



**FRDC**

# SETTING THE SCENE FOR FRDC STAKEHOLDER WORKSHOP

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## Acknowledgement of Country



*'I would like to acknowledge the people who are the Traditional Custodians of the Land. I would also like to pay respect to their Elders both past and present and extend that respect to other Indigenous Australians who are present.'*

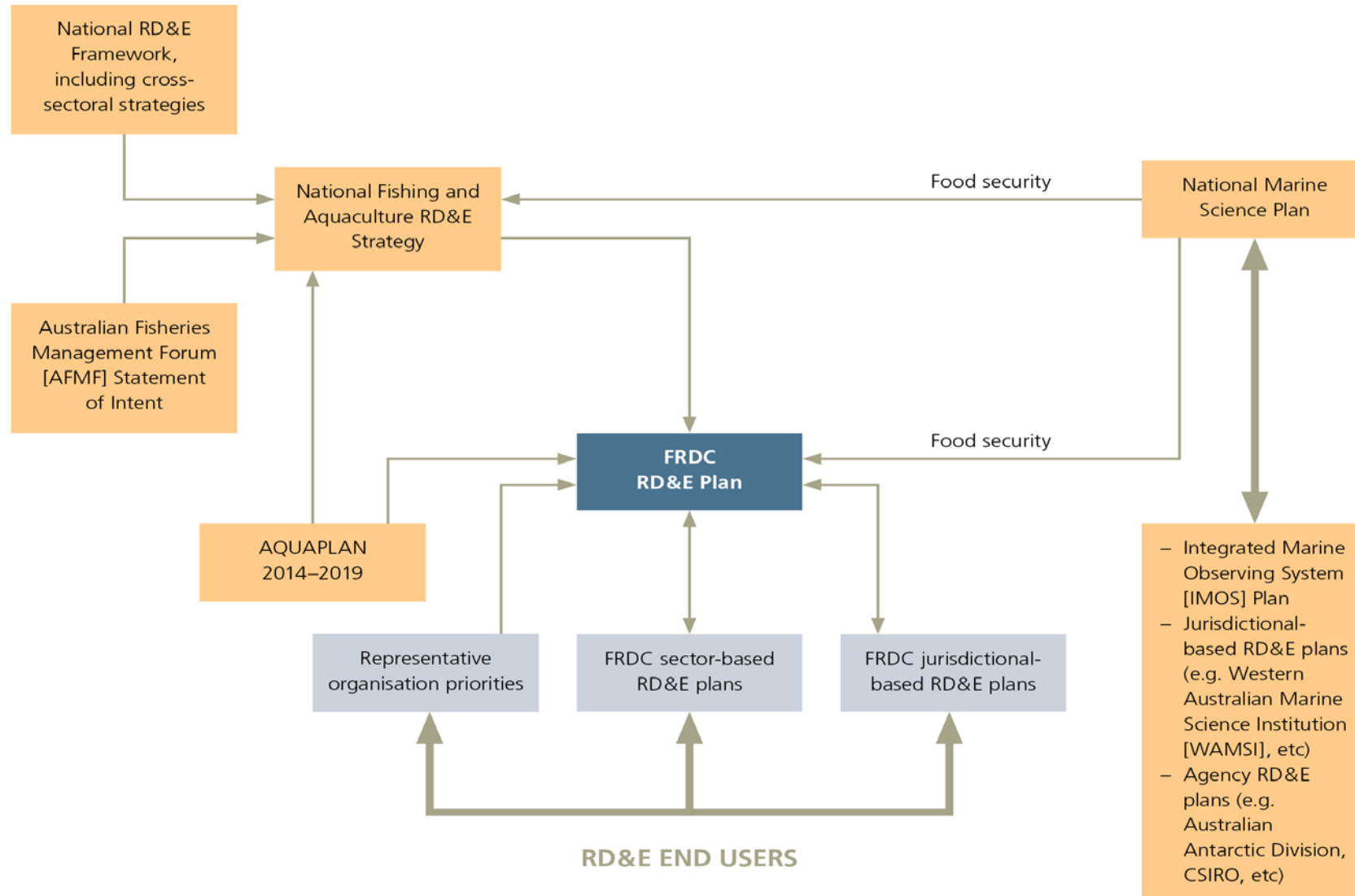


# Setting the scene – planning environment



## RURAL RESEARCH AND DEVELOPMENT PRIORITIES

## AUSTRALIA'S SCIENCE AND RESEARCH PRIORITIES



The planning environment and how the FRDC RD&E Plan links to other major planning documents.

# Setting the scene - revenue



The basis of the FRDC's revenue.

