

# PIRSA

## **Cost Recovery Implementation Statement for the Marine Scalefish Fishery and Vongole Fishery**

**1 July 2020 to 30 June 2021**



# Cost Recovery Implementation Statement

Information current as of February 2020  
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# Introduction

Wild catch commercial fisheries in South Australia are 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 and Aquaculture continue to manage the process of consulting with service providers and relevant industry associations to establish fishery-based management programs, which form the basis of annual licence fees.

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

- Assessment and Research Services.
- Fisheries 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.

In 2018, the Government made an election commitment to initiate an independent review of the cost recovery policy of Primary Industries and Regions South Australia (PIRSA) as applied to the fisheries and aquaculture sectors. An independent consultant was engaged to undertake the review and consulted with all fisheries and aquaculture sector representatives and representatives from PIRSA. The final report, with 11 recommendations, was provided to PIRSA in November 2018 and all recommendations were accepted by Government. The report observed that PIRSA's management of both the fisheries and aquaculture sectors had significantly improved since 2015 in terms of increasing transparency and accountability as well as taking significant strides to reduce administrative burden, through the use of longer term cost recovery agreements between PIRSA and individual industry sectors. Implementation of the 11 recommendations from the independent review will further enhance efficiency and transparency of PIRSA cost recovery approach to the Fisheries and Aquaculture sectors. Information relating to the Government response to the recommendations can be found at [https://www.pir.sa.gov.au/fishing/commercial\\_fishing/pirsa\\_services\\_to\\_fisheries\\_industry](https://www.pir.sa.gov.au/fishing/commercial_fishing/pirsa_services_to_fisheries_industry).

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

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

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

\*\* If a four-year agreement has been adopted, the Cost Recovery Implementation Agreement (CRIA) will determine that an annual meeting will occur to enable annual stakeholder engagement.

## Summary Table (Marine Scalefish Fishery)

2019-20 (\$)	PROGRAM AREA	2020-21 (\$)	COMMENTS	DAYS	FTE
<b>RESEARCH COSTS</b>					
770,947	Stock Assessment and Monitoring	890,573	1 year research project scope		
25,055	Economic Assessment	25,807	As per contracted services 2020-21		
13,796	Other Research	14,185	Contribution towards Threatened and Endangered Species		
<b>PIRSA RELATED COSTS</b>					
211,200	Policy and Management	213,840	Same level of service as previous year	220	1.10
10,300	Legislation	10,510	Same level of service as previous year	10	0.05
68,040	Licensing	70,110	Same level of service as previous year	90	0.45
15,056	Directorate	15,600	Same level of service as previous year	16	0.08
1,236,793	Compliance	1,261,935	Same level of service as previous year	967	4.84
45,984	Vessel	47,256	Same level of service as previous year	6	0.03
<b>OTHER COSTS</b>					
53,570	FRDC	53,127	Funding based on 0.25% of rolling three year average GVP		
208,880	Co-Management Services	192,361	Co-Management Services requested to be collected across for MSF and Sardine in 2020-21 is a total of \$202,342		
<b>2,659,621</b>	<b>*TOTAL</b>	<b>2,795,304</b>			

\* Note: true costs are reflected above, licence fees below include the 50% fee relief approved by the Minister in 2019

<b>Licence Fees 2020-21 (\$)</b>	
*Base Fee	2,947
Net Fee	5,264
<b>Licence Fees 2019-20 (\$)</b>	
Base Fee	5,631
Net Fee	4,946

## Summary Table (Vongole Fishery)

2019-20 (\$)	PROGRAM AREA	2020-21 (\$)	COMMENTS	DAYS	FTE
<b>RESEARCH COSTS</b>					
30,112	Stock Assessment and Monitoring	26,350	1 year research project scope		
1,665	Economic Assessment	1,714	As per contracted services 2020-21		
<b>PIRSA RELATED COSTS</b>					
43,200	Policy and Management	43,740	Same level of service as previous year	45	0.23
5,150	Legislation	5,255	Same level of service as previous year	5	0.03
7,560	Licensing	7,790	Same level of service as previous year	10	0.05
1,882	Directorate	1,950	Same level of service as previous year	2	0.01
48,602	Compliance	49,590	Same level of service as previous year	38	0.19
7,260	Quota Monitoring	7,458	Same level of service as previous year	11	0.06
<b>OTHER COSTS</b>					
2,226	FRDC	2,522	Funding based on 0.25% of rolling three year average GVP		
<b>147,657</b>	<b>TOTAL</b>	<b>146,369</b>			

<b>Licence Fees 2020-21 (\$)</b>	
Base Fee	1,958
(plus MSF Base fee)	2,947
<b>Total Base:</b>	<b>4,905</b>
Section Bank Quota Unit Fee	0
Coffin Bay Quota Unit Fee	88.00
West Coast Quota Unit Fee	33.00
<b>Licence Fees 2019-20 (\$)</b>	
Base Fee	1,915
(plus MSF Base fee)	5,631
Total base	7,546
Section Bank Quota Unit Fee	0.00
Coffin Bay Quota Unit Fee	73.00
West Coast Quota Unit Fee	49.50

## Program Daily Charge Out Rate

	DAILY RATE (\$)						
	Compliance	Vessel	Quota	Directorate	Legislation	Licensing	Policy
<b>Total Employee Expenses</b>	636	2461	415	612	713	490	607
<b>Total Operating Expenses</b>	339	4063	49	156	132	76	159
<b>Deprecation and Capital Costs</b>	91	888	0	0	0	0	0
<b>Total Other Expenses*</b>	238	464	212	207	207	212	207
<b>TOTAL DAILY RATE</b>	<b>1305</b>	<b>7876</b>	<b>678</b>	<b>975</b>	<b>1051</b>	<b>779</b>	<b>972</b>

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

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

## Fishery Management Objectives (Marine Scalefish Fishery)

Management Plan Goals	Outcomes	Policy and Management	Compliance	Assessment and Research	Leasing and Licensing
Ensure MSF resources are harvested within ecologically sustainable limits.	<p>Implement Management Plan.</p> <p>Monitor the biological performance of the fishery and ensure the collection of fishery and biological data.</p>	<p>Lead implementation of Management Plan.</p> <p>Lead review of Management Plan in 2020/21.</p> <p>Update Harvest Strategies as appropriate.</p> <p>Implement outcomes of Snapper management review.</p> <p>Review King George Whiting management arrangements, taking into account outcomes of the FRDC project.</p> <p>Support investigation into underutilised species in the MSF.</p> <p>Consider stock assessment and stock status report with Marine Fisheries Association /SARDI address any performance indicators (Harvest Strategy) as needed.</p>	<p>Implement and review fishery compliance plan, informed by risk assessment.</p> <p>Support implementation of Management Plan and review in 2020/21.</p> <p>Support implementation of Snapper management changes</p> <p>Support implementation of outcomes of King George Whiting management review.</p> <p>Support implementation of Garfish management changes.</p>	<p>Support implementation of Management Plan.</p> <p>Support review of Management Plan in 2020/21.</p> <p>Support review Harvest Strategies as necessary.</p> <p>Progress and finalise FRDC projects:</p> <ul style="list-style-type: none"> <li>• Fisheries biology of Western Australian Salmon</li> <li>• Post release survival and movement of Snapper</li> <li>• Pre-recruit index of Snapper</li> <li>• Developing a positive cultural attitude towards capture and release of sharks and rays</li> </ul>	<p>Support review of Management Plan, including issue of 10-year licences.</p> <p>Implement changes to licensing systems and update licences as required.</p>

Management Plan Goals	Outcomes	Policy and Management	Compliance	Assessment and Research	Leasing and Licensing
				Market sampling of key species to feed into fishery assessment reports as per schedule in the Harvest Strategy.  Fishery assessment report with stock assessment for King George Whiting as per schedule in the Harvest Strategy.	
Minimise impacts on the ecosystem	Address recommendations and conditions from EPBC Act accreditation.	Reporting and submissions on ecological sustainability for Commonwealth EPBC Act assessment as required by the accreditation.  Address other conditions and recommendations as required.		TEPs annual report.	
Optimum utilisation and equitable distribution of Marine Scalefish Fishery resources.	Manage catch of each sector within allocated shares.	Review any breaches of allocations and implement management arrangements as necessary		Status reports include assessment of catches against allocation triggers.	
Cost-effective and participative management of the fishery.	Support industry body to participate and function within the co-management framework of the fishery.	Support MFA in the development and implementation of a consultative model within the MSF.	Implement and review fishery compliance plan, informed by risk assessment.	Industry liaison, attendance of meetings with MFA and provision of research advice, as required.	Provide ongoing support for licensing queries.

