reviewed as part of a recruitment monitoring workshop to take place in 2016/17.

2.3 OBJECTIVES

- 2.3.1** Collect and analyse FIS data
- 2.3.2** Collect, collate and analyse fisher logbook information
- 2.3.3** In 2017/18 and 2018/19, provide a status report on objectives 2.3.1 & 2.3.2.
- 2.3.4** Review the current survey design and develop performance indicators (including recruitment index)
- 2.3.5** Undertake required analyses and provide advice on Harvest strategy development for the Management Policy

2.4 METHODS

- 2.4.1** FIS data:
 - SARDI to provide four observers for surveys conducted throughout the season.
 - Provide advice on fishing strategy development as required
- 2.4.2** Fisher logbook information:
 - Collate, validate and analyse fisher logbook information
- 2.4.3** Recruitment workshop
 - Review the current survey design
 - Discuss potential indices of recruitment
 - Provide advice to PIRSA Fisheries and Aquaculture following the workshop
- 2.2.4** Harvest Strategy review
 - Provide advice to PIRSA Fisheries and Aquaculture on the development of performance indicators, limit reference points and decision rules for the harvest strategy

3. DELIVERABLES

3.1 Service Provided:

3.1.1 Collection of basic fisheries statistics

- Manage comprehensive fishing logbook program.
- Collate fishing logbook returns and provide an in-confidence service
- Validate returns (consultation with fishers to correct returns)
- Entry of data and storage
- Database administration, maintenance and development.
- Collection and storage of size and abundance data from FIS.
- Collection and storage of daily bucket count data.

3.1.2 Analysis and reporting

- Provide an assessment of fishery performance against the performance indicators
- Provide an assessment against performance indicators in the management policy
- Update SA fisheries status report as required

3.1.3 Industry and Policy liaison

- Participate and contribute to PIRSA/industry meetings where needed as the research representative
- Participate in the Research Subcommittee of the Spencer Gulf and West Coast Prawn Fisherman's Association (SGWCPFA)
- Respond to appropriate requests from PIRSA Fisheries and Aquaculture

3.1.4 Reporting

- Provide a summary of 2016 commercial catch, effort and survey data.
- Deliver a stock status report for the WCPF in 2017/18 and 2018/19
- Provide other relevant material as required

3.2 Outcomes:

- Stock status of the WCPF
- Advice on the survey results measured against the performance indicators and reference points in the Management Policy
- Advice on harvest strategy development including the development of performance indicators
- Review of the survey design and recruitment index through the recruitment workshop
- Advice to support fishery management from stock status outputs

3.3 Outputs and Extension:

- Provide analyses/advice for recruitment index and harvest strategy development.
- Provide advice note to PIRSA summarising 2016 commercial catch, effort and survey data.

- Provide a stock status report on the WCPF to PIRSA Fisheries and Aquaculture by 30 June (2018 and 2019) that documents, analyses and interprets the available data and assesses the fishery against the performance indicators identified in the Management Policy.
- Presentation to PIRSA Fisheries and Aquaculture and the Management Committee of the SGWCPFA on the stock status of the WCPF in 2016/17 and 2017/18.
- Participation in the recruitment workshop (2016/17).
- Participation in harvest strategy working group (2016/17).

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	TOTAL FUNDED	TOTAL IN KIND	TOTAL PROJECT COST
SUBTOTAL	\$105,906	\$17,737	\$123,643
GST	NO GST	NO GST	NO GST
TOTAL	\$105,906	\$17,737	\$123,643

4.3 MILESTONE AND PAYMENT SCHEDULE

Date	Milestone	Payment (\$) Ex GST
31 December 2016	First Half Payment 2016/17 SLA.	\$17,117
31 March 2017	Advice note: summarised 2016 catch, effort and survey data	
31 May 2017	Second Half Payment 2016/17 SLA.	\$17,118
30 June 2017	Analyses/advice for Harvest strategy Analyses/advice for recruitment index	
31 December 2017	First Half Payment 2017/18 SLA.	\$17,692
31 May 2018	Second Half Payment 2017/18 SLA.	\$17,692
30 June 2018	2017 Stock status report for the West Coast Prawn Fishery	
31 December 2018	First Half Payment 2018/19 SLA.	\$18,144
31 May 2019	Second Half Payment 2018/19 SLA.	\$18,144
30 June 2019	2018 Stock status report for the West Coast Prawn Fishery	
SUBTOTAL		\$105,906
GST		NO GST
TOTAL FUNDED		\$105,906

5. PROJECT STAFF

Staff	FTE 2016/17	FTE 2017/18	FTE 2018/19
Research Scientist	0.075	0.075	0.075
Research Officer	0.075	0.075	0.075
TOTAL	0.15	0.15	0.15

SCHEDULE 2 - RESEARCH PROJECT COSTING

1. PROJECT COST SUMMARY

Cost	Detail	2016/17 Total (\$) Ex GST	2017/18 Total (\$) Ex GST	2018/19 Total (\$) Ex GST
Salaries (FTE)		0.15	0.15	0.15
Salaries (\$)		15,334	16,124	16,662
Operating				
Logbook program		4,443	4,576	4,713
Payment to industry for surveys				
Fieldwork		4,450	4,450	4,450
Laboratory				
Travel		250	250	250
Office & communication		100	100	100
Capital equipment				
SARDI overhead		9,658	9,884	10,113
SARDI inkind		5,767	5,911	6,059
Total Cost		40,002	41,295	42,347
Revenue – PRICE				
PIRSA F&A	85%	34,235	35,384	36,288
Total Revenue		34,235	35,384	36,288
SARDI Investment	15%	5,767	5,911	6,059

Breakdown explanations:

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

Capital equipment