## A: PUBLIC-GOOD FUNDING BY AUSTRALIAN GOVERNMENT

Australian Government pays 0.50 per cent of the average gross value of production (AGVP) of the commercial sector

## B: CONTRIBUTION BY THE COMMERCIAL SECTOR

Commercial fishers and aquaculturists contribute at least 0.25 per cent of AGVP

## C: AUSTRALIAN GOVERNMENT MATCHING OF CONTRIBUTION BY COMMERCIAL SECTOR

Same amount as B, up to a maximum of 0.25 per cent of AGVP

## D: ADDITIONAL INVESTMENTS

By post-harvest, retail, recreational and import sectors and government agencies

## E: MARKETING INVESTMENT

These funds are invested separately from RD&E investments and are to be used for marketing only

- Since 2001, industry contributions are greater than 100% of matching – currently 119%
- Since 1991, industry contributions have been on a voluntary basis – only APFA has a RD&E levy
- Since 1991 RD&E investment has grown from \$11 million/an to > \$30 million/an
- Recreational and Indigenous contribution cannot be matched

# FRDC Income – Government/Industry



	2013–14	2014–15	2015–16	2016–17	2017-18
	\$m	\$m	\$m	\$m	\$m
<b>TOTAL INCOME</b>	<b>26.89</b>	<b>31.75</b>	<b>30.12</b>	<b>37.32</b>	<b>36.00</b>
Industry Contributions	8.28	7.16	7.45	8.18	9.04
Total government contributions	17.93	18.71	20.05	21.76	22.71
Project funds from other parties	0.17	4.27	1.48	5.63	2.02
Other revenue	0.51	1.61	1.14	1.75	2.23

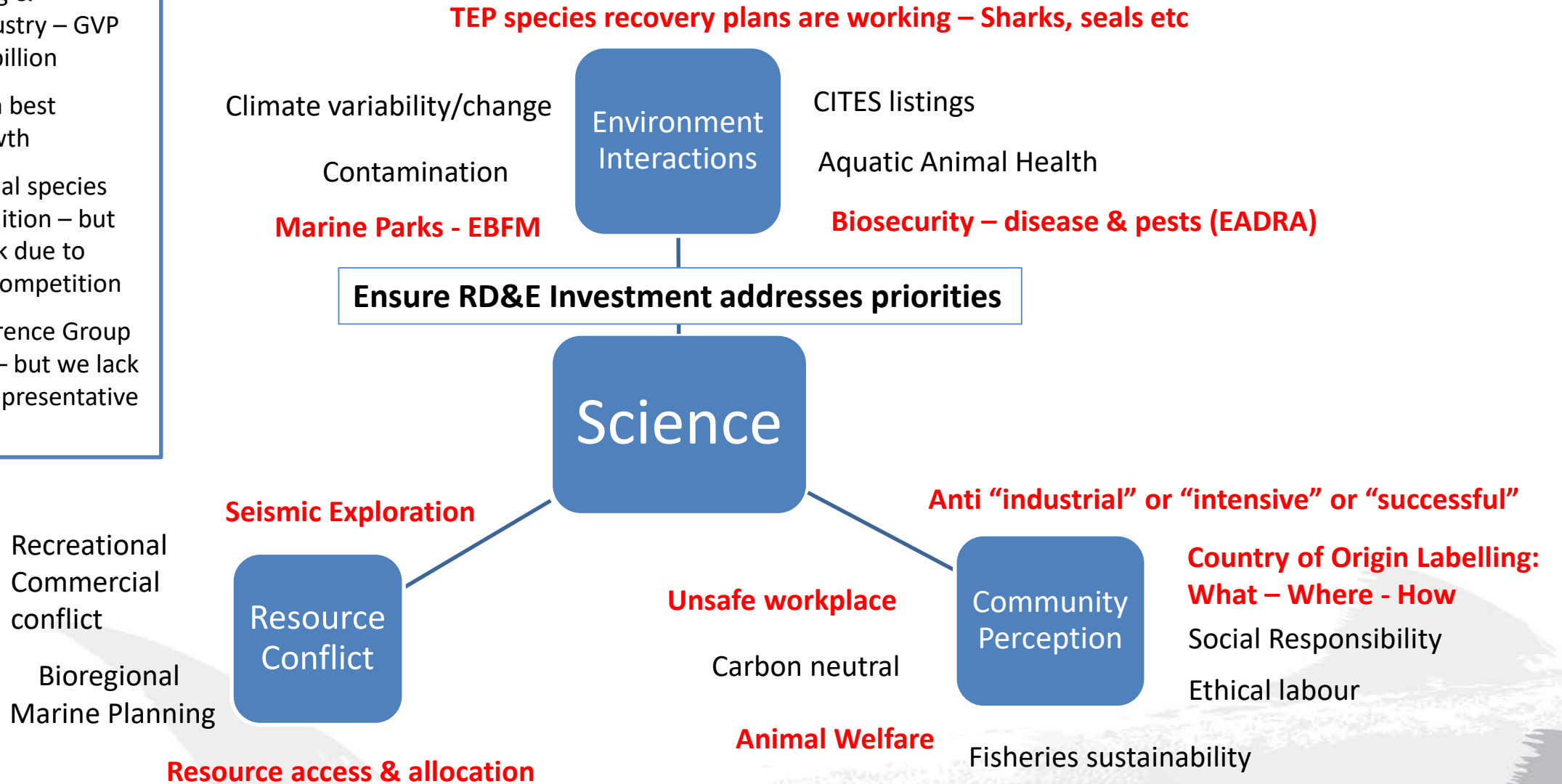
The gross value of production of the Australian fishing industry climbs \$2.4b \$2.71b, \$2.91b, \$3.0 billion.