Management Plan Goals	Outcomes	Policy and Management	Compliance	Assessment and Research	Leasing and Licensing
	Supporting and assisting the Commercial Marine Scalefish Fishery Reform Advisory Committee	<p>Develop and implement communication protocol, with annual review.</p> <p>Regular communication with industry and Executive Officer, Marine Fishers' Association and attendance of meetings, as required.</p> <p>Update MSF operator user guide, as required.</p> <p>Administer and participate in Snapper MAC meetings, and other co-management meetings when required</p> <p>Assist the fishery in supporting the participation of licence holders in any implementation of government policy the process. Including participation in the FRDC reform project.</p>	<p>Attend meetings with MFA and provide compliance advice, as required.</p> <p>Support updates to MSF operator user guide as required.</p> <p>Input and expertise into the internal reference group, to ensure the reform package is consistent with the legislative requirements of the <i>Fisheries Management Act 2007</i> projects and support of implementation</p>	<p>Administer and participate in Snapper MAC meetings, and other co-management meetings when required</p> <p>Input and expertise into the Commercial Marine Scalefish Fishery Reform Advisory Committee.</p> <p>FRDC project - Informing the structural reform of South Australia's Marine Scalefish Fishery.</p>	<p>Support and coordination of FISHWATCH number and commercial app.</p> <p>Support updates to MSF operator user guide, as required.</p> <p>Input and expertise into the internal reference group, to ensure the reform package is consistent with the legislative requirements of the <i>Fisheries Management Act 2007</i> projects and support of implementation.</p>

## Fishery Management Objectives (Vongole)

Long term objectives	Outcomes	Fishery Policy and Management	Compliance	Assessment and Research	Leasing and Licensing
<p>Ensure the Cockle and Vongole resource is harvested sustainably.</p> <p>Optimal utilisation and equitable distribution of the Cockle and Vongole resource.</p>	<p>Determine annual TACCs for Vongole quota zones according to biomass estimates.</p> <p>Review status of Port River closure.</p> <p>Support research and development for Port River stock enhancement project.</p>	<p>Recommend annual TACCs for quota zones, in consultation with industry.</p> <p>Implement Vongole Harvest Strategy in Management Plan for the Marine Scalefish Fishery</p> <p>Review status of Port River closure with industry and SARDI.</p> <p>Assist in stock enhancement research for Port River, and support, where necessary.</p> <p>Review regularity and spatial extent of Vongole biomass surveys.</p>	<p>Implement compliance program, informed by risk assessment.</p> <p>Provide compliance advice for the implementation of new managements arrangements for the Cockle and Vongole Fishery.</p> <p>Provide compliance advice for the stock enhancement initiatives for Port River, and support, where necessary.</p>	<p>Provide scientific advice to support Harvest Strategy, underpinned by biomass estimates.</p> <p>Provide results and scientific advice for the stock enhancement initiatives for Port River.</p> <p>Support review of status of Port River closure with industry and PIRSA.</p>	<p>Provide ongoing support for licensing quota and transfer queries.</p>
<p>Minimise impacts on the ecosystem</p>	<p>Address recommendations and conditions from DotE under EPBC Act accreditation.</p> <p>Reassessment of the fishery before expiry.</p>	<p>Prepare EPBC Act reassessment report.</p> <p>Address DotE conditions and recommendations.</p> <p>Provide management advice on fish kills, as required.</p>	<p>Provide support with investigation of fish kills, as required.</p>	<p>Provide scientific advice and aid in investigation of fish kills.</p>	
<p>Cost effective and participative management of the</p>	<p>Support co-management of the fishery.</p>	<p>Maintain regular communication with Executive Officer of the Marine Fishers'</p>	<p>Maintain regular communication with</p>	<p>Maintain regular communication with</p>	

Long term objectives	Outcomes	Fishery Policy and Management	Compliance	Assessment and Research	Leasing and Licensing
Cockle and Vongole Fishery.		<p>Association and be accessible to all licence holders</p> <p>Provide management advice, where necessary, throughout the licensing year.</p>	<p>industry representatives. Provide compliance advice, where necessary, throughout the licensing year.</p>	<p>industry representatives. Provide scientific advice, where necessary, throughout the licensing year.</p>	

# Fisheries Policy and Management Program

## Program Manager:

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## Program summary

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

The Fisheries 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 Executive Director, Fisheries and Aquaculture, Minister for Primary Industries and Regional Development, Chief Executive and Deputy Chief Executive on matters relating to fisheries.
- Represent the Executive Director, Fisheries and Aquaculture on committees and other forums on matters related to the administration of the *Fisheries Management Act 2007*.
- Develop over-arching policy frameworks to support fisheries management.
- Build and maintain relationships with key stakeholders, with a particular focus on the commercial and recreational fishing sectors.
- Progress Australian Government recommendations under EPBC Act (1999) assessment.

## Objectives

To provide day-to-day fisheries management services to the Marine Scalefish 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 and initiatives

### Program delivery

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

2. Liaise within the Fisheries and Aquaculture Division, with SARDI Aquatic Sciences, other parts of PIRSA and other State and Commonwealth agencies on matters relevant to fisheries management
3. Liaise within PIRSA, with other government agencies and with industry representatives in implementing decisions relevant to fisheries management.
4. Conduct regular assessment or review of existing management arrangements for fisheries management, including analysis of statistical information on fisheries and interactions with threatened, endangered and protected species.
5. Coordinate consultation with fishery stakeholders through established co-management processes.
6. Participate in industry liaison in the field and on vessels to strengthen fishery management knowledge and understanding, and develop rapport with licence holders and divers.
7. Participate in industry development initiatives related to fisheries management.
8. Attending to general correspondence and enquiries relevant to fisheries.
9. Provide advice to the Minister in relation to the management of fisheries and Ministerial correspondence
10. Communicate on fisheries management issues to key stakeholder groups and the broader community.

### **Anticipated outcomes**

1. Prepare day-to-day necessary legislative instruments and/or advice required for the management of the Marine Scalefish Fishery and Vongole Fishery (regulations, catch limits, closure notices, licence conditions, Ministerial exemptions etc.).
2. Prepare policies to support fisheries management.
3. Prepare regular fisheries status reports.
4. Develop and maintain day-to-day productive working relationships and outcomes through cooperative management and collaboration with stakeholders.
5. Deliver quality and timely responses to correspondence.
6. Further the development of co-management arrangements.