# Major operating environment issues for fishing and aquaculture



## operating environment

- Strong financial growth in the Australian fishing & aquaculture industry – GVP rose to over \$3 billion
- Aquaculture is in best position for growth
- Iconic recreational species are in good condition – but tackle sales weak due to growing online competition
- Indigenous Reference Group has high profile – but we lack an Indigenous representative body



## Key national activities



- Support SIA's priority for Social License – working with NFF and other national bodies
- Establish a national Seismic RD&E coordination program – WAFIC leading
- Support SIA's Country of Origin Initiative
- Establish national Fisheries Management & Science Standards – that works with Seafood NZ Open Seas B2B certification – links to GSSI
- Support commercial industry in developing a National Digital Data Strategy and Policy
- Establish a new “Inshore fisheries” subprogram focusing on Festivals, Seafood Trails and Local Branding
- Expand and increase the investment in Biosecurity – through the AAHBS
- Support a new work program for Animal Welfare – led by Brett McCallum et al.
- Establish a new work safety and mental health initiative – WAFIC delivering SeSAFE and chairing
- Respond to new workplace working condition requirements – eg Modern slavery Act
- Expand the SRL Clean and Green Program
- Expand FRDC's capacity building program to focus on Innovation (Fish-X), succession support and diversity
- Amend FRDC's legislation to allow for voluntary marking contributions

## Changing operating environment for FRDC



- Commonwealth Government wants to see more cross-sectoral RD&E investment
- Inquiries into Banks and Australian Wool Innovation will see more compliance measures
- A change to the RDC funding model has been flagged – including matching formula
- Opposition has flagged changes to Agriculture portfolio, including RDCs and implementing a Animal Welfare Ombudsmen
- Commonwealth Government decentralisation policy
- A new Funding Agreement between DAWR and FRDC being developed for 2019
  - Performance review underway; has noted the complexity of FRDC’s funding process, and need for improved outcome measures



## Purpose of National Stakeholder Workshop

- The primary purpose of today's workshop is to develop collaborative priorities.
- We will get straight onto that task this morning. Our more general discussions will occur tomorrow.
- Collaborative priorities are national in scale and scope. They involve as many stakeholder groups as possible.
- These priorities will be turned into specific projects over the coming year, and you need to commit to them during this workshop.
- Collaborative projects are important to ensure best use of available funds (leverage), remove duplication and critically drive change



Questions?



# RESEARCH ADVISORY COMMITTEES

Annual Stakeholder Planning Workshop  
Adelaide, 29<sup>th</sup> & 30<sup>th</sup> August 2018

# ComRAC priorities:

- Interactions with marine mammals** in the Bass Strait Gillnet fishery
  - exploring converting to a hook fishery
- Revisiting biological parameters** and information to assess Commonwealth fisheries: a reality check and strategy for future proofing
- Quantifying reductions in bycatch and discards** in the GABTS and the Commonwealth Trawl Sector of the SESSF
- Common harvest strategies** and catch sharing for fisheries
- 'Fishing for Research Priorities'**

# ComRAC collaborative priorities:

- Updating understanding of eastern school whiting stock structure, biological parameters, and catch composition with stout whiting**
- Plastics, micro-plastics and gear recovery**
- 'On-water and in-port' leadership development**
- Understanding Indigenous interests in Fisheries - Commonwealth and wider**

## New South Wales RAC

- Proposed New South Wales RAC led priorities:
  - To determine the cost/benefit of voluntary Country of Origin Labelling
  - To determine the environmental conditions that lead to presence of ciguatera within NSW product
  - Use of innovative technology as a cost effective means to improve resource assessment outcomes
  - To add value to inshore fisheries through diversification of markets
  - Improved data reporting App
  - Investigation into cost effective and practical transport tubs for larger fish species
  - Mud Crab pot theft mitigation recommendation
  - Quantifying the value of community engagement
  - An updated understanding of Eastern School Whiting stock structure, biological parameters, and catch composition with Stout Whiting along the East coast of Australia
- Proposed multi sector collaborative priorities:
  1. Fisheries management induction for NSW commercial fishers
  2. Marking of offshore fishing gear for navigational purposes

## Northern Territory RAC Research Priorities

- The groups priorities...
  - ... are being informed by the development of sectoral specific plans
- Highlighted as a potential collaborative opportunity:
  - Effective Engagement – Addressing conflict to resolve future development
  - Effective Engagement – Sectoral capacity to participate proactively
  - Managing Transition out of the fishing industry
  - Managing Transition into the fishing industry
  - Resource Access

## Queensland RAC

- Proposed Queensland RAC led priorities:
  - Valuing recreational fishing in Queensland with existing information: potential values and what is needed to improve them
  - Novel and improved measures for quantifying recreational catch
  - Evaluate whether environmental change has resulted in a shift to the spawning area and periodicity spanner crabs
  - To develop a strategic approach to fish habitat research
  - Investigate the impact of the taking of sperm limitation through the taking of C-grade male Mud Crabs
  - Mud Crab tagging study – Commercial and Recreational feasibility
  - Document Net (N1 & N11) bycatch in South east Queensland
  - Climate change effects on wild-caught species in South East Queensland
  - Impacts of Social media on public perception
- Proposed multi sector collaborative priorities:
  1. Novel and improved measures for quantifying recreational catch
  2. Risks of targeting spawning aggregations
  3. Best Management Practice program for commercial and recreational fisheries
  4. The impact of anthropogenic activities on the health of seagrasses



## South Australian RAC

- Proposed South Australian RAC led priorities:
  - Innovative monitoring of recreational fishing effort to maintain a proxy for catch in-between State-wide surveys
  - Developing targeted post-doctoral research projects to address biological information gaps and build fisheries science capacity and industry collaborations
  - Develop modelling capability to inform multi-species harvest strategy and total allowable catch setting for inshore marine scalefish fisheries
- Possible multi sector collaborative priorities:
  1. Establishing a National Ichthyoplankton Monitoring Program
  2. Developing a DNA barcode database of fisheries-targeted species
  3. Development of a cost effective DNA-based authentication tool for facilitating compliance in the seafood trade
  4. Evaluating licencing and cost recovery mechanisms in Australian recreational fisheries

## Tasmanian RAC

- Proposed Tasmania RAC led priorities:
  - Interactions between the salmonid aquaculture industry and Tasmania's key recreational and commercial fisheries: have marine farm operations affected wild fish abundance?
  - Status of wrasse stocks: assessing the impacts of fishing at localised and regional scales
  - Population biology of and status of Bastard Trumpeter
  - Assessing the impacts and implications of seal-fishery interactions in Tasmania
  - Information to support decision-making that maximises benefits to the Tasmanian community
  - Systems for local scale stock enhancement: developing and testing portable larval production facilities?
  - Relative effectiveness of strategies to mitigate destructive grazing of *Centrostephanus*
  - Evaluate success of strategies for previous Government intervention in Industry fishing fleet numbers
  - Quantifying Mortality of Giant Crabs that Interact with Trawl Gear
- Proposed multi sector collaborative priorities:
  1. Catch, effort and economic performance of the Tasmanian Charter Boat Fishery: providing a platform for integrated management
  2. Market supply chain and technology to support branding & traceability
  3. Industry knowledge/technology transfer between intensive primary production industries

## Victorian RAC

- Proposed Victorian RAC led priorities:
  - Fishing for Research Priorities
  - Recreational lobster tagging program – assessing current data and modelling assumptions / approaches to establish a robust estimate
  - Restoring marine habitat and biodiversity by reducing sea urchin encroachment and barrens in Eastern Victoria
  - Understanding population structure and dynamics of Victoria’s developing octopus fishery
  - Corner Inlet Rock Flathead stock structure - At what scale should this stock be managed?
- Proposed multi sector collaborative priorities:
  1. The latent opportunities in Victorian inshore professional wild-capture fisheries
  2. Improving fishery stock assessment tools for recreational fisheries
  3. Fish stocking – decision tools for native fish outside their range



## Western Australian RAC Research Priorities

- The groups priorities include:
  - Inshore fisheries – Market development opportunities
  - Provenance – Tourism markets
  - Provenance – Digital traceability
  - Habitat enhancement - Oil and Gas decommissioned infrastructure
  - Aquaculture development – vaccine development
  - Aquaculture development – oxidative stress
  - Aquaculture development – YTK broodstock performance



# INDUSTRY PARTNERSHIP AGREEMENTS

Annual Stakeholder Planning Workshop  
Adelaide, 29<sup>th</sup> & 30<sup>th</sup> August 2018

## Abalone Council Australia IPA

- Proposed ACA IPA led priority areas:
  - Ensure a healthy fishery maintained at biological optimums (robust Harvest Strategy in each State fishery)
  - Abalone stewardship – globally verified and promoted
  - Achieve higher productivity along the supply chain via innovation investment (pre and post-harvest)
  - Implement a professional international and domestic strategic marketing program for the world's best abalone
  - Australia is recognised as the global Home of Wild Abalone
  - Smart people using best industry practices
  - An efficient and capable ACA leading a national industry
  - Build and apply social capital for industry benefit
- Proposed multi sector collaborative priorities:
  - Increased collaboration and idea sharing between the abalone sector and other sectors (both within and external to the seafood industry)

## ABFA Strategic Priorities

- Differentiating Australian Barramundi as the fish of choice for consumers
- Supporting industry profitability
- Biosecurity

### **Strategic project (non IPA)**

- Improving consumer traits and customers educated around differentiating attributes of Australian product.
- Industry quality scheme enhanced.
- Marketing and branding program.

### **IPA RDE Priorities - *collaborative highlighted***

- Gut health of farmed barramundi juveniles: Stage 1) Identify where damage occurs
- **Optimisation of treatment of *Cryptocaryon irritans***
- Improving harvest & slaughter – welfare and quality
- **Assessable criteria to underpin product quality standards**
- **Provenance**
- Testing of imported high risk product for Scale drop disease virus and other megalocytes viruses
- **Media training**
- **Aquaculture development in Nth Aust – science to support (leverage the NA CRC)**