### **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 Marine Scalefish and Vongole Fishery.

## Program effort allocation

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

Activity	Days	FTE	Cost (\$)
Policy and Management – Marine Scalefish	220	1.10	213,840
Policy and Management - Vongole	45	0.23	43,740

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

	Deliverables	Due date
1.	Participate in inter and intra-departmental meetings and workshops on issues relevant to fisheries management.	Ongoing
2.	Liaise within the Fisheries and Aquaculture Division, with SARDI Aquatic Sciences, other parts of PIRSA and other State and Commonwealth agencies on matters relevant to fisheries management.	Ongoing
3.	Liaise within PIRSA, with other government agencies and with industry representatives in implementing decisions relevant to fisheries management.	Ongoing
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.	November 2020
5.	<p>Coordinate consultation with fishery stakeholders through established co-management processes.</p> <p>Management arrangements for key species;</p> <ul style="list-style-type: none"> <li>• Garfish management arrangements</li> <li>• Snapper management arrangement</li> <li>• King George Whiting arrangements</li> <li>• Other species in fishery assessment report</li> </ul> <p>For Vongole TACC setting:</p> <ul style="list-style-type: none"> <li>• Pre TACC presentation of SARDI advice</li> <li>• TACC Meeting</li> </ul>	<p>Ongoing</p> <p>July 2020</p> <p>February 2021</p> <p>May 2021</p> <p>March 2021</p> <p>April 2021</p> <p>May 2021</p>
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.	Ongoing

7.	Participate in industry development initiatives related to fisheries management. <ul style="list-style-type: none"> <li>• Facilitate process to utilise lesser known species</li> <li>• Support review of research program for Vongole</li> </ul>	June 2021 July 2020
9.	Attend to general correspondence and enquiries relevant to the Marine Scalefish Fishery and Vongole Fishery.	Ongoing
10.	Provide advice to Minister in relation to the management of fisheries and Ministerial correspondence.	Ongoing
11.	Communicate on fisheries management issues to key stakeholder groups and the broader community.	Ongoing

# Legal Services Program

## Program Manager:

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## Program summary

PIRSA Fisheries and 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 Marine Scalefish and Vongole fisheries management and regulatory arrangements through existing legislative frameworks and licence conditions. Consideration is also given to the impacts and effects of other related legislation if and when required.

## Objectives

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

## Program strategies and supporting actions and initiatives

### 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 Leasing and Licensing) 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 Executive Director, Fisheries and Aquaculture and the Director Operations and other delegates of the Minister under the Act to safeguard the ongoing sustainability of a fishery in any particular year (where required), depending on positive or negative scientific indicators, to implement new fisheries management arrangements (for example the introduction or variation of a quota system) 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.

Activity	Days	FTE	Cost (\$)
Legislation – Marine Scalefish	10	0.05	10,510
Legislation – Vongole	5	0.03	5,255

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

# Leasing and Licensing Program

## Program Manager:

Rob Falco, Manager, Leasing and Licensing  
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## Program summary

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

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

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

## Objectives

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

## Program strategies and supporting actions and initiatives

### Anticipated outcomes

1. Issue licences to licence holders in an accurate and timely manner.
2. Provide accurate and timely information related to licences.
3. Provide reports as required.
4. Provide fee relief as a result of the Snapper closure.

### 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 licensing and quota, 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 and 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.
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, boat variations 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 Fisheries and Aquaculture 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.

Activity	Days	FTE	Cost (\$)
Leasing and Licensing – Marine Scalefish	90	0.45	70,110
Leasing and Licensing – Vongole	10	0.05	7,790
Quota Monitoring – Vongole	11	0.06	7,458

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

# Directorate Program

## Program Manager:

Chiara Ciui, Business Manager

Telephone: 08 8429 0378 Email: [chiara.ciui@sa.gov.au](mailto:chiara.ciui@sa.gov.au)

## Program summary

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

## Objectives

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

## Program strategies and supporting actions and 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. Meet with industry on matters 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, Executive Director, Fisheries and Aquaculture, 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.

Activity	Days	FTE	Cost (\$)
Directorate – Marine Scalefish	16	0.08	15,600
Directorate - Vongole	2	0.01	1,950

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

# Fisheries Compliance Operations Program

## Marine Scalefish Fishery

### Program Manager:

Randel Donovan, Regional Manager

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### State Coordinator:

Pat Tripodi, Fisheries Officer

Telephone: 0429 000 282      Email: [pat.tripodi@sa.gov.au](mailto:pat.tripodi@sa.gov.au)

## 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 Marine Scalefish 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 Marine Scalefish Compliance Plan are primarily delivered by teams located in Largs North, Kingscote, Ceduna, Port Lincoln, Whyalla, Moonta, Yorketown and the Offshore Patrol Vessel. Support is also provided as required from the other 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 the Marine Scalefish 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 Marine Scalefish industry and PIRSA and the existence of a mature sustainable fishery.

## 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 MSF fishery are identified herein.

## Legislative and regulatory framework

*Fisheries Management Act 2007*

*Fisheries Management (Marine Scalefish Fisheries) Regulations 2017*

*Fisheries Management (Fish Processors) Regulations 2017*

*Fisheries Management (General) Regulations 2017 Schedule 2*

*Fisheries Management (Demerit Points) Regulations 2017*

*Fisheries Management (Rock Lobster Fisheries) Regulations 2017*

*Marine Scalefish Management Fishery Plan*

## Program effort, funding and resources

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

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

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

It should be noted that for the year ending 30 June 2019 PIRSA expended an additional 287 days of effort (~\$367k) above the cost recovered program and a further 850 days of effort into recreational marine scale fishery compliance.

For the coming 2020/21 period there are a number of significant changes to Snapper management that will require a varied compliance focus.

The following table includes the number of days predicted to reflect the anticipated split of effort and associated costs to deliver the compliance outputs for 2020/21:

<b>Compliance Outputs</b>	<b>Days</b>	<b>FTE</b>	<b>Cost (\$)</b>
Education Awareness	130	0.65	169,650
Effective Deterrence, Monitoring and Surveillance	557	2.79	726,885
Enforcement	280	1.40	365,400
<b>TOTAL OFFICER DAYS</b>	<b>967</b>	<b>4.84</b>	<b>1,261,935</b>
Offshore Patrol Vessel	6		47,256

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

## IT systems, technology and data

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

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

## Delivery outputs

The coordination of compliance outputs is guided by an industry specific compliance plan which was developed in consultation with the Marine Scalefish 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 Marine Scalefish. 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 education meetings with new entrants into the fishery and participate in industry days.
- Provide electronic distribution of educational material to fishers and licence holders.
- Ensure all interested parties understand their respective obligations.
- Develop Industry communication and relationship programs to facilitate discussion of topics such as compliance inspection outcomes and issues impacting the Marine Scalefish fishery.
- Ongoing one on one education during inspections.

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

- Ensure all aspects of commercial fishing activities are monitored such as inspections of catch at sea, when landed, in transit and at fish processing premises.
- Conduct intelligence driven operations that give rise to appropriate enforcement action.
- Ensure gear types being used within the fishery are compliant e.g. net lengths, net mesh sizes, hook numbers, crab pot dimensions, fish trap specifications.
- Monitor fishing activities during seasonal closures and within spatial closed areas.
- Respond to reported incidents/issues.
- Communicate activities in formal reporting.

## **Enforcement**

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

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

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

1. Fish in Closed Seasons.
2. Fish in Closed Areas.
3. Exceeding catch limits.
4. Using Illegal Gear.
5. Taking Undersize.
6. Collusion between licensed and unlicensed sectors.

## **Anticipated 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 and reviewing rules.
- Collaborative problem-solving.

## **Community support for offence detection and sanctions**

- Actively provide relevant information.
- Industry driven initiatives and evidence of self-regulation.

## **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 Marine Scalefish 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 behaviour**

- 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 Marine Scalefish between user groups, a confidence in the ability of PIRSA to manage Marine Scalefish 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 Marine Scalefish resources is fair and equitable.
- Investment support continues for ecologically and economically sustainable harvest of Marine Scalefish.