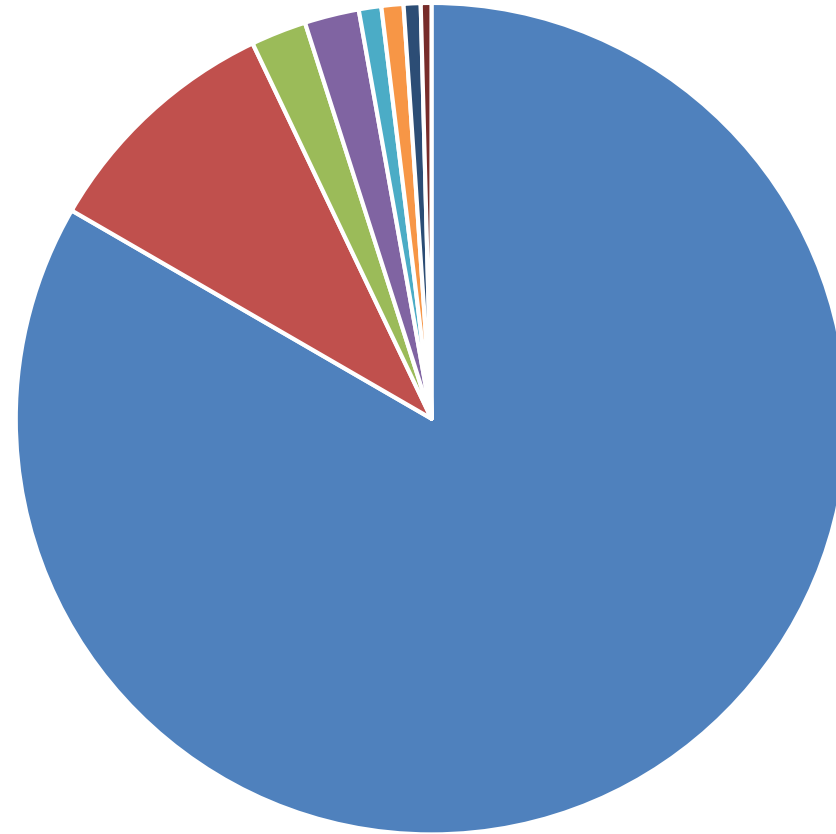
# AAGA-IPA

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# World production, all sources, 2017

Australia: (3750T) 2.1% of global production, 168000T.



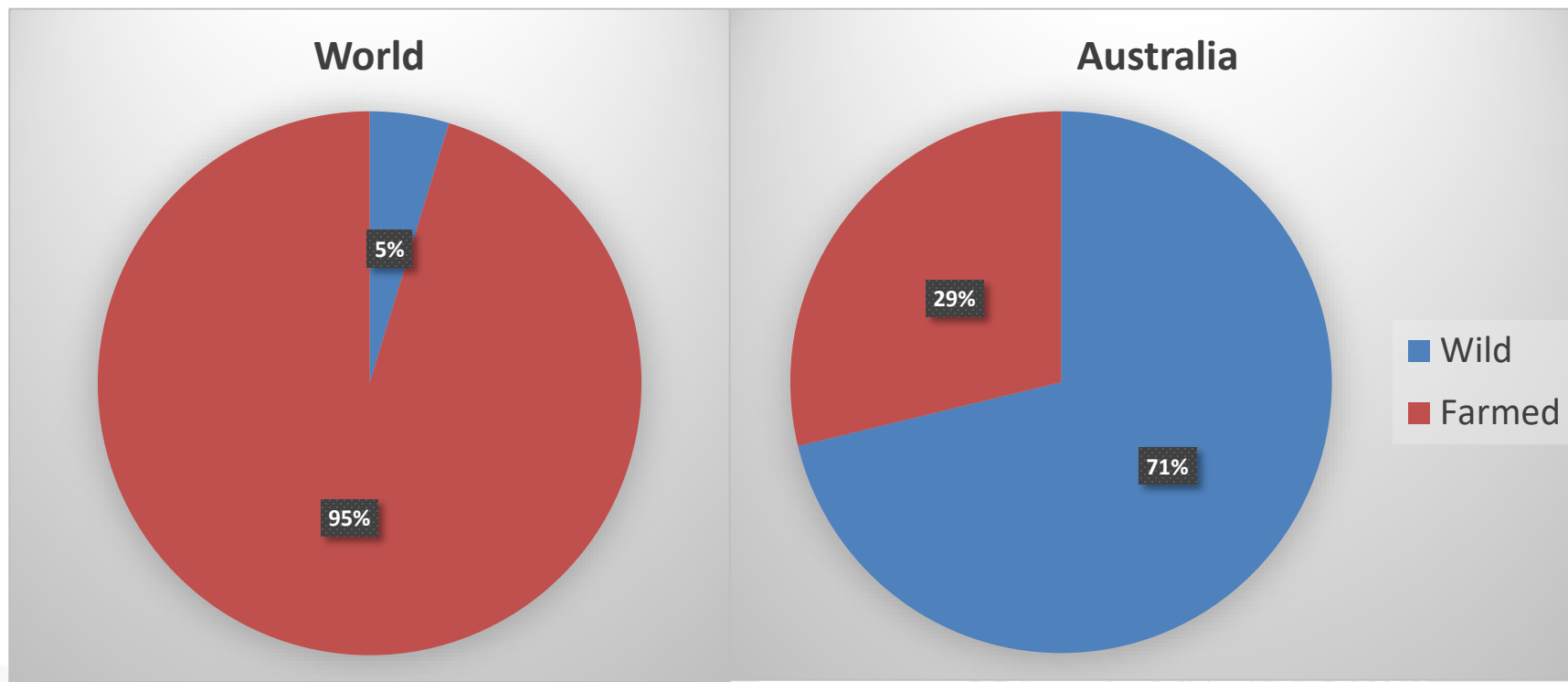
- China
- Korea
- South Africa
- Australia
- Chile
- Japan
- New Zealand
- Remainder

## Farmed vs. Wild: World and Australia

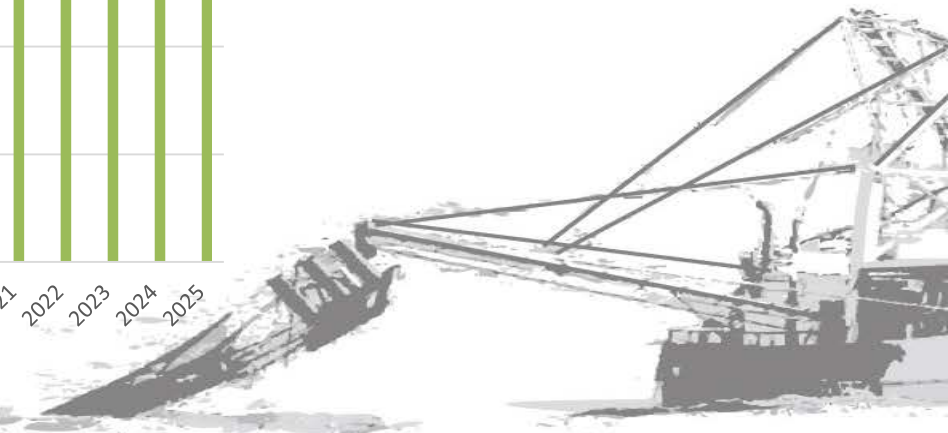
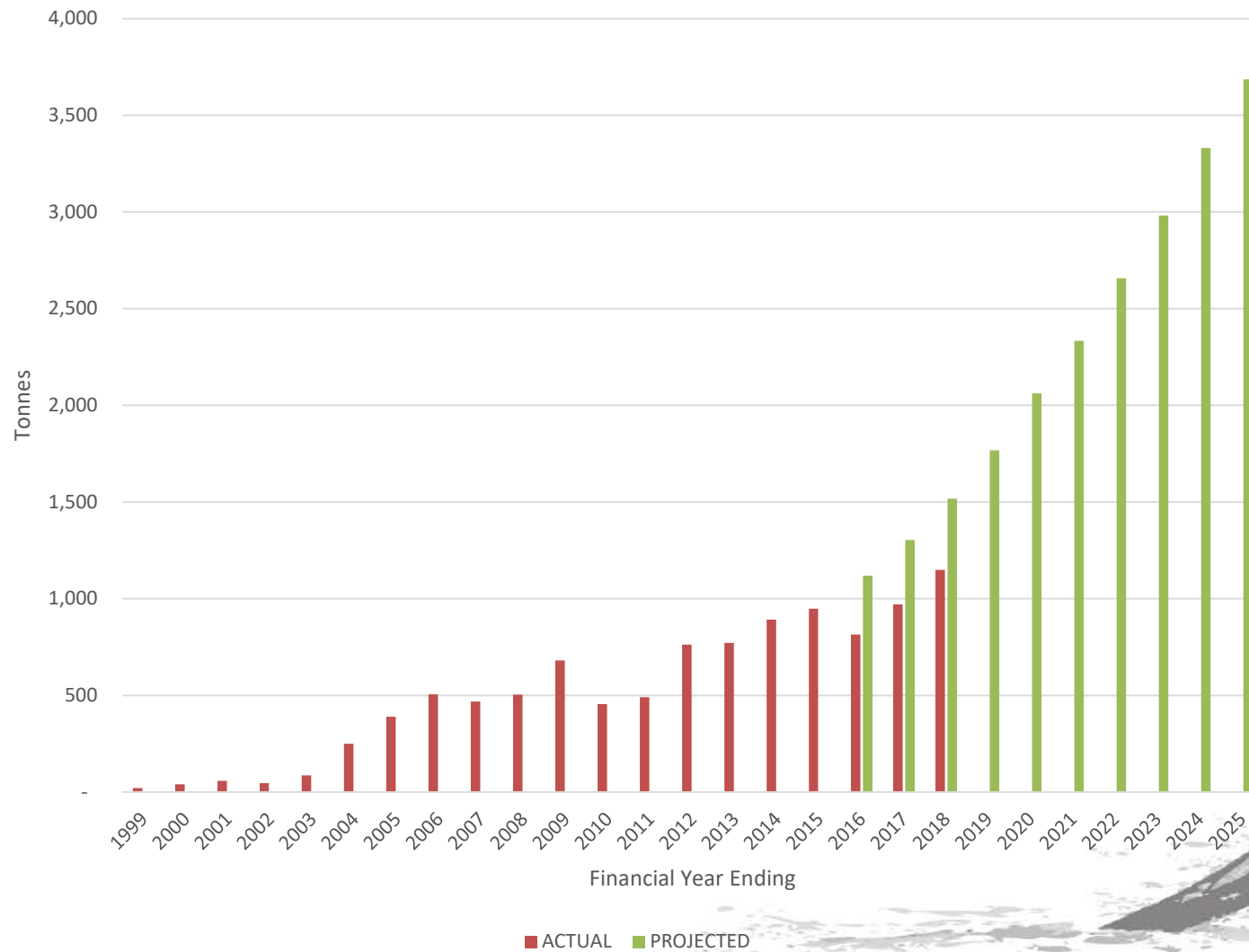
95% of global abalone production is farmed. In Australia only 29% is farmed.