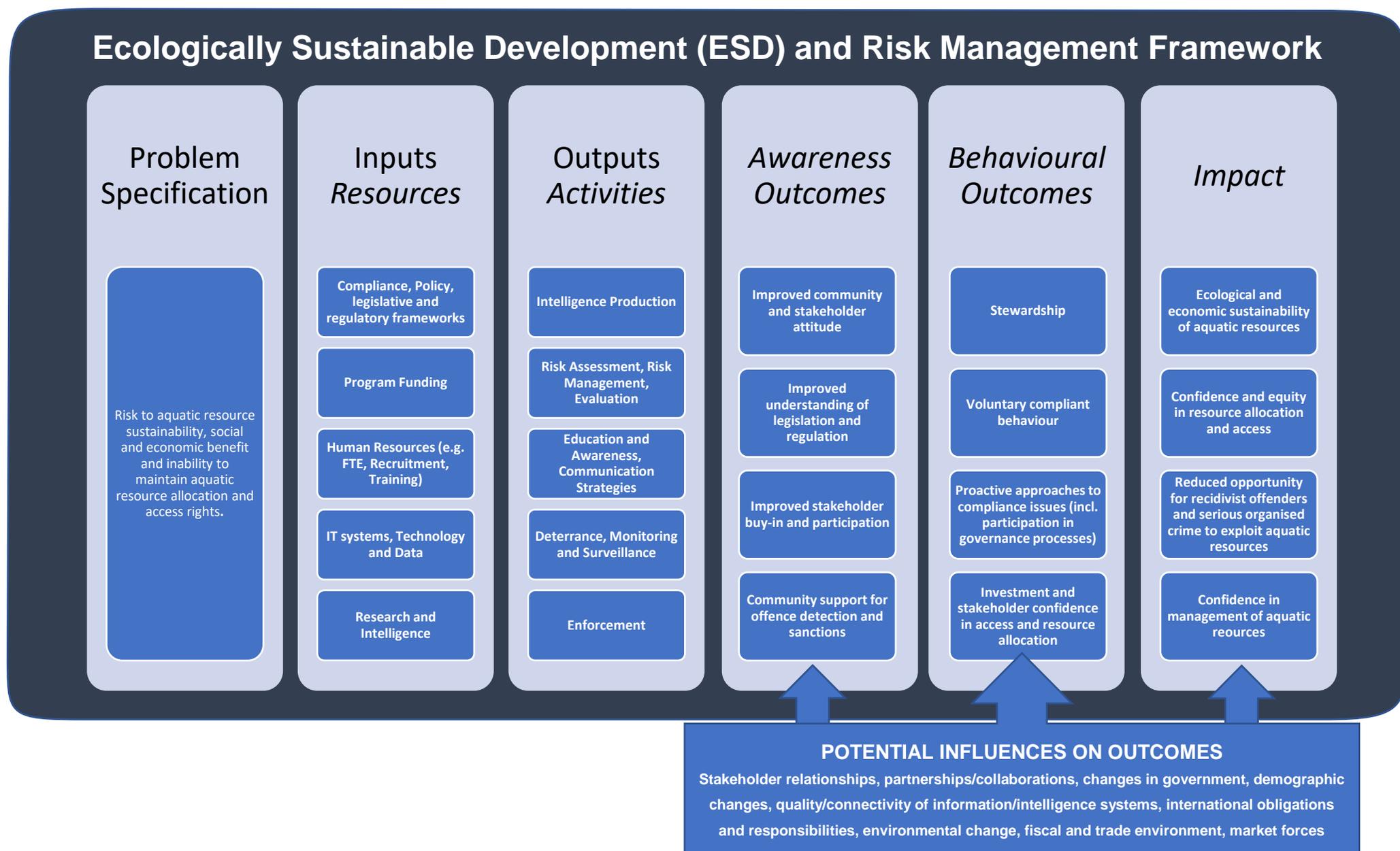
## **Reduced opportunity for recidivist offenders and Serious Organised Crime to exploit aquatic resources**

- Regulators, law enforcement and industry have closed opportunities for Serious Organised Crime to participate in the Marine Scalefish 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 Marine Scalefish stocks.
- Positive consumer perception for commercially harvested Marine Scalefish.
- An absence of adverse industry publicity.

## Appendix 1: PIRSA Fisheries and Aquaculture Compliance Program Logic Model



# Fisheries Compliance Operations Program

## Vongole Fishery

### Program Manager:

Andrew Carr, Regional Manager  
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### State Coordinator:

Yolande Markey, Senior Fisheries Officer  
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## Program summary

PIRSA Fisheries and Aquaculture teams coordinate compliance activities (outputs) to build awareness and behavioural outcomes that have a long term beneficial impact in the Vongole (Mud Cockle) 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 Vongole Compliance Plan are primarily delivered by teams located in Port Lincoln. Support is also provided as required from the other Regional Operation teams, Offshore Patrol Operations 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 the Vongole Industry. These outputs are aimed at educating fishers, deterring opportunistic and financially motivated crimes, enforcing the rules and regulations and reducing overall compliance risks to resource sustainability.

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 Vongole industry and PIRSA and the existence of a mature sustainable fishery.

## 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 Vongole fishery are identified herein.

## Legislative and regulatory framework

*Fisheries Management Act 2007*

*Fisheries Management (Fish Processors) Regulations 2017*

*Fisheries Management (General) Regulations 2017 Schedule 2*

*Fisheries Management (Demerit Points) Regulations 2017*

*Fisheries Management (Marine Scalefish Fisheries) Regulations 2017*

*Fisheries Management (Rock Lobster Fisheries) Regulations 2017*

*Marine Scalefish Management Fishery Plan*

## Program effort, funding and resources

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

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

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

It should be noted that for the year ending 30 June 2019 PIRSA expended an additional 22.2 days of effort (~\$28k) above the cost recovered program. These figures are reflective of the additional effort expended working with industry to identify ways to improve the Quota Monitoring System.

The following table includes the number of days predicted to reflect the anticipated split of effort and associated costs to deliver the compliance outputs for 2020/21:

Compliance Outputs	Days	FTE	Cost (\$)
Education Awareness	7	0.03	9,135
Effective Deterrence, Monitoring and Surveillance	26	0.13	33,930
Enforcement	5	0.03	6,525
<b>TOTAL OFFICER DAYS</b>	<b>38</b>	<b>0.19</b>	<b>49,590</b>

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

## IT systems, technology and data

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

- IBase and Analyst 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).
- Commercial Fishing Application.

## Delivery outputs

The coordination of compliance outputs is guided by an industry specific compliance plan which was developed in consultation with the Vongole 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 Vongole. 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 and relationship programs to facilitate discussion of topics such as compliance inspection outcomes and issues impacting the Vongole 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/issues.
- Communicate activities in formal reporting.

### **Enforcement**

- Investigate reports of non-compliance and where appropriate take action.
- Issue expiations, cautions and court enforced actions.
- Communicate enforcement outcomes in formal reporting.
- Service of suspension.

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

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

1. Quota Management System Integrity.
2. Fishing Outside Quota Zones.

3. Fishing Within Areas Closed to Quota Fishing.
4. Taking Undersize.
5. Illegal Unreported Unregulated Take.

## **Anticipated 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 an 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 and reviewing rules.
- Collaborative problem-solving.

#### **Community support for offence detection and sanctions**

- Actively provide relevant information.
- Industry driven initiatives and evidence of self-regulation.

## **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 Vongole 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 behaviour**

- 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 Vongole between user groups, a confidence in the ability of PIRSA to manage Vongole 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 Vongole resources is fair and equitable.
- Investment support continues for ecologically and economically sustainable harvest of Vongole.