Farmed abalone will exceed wild production by 2025.

Enormous market potential for Australian Farmed Abalone



# Australian Farmed Abalone Production. Actual & Projected



## Plan on a Page

### 1. Implement a National Biosecurity Program for the industry

- Biosecurity, surveillance and translocation. Gain an auditable system sanctioned across state boundaries. **Achieve safe free movements of stock.** STILL WAITING.

### 2. Achieve productivity gains via automation for stock movement and harvest

- Efficiency gains and relaxants. APVMA MUPs for 2PE, Magnesium Chloride achieved.
- MUP for Magnesium Sulphate. STILL WAITING

### 3. Implement a nutrition program for health, survivorship and meat weight gain

- Deakin Nutrition Project. Achieve further feed improvements.
- Others, Stone, Dankhurst, individual farms.

### 4. Deliver sustainable abalone farming systems

### 5. Build industry capacity to resolve animal health issues (-Dang project, Perkinsus)

### 6. Ensure human capacity to meet industry needs (integrated into other projects)

### 7. An AAGA that effectively delivers defined outcomes for members

- Includes R,D&E portfolio management, Annual Workshop, Committee Meetings

### 8. Effective marketing of safe Australian abalone products. (inc NRS, SAFEFISH)

### 9. R&D for Breeding Projects (Jan Strugnell, JCU, others.)



## Active AAGA FRDC IPA Projects

- 2016-415 AAGA IPA: Management of Australian Abalone Growers Association's RD&E portfolio.
- 2016-009 Aquatic Animal Health and Biosecurity Subprogram: *Perkinsus olseni* in abalone - development of fit-for-purpose tools to support its management. In progress. Dr. Cecile Dang. Department of Fisheries WA.
- 2017-113 Elucidating the nutritional requirements of farmed hybrid abalone. Dr. David Francis, Dr. Giovanni Turchini. Deakin University.
- 2017-117 Identification of differentially expressed immune genes in the New Zealand paua (*H. iris*) and the Australian Hybrid abalone (*H. laevigata* x *H. rubra*) upon immersion challenge with the abalone herpesvirus-1 (HaHV). Dr. Serge Corbeil, AAHL, AAHBS.
- 2017-220 Testing established methods of early prediction of genetic merit in abalone broodstock. Dr. Jan Stugnell. JCU.
- 2017-057 Testing Australian blacklip and greenlip wild abalone stocks for resistance to abalone viral ganglioneuritis (AVG). Dr Adam Miller. Deakin. (PENDING APPROVAL)
- 2018-004 Safefish 2018-2021

## Prospects for Co-operation, collaboration

- Social Licence
- Safefish/NRS
- Wild Abalone ~ marketing, restocking, translocation
- Indigenous ?
- SBT ~ energy, microbiome
- Prawns ~ microbiome, product quality, energy use, automation efficiencies
- Barra ~ product quality
- Oysters ~ food safety and market access
- APVMA ~ streamlined process



- Reseeding an option to restore reefs in Australia
- Driver for farm/wild co-operation?

**Australian Council of Prawn  
Fisheries IPA**  
**ACPF & APFA**  
ACPF & jurisdictions or  
other partner





## APFA - IPA

- APFA priorities:
  - Disease and biosecurity
    - Microbiome
    - Modelling of pathogens / disease events over the production cycle with ‘real time’ multiparameter pond environment testing.
    - Further research to support the protection of our industry against emerging and exotic pathogens.
  - Smart Farming
    - including but not limited to feed, energy, labour, waste management, farm efficiency, technology, innovation, profit, competitiveness etc.

## APFA - IPA

- APFA priorities:
  - Selectively bred broodstock
    - Research to support access to these stocks
    - Multiplication centre design and production techniques
  - Best practices
    - including but not limited to animal welfare, sustainability, development, communications, marketing etc.
  - Human dimensions
    - including but not limited to industry safety knowledge and learnings, mental health, understanding strengths and challenges of a prawn farmer, social impacts of farming etc.

## APFA - IPA

- Potential multi sector collaborative priorities:
  - Industry growth into new regions (WA, NT)
  - Best practices
    - including but not limited to animal welfare, sustainability, development, communications, marketing etc.
  - Human dimensions
    - including but not limited to industry safety knowledge and learnings, mental health, understanding strengths and challenges of a prawn farmer, social impacts of farming etc.