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

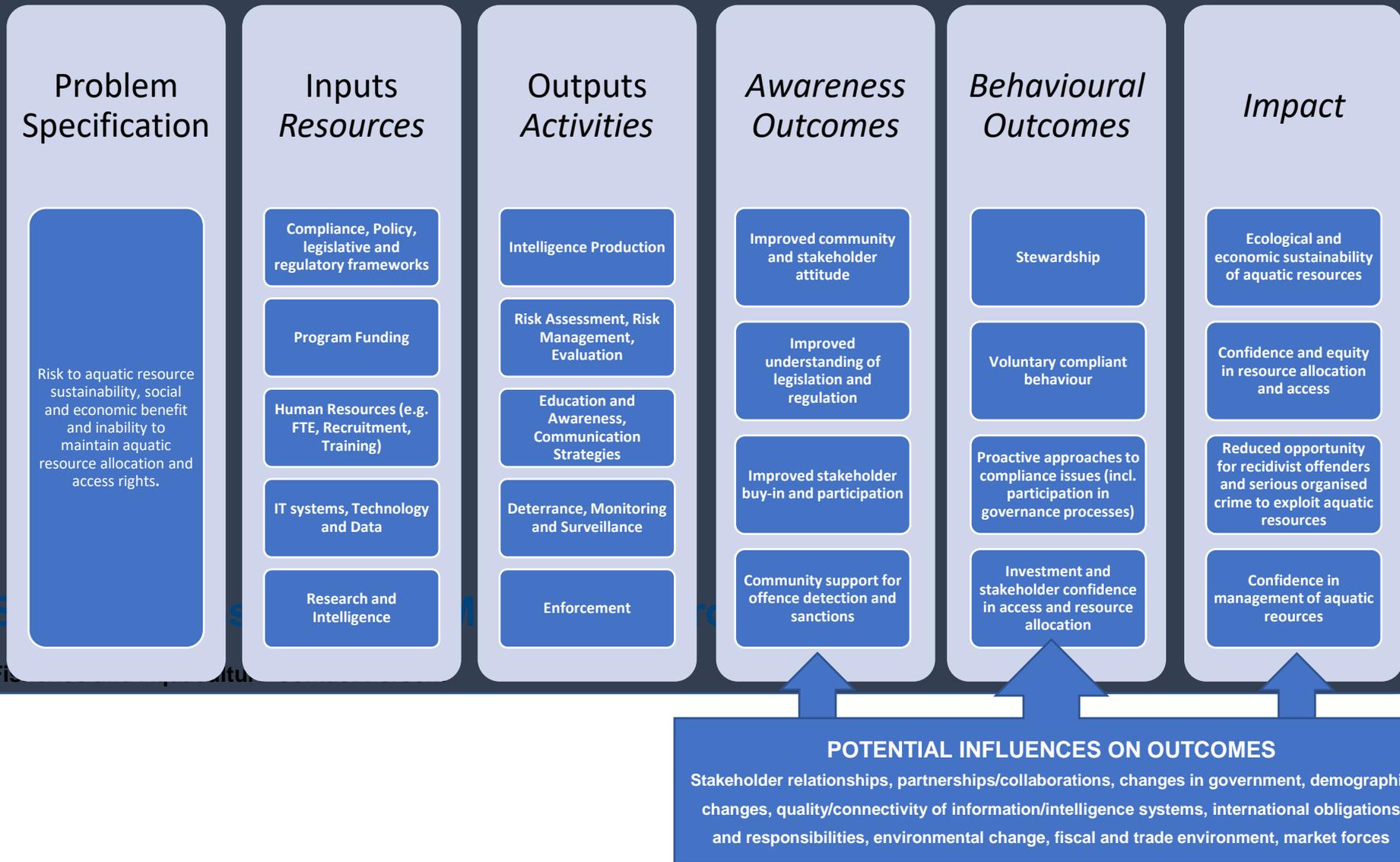
- Regulators, law enforcement and industry have closed opportunities for Serious Organised Crime to participate in the Vongole industry.
- Industry has not had any impact resulting from Serious Organised Crime activities for a significant period of time.

### **Confidence in management of aquatic resources**

- Positive public perception in the management of Vongole stocks.
- Positive consumer perception for commercially harvested Vongole.
- An absence of adverse industry publicity.

# Appendix 1: PIRSA Fisheries and Aquaculture Compliance Program Logic Model

## Ecologically Sustainable Development (ESD) and Risk Management Framework



# Stock Assessment and Monitoring Program

## Marine Scalefish Fishery

### Fisheries and Aquaculture Contact Person:

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### SARDI Contact Person:

Dr Michael Steer, Acting Research Director, SARDI Aquatic Sciences  
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## 1. Project details

### 1.1 Title

Marine Scalefish Fishery

### 1.2 Subcontractor/Collaborator

Not applicable

### 1.3 Timeframe

Commencement Date:            1 July 2020

Completion Date:                30 June 2021

### 1.4 Summary

This Project Scope outlines SARDI's research program for South Australia's Marine Scalefish Fishery for 2020/21. The primary objective of the program is to provide scientific information and assessment of stock status for the different Marine Scalefish Fishery species, to support their sustainable utilisation. It conforms to the research and reporting plan outlined in the Management Plan for the South Australian Commercial Marine Scalefish Fishery. The Management Plan recognises that in this complex, multi-species fishery there is a considerable range in the contribution of the different taxa to the overall economic value of the fishery. Consequently, the multiple taxa taken in the fishery are divided into different categories according to their value (i.e. 'Primary', 'Secondary', 'Tertiary' and 'Other' species) and for which the research requirements to underpin the sustainable management vary. This Project adopts a cascading approach in its assessment of stock status for all the permitted species listed in 'Schedule 1' (Aquatic resources prescribed for the MSF under Schedule 1 of the Regulations) outlined in the Management Plan. This level of detail will cascade from a fully integrated fishery assessment of King George Whiting (KGW) at the biological stock level, a regional interrogation of commercial catch and effort data for Secondary species, a State-wide interrogation of the commercial catch and effort data for Tertiary species, and State-wide catch summaries for the other species. Furthermore, broad spatial and temporal patterns in fleet dynamics

will be summarised. Funds are also recovered in the SLA for a Strategic Research Project to support the development of new Harvest Strategies to be applied after the reform of the fishery.

The primary outputs from the research program are:

- (1) A stock assessment report focussed on KGW, due 28/02/2021. This report includes assessment and stock status of remaining Schedule 1 species; and
- (2) A Strategic Research Project to support the development of new Harvest Strategies to be applied after the reform of the fishery.

## 2. Project description

### 2.1 Background

There are five primary components to the research provided by SARDI Aquatic Sciences to PIRSA in support of the Marine Scalefish Fishery. These are:

- (1) To collect, collate and enter data on commercial catch and effort statistics to maintain the long-term Marine Scalefish Fishery Information System;
- (2) To undertake market sampling primarily at the SAFCOL fish market in Adelaide throughout the year for two Primary species (KGW, Garfish);
- (3) To undertake a comprehensive stock assessment of KGW;
- (4) To provide a comprehensive annual report that assesses the stock status of the listed MSF species against their relative performance indicators identified in the Management Plan, as well as an analysis of the State-wide trends in total catch and effort by the MSF fishing fleet by species, season and gear; and.
- (5) To undertake a strategic research project to develop new Harvest Strategies for application after the implementation of the reform of the fishery has been completed.

### 2.2 Need

This research program will fulfil the needs for scientific information in order to support the sustainable utilisation of South Australia's Marine Scalefish Fishery. The information conforms to that specified in the Management Plan, allowing application of species-specific Harvest Strategies and assessment of performances of fisheries based on established fishery performance indicators and reference points. Furthermore, the program recognises the need for development of new Harvest Strategies to be applied subsequent to completion of the reform of the industry.

### 2.3 Objectives

2.3.1 To provide to PIRSA an annual fishery assessment report that determines the stock status of the permitted 'Schedule 1' MSF species against their relative performance indicators identified in the Management Plan and provides an analysis of the State-wide trends in total catch and effort by the MSF fishing fleet by species, season and gear; and identification of future research needs. This report will provide:

- (1) MSF fleet dynamics;
- (2) summaries of commercial catch and effort statistics for all permitted MSF species at either the biological stock, regional or State-wide level;
- (3) a comprehensive stock assessment for KGW;
- (4) an assessment of stock status based on fishery performance indicators and trigger reference points for each permitted species in line with the Management Plan;
- (5) population demographic data from market sampling program for KGW;
- (6) output parameters from the computer fishery model (WhitEst) for KGW; and

(7) identification of key research priorities.

2.3.2 To undertake a Strategic Research Project to develop new Harvest Strategies for application after the reform of the fishery has been completed; and

2.3.3 To assist PIRSA in 2020/21 with a review of the Management Plan for the South Australian Commercial Marine Scalefish Fishery.

## **2.4 Methods**

For the Primary species, the methodological approach is to integrate all fishery data from the different fishery sectors with the biological data from SARDI and/or market sampling to assess stock status. For Secondary and Tertiary species, fishery performance will be assessed from commercial fishery data at either a biological stock, regional or State-wide scale. These different levels of assessment require SARDI to:

2.4.1 Collect, collate, and store commercial catch and effort data from fishery catch returns in order to maintain the on-going Marine Scalefish Fishery Information System;

2.4.2 Continue market sampling for the Primary species, including the collection of region-specific age and length data; and

2.4.3 Undertake a full stock assessment for KGW that integrates the fishery and biological data, including outputs from the computer fishery model (WhitEst). Stock status will then be determined based on assessment of fishery and biological performance indicators and reference points specified in the Management Plan.

### 3. Deliverables

The key deliverables of the 2020/21 Marine Scalefish stock assessment and monitoring program are tabulated below; additional work related to the core program is also identified:

Funding Source	Deliverable	Due Date
SLA	Stock status report for primary, secondary and tertiary Marine Scalefish species, including stock assessment for King George Whiting delivered.	28 February 2021
SLA	Stock status and assessment presentations to PIRSA Fisheries and Aquaculture, Industry, the Marine Fishers Association, Snapper MAC and the Minister's Recreational Fishing Advisory Council delivered as required	30 June 2021
PIRSA	Snapper stock assessment	1 July 2020
FRDC	Final report: King George Whiting spawning dynamics in South Australia's southern gulfs (FRDC 2016/003).	1 July 2020
FRDC	Chapter updates for Status of Australian Fish Stocks 2020 (includes Snapper, KGW, Southern Garfish, etc)	31 December 2020
FRDC	Project application: Harvest strategy development for a reformed fishery	30 June 2021
FRDC	Project application: Contemporise fisheries modelling in a multi-gear, multi-species and multi-user fishery.	31 December 2020
FRDC	Project continuation: Informing structural reform of South Australia's Marine Scalefish fishery (FRDC project 2017/014)	30 June 2021
FRDC	Project continuation: Fisheries biology of Western Australian salmon: improving our understanding of population dynamics in South Australia to enable quantitative stock assessments and improved fisheries management (FRDC project 2018/035)	30 June 2021
FRDC	Project continuation: Developing a positive cultural attitude towards the capture and release of sharks and rays (FRDC project 2018/055)	30 June 2021
FRDC	Project continuation: Quantifying post-release survival and movement of Snapper ( <i>Chrysophrys auratus</i> ): informing strategies to engage the fishing community in practices to enhance the sustainability of an important multi-sector fishery (FRDC project 2019/044)	30 June 2021
FRDC	Project continuation: Cost-effective, non-destructive solutions to developing a pre-recruit index for Snapper (FRDC project 2019/046)	30 June 2021

### **3.1 Service Provided:**

#### *3.1.1 Collect, collate and store commercial fishery data*

- Manage the comprehensive commercial logbook program.
- Correct erroneous returns, involving contact with fishers when necessary.
- Undertake data-entry in association with appropriate error checking procedures.
- Maintain databases as required.
- Securely store original logbook returns.

#### *3.1.2 Collect, collate, store and analyse data from market sampling to generate size and age structures for the primary species*

- Maintain a two-stage (fish length, fish age) market sampling program for the Primary species that involves measurements from representative samples from fishery catches and collections of otoliths to determine ages of fish.
- Age fish from their otoliths using validated ageing protocols and established QA procedures.
- Generate age structures from otolith-based age estimates and length frequency distributions using age-length key statistical procedures.
- Interpret data on population structure in terms of population dynamics.

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

- Update and run the computer fishery model (GarEst) with fishery and biological data to provide estimates of output parameters for Southern Garfish stocks for the 2021/22 stock assessment of Southern Garfish.
- Assess general performance indicators against reference points to indicate stock status.
- Summarise all data and findings on stock status in a comprehensive fishery assessment report.
- Summarise annual commercial fishery data for multiple taxa at the biological stock, regional or State-wide scale
- Describe key patterns in State-wide fleet dynamics
- Provide presentations to industry and PIRSA on the status of each permitted MSF species as requested

#### *3.1.4 Undertake a Strategic Research Project*

- To develop new Harvest Strategies for application after the reform of the fishery has been completed

### **3.2 Outcomes:**

The principal outcome will be fishery and biological information and scientific advice to support the sustainability of South Australia's Marine Scalefish Fishery.

### **3.3. Outputs and extension:**

The key outputs and extensions are:

- A comprehensive annual MSF report that delivers a stock assessment for KGW, assesses the stock status for selected permitted species, describes key patterns in fleet dynamics and identifies future research priorities to be delivered on 28th February 2021; and
- Presentations to PIRSA and industry.

## 4. Funding arrangements

### 4.1 Project costing policy

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

### 4.2 Project cost

Program Milestones	Industry Contribution (\$) 79.5%	PIRSA F&A Cash Contribution (\$) 20.5%	SARDI In-Kind (\$)	Total Program Cost (\$) No GST
Logbook Program	181,661	NIL	NIL	181,661
Size and Age Structures	274,943	NIL	55,859	330,802
Stock Assessment (Garfish)	333,969	86,118	74,335	494,422
Strategic Project*	100,000	NIL	TBA	100,000
<b>TOTAL</b>	<b>890,573</b>	<b>86,118</b>	<b>130,194</b>	<b>1,106,885</b>

\* The industry contribution will be leveraged with FRDC funding to support the development of the Strategic Research Project.

### 4.3 Milestone and payment schedule

Date	Milestone	Payment (\$) Ex GST
31 December 2020	First half payment 2020/21 SLA	488,345
28 February 2021	MSF stock status report with Stock assessment of KGW	
31 May 2020	Second half payment 2020/21 SLA	488,346
<b>SUBTOTAL</b>		<b>976,691</b>
<b>GST</b>		<b>NO GST</b>
<b>TOTAL COST</b>		<b>976,691</b>

## 5. Project staff

<b>Staff</b>	<b>2020/21 FTE</b>
Principal Scientist	1.24
Research Scientist	0.80
Research Officers	0.96
<b>TOTAL</b>	<b>3.00</b>

## 6. Project cost summary

Cost	Detail	2020/21 Total (\$) Ex GST
Salaries (FTE)	3.00	
Salaries (\$)		430,722
<b>Operating (\$)</b>		
Logbook program (\$)		181,661
Strategic (FRDC) Project*		100,000
Fieldwork (\$)		19,100
Laboratory (\$)		16,500
Travel (\$)		
Office and communication (\$)		1,000
Capital equipment (\$)		
SARDI overhead (\$)		227,708
SARDI inkind (\$)		130,194
<b>Total Cost (\$)</b>		<b>1,106,885</b>
<b>Revenue – PRICE</b>		
Licence Holders (79.5%)		890,573
PIRSA F&A (20.5%)		86,118
<b>Total Revenue \$(88%)</b>		<b>976,691</b>
<b>PIRSA/SARDI Investment \$(12%)</b>		<b>130,194</b>

\* Industry cash contribution to leverage FRDC funds to support the development of the Strategic Research project (pre-recruit survey) on SNP

Explanation of costs above:

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

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

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

*Laboratory* - Costs for processing samples

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

*Office and communication* - Stationery, communications and publications

*Capital equipment*-

# Stock Assessment and Monitoring Program

## Vongole Fishery (Coffin Bay)

### Fisheries and Aquaculture Contact Person:

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### SARDI Contact Person:

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## 1. Project details

### 1.1 Title

South Australian Mud Cackle (Vongole) Fishery (Coffin Bay)

### 1.2 Subcontractor/Collaborator

Marine Fishers Association

### 1.3 Timeframe

Commencement Date: 1 July 2019

Completion Date: 30 June 2023

### 1.4 Summary

The Vongole research program provides survey-based estimates of Vongole biomass in South Australia.

This is the third Project Scope developed specifically for the Coffin Bay Zone of the South Australian Vongole Fishery but the first four-year Project Scope for this zone. Previously, main fishing grounds were sampled annually on a rotational (i.e. tri-ennial) basis. Based on work undertaken in 2018, the sampling protocol in this SLA has been changed such that all transects in Coffin Bay will be sampled biennially (i.e. sampling of Coffin Bay in 2020/21 and 2022/23). As stock status is determined from survey estimates of biomass and population length-frequency, status will not be assigned for years where fishery-independent sampling is not completed (i.e. 2019/20 and 2021/22).

The primary outcomes are Advice Notes on harvestable biomass in a risk-analysis framework and stock status in May 2021 and May 2023 and a stock status and biomass report due 15 May 2022.

## **2. Project description**

### **2.1 Background**

There are two primary components to the research provided by SARDI Aquatic Sciences to PIRSA in support of the Vongole Fishery. These are:

- (1) Conduct fisher-based surveys to determine the biomass of Vongole on the key fishing grounds of the Port River, Coffin Bay and the West Coast; and;
- (2) Provide a summary report that presents estimates of Vongole biomass in a risk-analysis framework and estimates of size at maturity.

### **2.2 Need**

This project addresses the need for biomass estimates and associated scientific information to support sustainable utilisation of Vongole in SA.

### **2.3 Objectives**

- 2.3.1 Review 2009/10, 2011/12, 2013/14, 2015/16 and triennial (2016/17 to 2018/19) sampling designs and implement an industry-based survey of Vongole populations on commercially important fishing grounds in the Coffin Bay fishing zone;
- 2.3.2 Determine estimates of the harvestable biomass of Vongole in 2020/21 and 2022/23 from the areas sampled;
- 2.3.3 Provide PIRSA with biomass estimates in a risk analysis framework; and
- 2.3.4 Provide PIRSA with scientific advice to support the sustainable management of the South Australian Vongole Fishery, including TACC setting.

### **2.4 Methods**

- 2.4.1 Work with Vongole fishers from the Coffin Bay fishing zone to review the 2009/10, 2011/12, 2013/14, 2015/16 and triennial (2016/17 to 2018/19) sampling design, incorporating changes to important commercial fishing grounds;
- 2.4.2 Re-map the commercial fishing grounds and sampling locations into a GIS layer;
- 2.4.3 Undertake a transect-based method, to obtain representative data on the biomass of Vongole across those fishing grounds. Biennial sampling across the principal Coffin Bay fishing grounds (i.e. Point Longnose, Oyster Farms, Little Douglas, and Long Beach with sampling in 2020/21 and 2022/23)
- 2.4.4 Apply a multi-level bootstrap analysis to determine estimates of Vongole biomass in a risk-analysis framework; and
- 2.4.5 Document and interpret the research findings in a report.

### 3. Deliverables

The key deliverables of the 2020/21 Vongole (Coffin Bay) assessment and monitoring program are tabulated below; additional work related to the core program is also identified:

Funding Source	Deliverable	Due Date
SLA	Surveys for Vongole Biomass in Coffin Bay completed	28 February 2021
SLA	Advice Note on harvestable biomass and status delivered	15 May 2021
SLA	Presentations of harvestable biomass and status to PIRSA Fisheries and Aquaculture and industry delivered as required.	30 June 2021
FRDC	Chapter update for Status of Australian Fish Stocks 2020	31 December 2020

#### 3.1 Service Provided:

##### 3.1.1 *Survey estimates of biomass*

- Review the commercially important fishing grounds.
- Review (and amend as required) the 2009/10, 2011/12, 2013/14, 2015/16 and triennial (2016/17 to 2018/19) surveys to estimate Vongole biomass.
- Provide estimates of current biomass to PIRSA following surveys in 2020/21 and 2022/23.

##### 3.1.2 *Data analysis*

- Apply a multi-level bootstrap model to provide estimates of Vongole biomass for the Coffin Bay fishing zone.

##### 3.1.3 *Management and quality assurance of research data*

- Provide effective storage and management of research data.
- Develop and implement a formal quality assurance program.

##### 3.1.4 *Analysis and Interpretation*

- Interpret the results of the research program in a report.

##### 3.1.5 *Project management*

- Ongoing supervision of projects.
- Management of deliverables.
- Quality control.

- Liaise with PIRSA, industry, State and Commonwealth agencies on matters relevant to the fishery.
- Participate in industry development initiatives.
- Development and implementation of new projects and collaboration on proposed/existing projects.
- Update relevant chapter in status report for SA fisheries.

### **3.2 Outcomes:**

The principal outcome will be scientific advice to support sustainable management of the SA Vongole Fishery.

### **3.3. Outputs and extension:**

The principal output is a report providing estimates of Vongole biomass in a risk-analysis framework by 15 May 2022. Additional outputs are Advice Notes on harvestable biomass in a risk-analysis framework in May 2021 and May 2023.

## 4. Funding arrangements

### 4.1 Project Costing Policy

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

### 4.2 Project Cost

Financial Year	Total Funded by Licence Holders \$ (GST N/A)	Total SARDI In-kind \$ (GST N/A)	Total Program Cost (\$ No GST)
2019/20	\$0	\$0	\$0
2020/21	\$26,350	\$5,518	\$31,868
2021/22	\$0	\$0	\$0
2022/23	\$28,098	\$5,798	\$33,896
<b>TOTAL PROJECT (over 4 financial years)</b>	<b>\$54,448</b>	<b>\$11,316</b>	<b>\$65,764</b>

### 4.3 Milestone and payment schedule

Date	Milestone	Payment (\$) Ex GST
31 December 2019	First Half Payment 2019/20 SLA	\$0
31 May 2020	Second Half Payment 2019/20 SLA	\$0
31 December 2020	First Half Payment 2020/21 SLA	\$13,175
15 May 2021	Advice Note – biomass and status	
31 May 2021	Second Half Payment 2020/21 SLA	\$13,175
31 December 2021	First Half Payment 2021/22 SLA	\$0
31 May 2022	Second Half Payment 2021/22 SLA	\$0
31 December 2022	First Half Payment 2022/23 SLA	\$14,049
15 May 2023	Advice Note – biomass and status	
31 May 2023	Second Half Payment 2022/23 SLA	\$14,049
<b>SUBTOTAL</b>		<b>\$54,448</b>
<b>GST</b>		<b>NO GST</b>
<b>TOTAL COST</b>		<b>\$54,448</b>

## 5. Project staff

<b>Staff</b>	<b>2019/20 FTE</b>	<b>2020/21 FTE</b>	<b>2021/22 FTE</b>	<b>2022/23 FTE</b>
Research Scientist	0	0.04	0	0.04
Senior Research Officers	0	0.08	0	0.08
<b>TOTAL</b>	<b>0.00</b>	<b>0.12</b>	<b>0.00</b>	<b>0.12</b>

## 6. Project cost summary

Cost	Detail	2019/20 Total (\$) Ex GST	2020/21 Total (\$) Ex GST	2021/22 Total (\$) Ex GST	2022/23 Total (\$) Ex GST
Salaries (FTE)		0	0.14	0	0.14
Salaries (\$)		0	13,952	0	15,014
<b>Operating (\$)</b>					
Logbook program (\$)					
Payment to industry for surveys (\$)		0	1,500	0	1,500
Fieldwork (\$)		0	1,100	0	1,100
Laboratory (\$)		0	50	0	50
Travel (\$)					
Office & communication (\$)		0	200	0	200
Capital equipment (\$)					
SARDI overhead (\$)		0	9,548	0	10,234
SARDI inkind (\$)		0	5,518	0	5,798
<b>Total Cost (\$)</b>		<b>0</b>	<b>31,868</b>	<b>0</b>	<b>33,896</b>
<b>Revenue – PRICE</b>					
PIRSA F&A (\$)	86%	0	26,350	0	28,098
<b>Total Revenue (\$)</b>		<b>0</b>	<b>26,350</b>	<b>0</b>	<b>28,098</b>
<b>SARDI Investment (\$)</b>	<b>14%</b>	<b>0</b>	<b>5,518</b>	<b>0</b>	<b>5,798</b>

Explanation of costs above:

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

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

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

*Laboratory* - Costs for processing samples

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

*Office and communication* - Stationery, communications and publications

*Capital equipment*-

# Stock Assessment and Monitoring Program

## Vongole Fishery (West Coast)

### Fisheries and Aquaculture Contact Person:

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### SARDI Contact Person:

Dr Michael Steer, Acting Research Director, SARDI Aquatic Sciences  
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## 1. Project details

### 1.1 Title

South Australian Mud Cackle (Vongole) Fishery (West Coast)

### 1.2 Subcontractor/Collaborator

Marine Fishers Association

### 1.3 Timeframe

Commencement Date:            1 July 2019

Completion Date:                30 June 2023

### 1.4 Summary

The Vongole research program provides survey-based estimates of Vongole biomass in South Australia.

This is the third Project Scope developed specifically for the West Coast Zone of the South Australian Vongole Fishery but the first four-year Project Scope for this Zone. To minimise costs, this scope of work undertakes sampling and analysis across the three spatial units of the West Coast fishery (i.e. Venus Bay, Streaky Bay and Smoky Bay) on a tri-ennial basis (i.e. all three units sampled in 2021/22). As stock status is determined from survey estimates of biomass and population length-frequency, status will not be assigned for years where fishery-independent sampling is not completed (i.e. 2019/20, 2020/21, or 2022/23).

The primary outcome is a report due 15 May 2022 that provides estimates of Vongole biomass for each fishing zone in a risk-analysis framework.

## **2. Project description**

### **2.1 Background**

There are two primary components to the research provided by SARDI Aquatic Sciences to PIRSA in support of the Vongole Fishery. These are:

- (1) Conduct fisher-based surveys to determine the biomass of Vongole on the key fishing grounds of the Port River, Coffin Bay and the West Coast; and;
- (2) Provide a summary report that presents estimates of Vongole biomass in a risk-analysis framework and estimates of size at maturity.

### **2.2 Need**

This project addresses the need for biomass estimates and associated scientific information to support sustainable utilisation of Vongole in SA.

### **2.3 Objectives**

- 2.3.1 Review 2009/10, 2011/12, 2013/14, 2015/16 and triennial (2016/17 to 2018/19) sampling designs and implement an industry-based survey of Vongole populations on commercially important fishing grounds in the West Coast fishing zone;
- 2.3.2 Determine estimates of the harvestable biomass of Vongole in 2021/22 from the areas sampled;
- 2.3.3 Provide PIRSA with biomass estimates in a risk analysis framework; and
- 2.3.4 Provide PIRSA with scientific advice to support the sustainable management of the South Australian Vongole Fishery, including TACC setting.

### **2.4 Methods**

- 2.4.1 Work with Vongole fishers from the West Coast fishing zone to review the 2009/10, 2011/12, 2013/14, 2015/16 and triennial (2016/17 to 2018/19) sampling design, incorporating changes to important commercial fishing grounds;
- 2.4.2 Re-map the commercial fishing grounds and sampling locations into a GIS layer;
- 2.4.3 Undertake a transect-based method, to obtain representative data on the biomass of Vongole across those fishing grounds. Sampling across the three spatial units of the West Coast fishery (i.e. Streaky Bay, Smoky Bay and Venus Bay to occur on a tri-ennial rotational basis with sampling of all bays occurring in 2021/22);
- 2.4.4 Apply a multi-level bootstrap analysis to determine estimates of Vongole biomass in a risk-analysis framework; and
- 2.4.5 Document and interpret the research findings in a report.

### 3. Deliverables

The key deliverables of the 2020/21 Vongole (West Coast) assessment and monitoring program are tabulated below; additional work related to the core program is also identified:

Funding Source	Deliverable	Due Date
SLA	NIL	
FRDC	Chapter update for Status of Australian Fish Stocks 2020	31 December 2020

#### 3.1 Service Provided:

##### 3.1.1 *Survey estimates of biomass*

- Review the commercially important fishing grounds.
- Review (and amend as required) the 2009/10, 2011/12, 2013/14, 2015/16 and triennial (2016/17 to 2018/19) surveys to estimate Vongole biomass.
- Provide estimates of current biomass to PIRSA following survey.

##### 3.1.2 *Data analysis*

- Apply a multi-level bootstrap model to provide estimates of Vongole biomass for the West Coast fishing zone.

##### 3.1.3 *Management and quality assurance of research data*

- Provide effective storage and management of research data.
- Develop and implement a formal quality assurance program.

##### 3.1.4 *Analysis and Interpretation*

- Interpret the results of the research program in a report.

##### 3.1.5 *Project management*

- Ongoing supervision of projects.
- Management of deliverables.
- Quality control.
- Liaise with PIRSA, industry, State and Commonwealth agencies on matters relevant to the fishery.
- Participate in industry development initiatives.
- Development and implementation of new projects and collaboration on proposed/existing projects.
- Update relevant chapter in status report for SA fisheries.

### **3.2 Outcomes:**

The principal outcome will be stock status and estimates of harvestable biomass in May 2022 to support sustainable management of the SA Vongole Fishery.

### **3.3. Outputs and extension:**

The principal output is a report providing estimates of Vongole biomass in a risk-analysis framework by 15 May 2022.

## 4. Funding arrangements

### 4.1 Project Costing Policy

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

### 4.2 Project Cost

Financial Year	Total Funded by Licence Holders \$ (GST N/A)	Total SARDI In-kind \$ (GST N/A)	Total Program Cost (\$) No GST
2019/20	\$0	\$0	\$0
2020/21	\$0	\$0	\$0
2021/22	\$70,921	\$13,056	<b>\$83,977</b>
2022/23	\$0	\$0	\$0
<b>TOTAL PROJECT (over 4 financial years)</b>	<b>\$70,921</b>	<b>\$13,056</b>	<b>\$83,977</b>

### 4.3 Milestone and payment schedule

Date	Milestone	Payment (\$) Ex GST
31 December 2019	First Half Payment 2019/20 SLA	\$0
31 May 2020	Second Half Payment 2019/20 SLA	\$0
31 December 2020	First Half Payment 2020/21 SLA	\$0
31 May 2021	Second Half Payment 2020/21 SLA	\$0
31 December 2021	First Half Payment 2021/22 SLA	\$35,460
15 May 2022	West Coast Biomass & status report	
31 May 2022	Second Half Payment 2021/22 SLA	\$35,461
31 December 2022	First Half Payment 2022/23 SLA	\$0
31 May 2023	Second Half Payment 2022/23 SLA	\$0
<b>SUBTOTAL</b>		<b>\$70,921</b>
<b>GST</b>		<b>NO GST</b>
<b>TOTAL COST</b>		<b>\$70,921</b>

## 5. Project staff

<b>Staff</b>	<b>2019/20 FTE</b>	<b>2020/21 FTE</b>	<b>2021/22 FTE</b>	<b>2022/23 FTE</b>
Research Scientist	0	0	0.04	0
Senior Research Officers	0	0	0.24	0
<b>TOTAL</b>	<b>0.00</b>	<b>0.00</b>	<b>0.28</b>	<b>0.00</b>

## 6. Project cost summary

Cost	Detail	2019/20 Total (\$) Ex GST	2020/21 Total (\$) Ex GST	2021/22 Total (\$) Ex GST	2022/23 Total (\$) Ex GST
Salaries (FTE)		0	0	0.28	0
Salaries (\$)		0	0	32,780	0
<b>Operating (\$)</b>					
Logbook program (\$)					
Payment to industry for surveys (\$)		0	0	3,960	0
Fieldwork (\$)		0	0	10,865	0
Laboratory (\$)		0	0	160	0
Travel (\$)					
Office & communication (\$)		0	0	400	0
Capital equipment (\$)					
SARDI overhead (\$)		0	0	22,756	0
SARDI inkind (\$)		0	0	13,056	0
<b>Total Cost (\$)</b>		<b>0</b>	<b>0</b>	<b>83,977</b>	<b>0</b>
<b>Revenue – PRICE</b>					
PIRSA F&A (\$)	86%	0	0	70,921	0
<b>Total Revenue (\$)</b>		<b>0</b>	<b>0</b>	<b>70,921</b>	<b>0</b>
<b>SARDI Investment (\$)</b>	<b>14%</b>	<b>0</b>	<b>0</b>	<b>13,056</b>	<b>0</b>

Explanation of costs above:

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

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

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

*Laboratory* - Costs for processing samples

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

*Office and communication* - Stationery, communications and publications

*Capital equipment*-