## Australian Southern Bluefin Tuna Industry Association IPA Research Priorities

- The SBT industry research priorities include:
  1. Secure resource access and TAC
  2. Increasing productivity and profitability
  3. Feed availability, cost, sustainability, quality and FCR
  4. Environmental management and sustainable development
  5. Fish health, including parasite and disease management
- ASBTIA are open to any suggestions of collaborative research opportunities

## Oysters Australia IPA

- Proposed Oysters Australia IPA led priorities:
  - Selective breeding of Pacific Oysters and Sydney Rock Oysters for resistance to aquatic diseases, improved performance and market characteristics.
  - Understanding the drivers of oyster diseases and development of improved management methods.
  - Sustainably increase production and profitably through innovative methods and technologies.
  - Ensuring shellfish safety and market access.
- Proposed multi sector collaborative priorities :
  - Biotoxins and depuration.
  - Improvements to biosecurity, surveillance and risk assessment of aquatic diseases.
  - Industry growth

## Pearl Consortium IPA

- Proposed Pearl Consortium led priorities:
  - Pearl oyster health
  - Pearl production physiology
  - Improving reoperation results
- Proposed multi sector collaborative priorities:
  - Pearl oyster health
  - Effects of Seismic activities

## Southern Rocklobster Limited (SRL) IPA

- Proposed SRL led priorities:
  - Seismic – monitor effects in an area where seismic testing is being done.
  - Food Tourism – market opportunities in Australia
  - Incorporating catchability into harvest strategy evaluation
  - Bioeconomic modelling of harvest strategies
  - Training of scientists and managers on ‘change management’
  - Centrostephanus control especially in deeper water
  - On-board electronic monitoring of catch to better enhance marketing opportunities and overcome single zone fishing
  - Processing sector research into improving cold chain in rock lobster supply
  - Close-kin genetics
  - Corporatisation in fishing industry
- Proposed multi sector collaborative priorities:
  - Seafood Incident Response plan
  - Digital data housing
  - Traceability systems

# **Southern Ocean IPA priorities:**

- Reduce sources of uncertainty in icefish and toothfish assessments**
- Evaluate environmental impacts on the HIMI fishery and develop adaptation strategies to climate change**
- Monitor, evaluate and mitigate fish and skate/ray bycatch, seabird bycatch and cetacean depredation**



## Tasmanian Salmonid Growers Association IPA

- Proposed **Salmon IPA** led priorities:
  - Increasing the understanding of specific **environmental indicators of water and sediment condition** (biological and chemical) to inform better Commercial production, ‘smart’ regulation and improving public confidence (IPC)
  - Commercial application of **ecosystem modelling** to assist industry in improving farm and hatchery management practice (including, but limited to, hydrodynamics, deposition, benthic processes)
  - Commercial application of **innovative ‘smart farm technologies’** to improve monitoring processes on farm and broadscale (relating to usefulness, meeting minimum data needs, and integrating and relating data)
- Proposed **multi sector collaborative** priorities:
  - Improvement to **biosecurity** planning, risk assessment and surveillance of aquatic diseases
  - Zero **marine debris** waste management strategy (IPC)
  - Transparency of ‘data’ and **information sharing** strategy (IPC)

## Western Rock Lobster IPA

- WRL IPA led priorities:
  - Understanding the Markets for Western Rock Lobster
    - Develop and implement a Real Time Quota Trading Platform (potential for collaboration)
    - Market and consumer data
    - Maximum Economic Yield (MEY) modelling
  - Digitising the Western Rock Lobster Industry
    - Traceability, OH&S Learner Management System (LMS), Market Dashboard, Catch Applications
  - Establishing a WA based Institute for Spiny Lobster Research (collaborative)
    - Environment, Biology, Economics, Logistics, Markets, etc
- Proposed multi sector collaborative priorities:
  - Quantifying Recreational Catch
  - Traceability and provenance



Western  
**ROCK  
LOBSTER**

World leading sustainable fishery



# SUBPROGRAMS

Annual Stakeholder Planning Workshop  
Adelaide, 29<sup>th</sup> & 30<sup>th</sup> August 2018

## Aquatic Animal Health and Biosecurity Subprogram

- Proposed AAHBS-led priorities (expanded description in Scope in RD&E plan):
  - Nature of diseases and their epidemiology
  - Biosecurity
  - Diagnostics
  - Strategic surveillance
  - Disease mitigation
  - Training and capacity building
  - New technologies and applications
- Proposed multi sector collaborative priorities:
  - Environmental DNA (eDNA)
  - Next generation sequencing (NGS)
  - Advice on projects with an AAH component

## Aquatic Animal Health and Biosecurity Subprogram

- The Subprogram was established to provide a cohesive and national approach to aquatic animal health RD&E in Australia with a national focus, and supports the FRDC RD&E Plan.
- Recently, “biosecurity” was added to the subprogram’s ambit and this requires an understanding of the type of biosecurity RD&E that the subprogram would support RD&E.
- ***Aquatic animal health*** concerns the health of the animal *per se* and the resources and procedures to maintain aquatic animal health (for the subprogram this relates to infectious disease).
- ***Aquatic animal biosecurity*** refers to all the resources and procedures in place to prevent pathogens affecting aquatic animal health from entering our country, regions, or farms; and to prevent their subsequent spread or establishment. Research and training activities that support this aim would be relevant for the Subprogram.

Project number	Project Title	Project budget	Applicant	Progress
2018-XXX	WSD Response: Evaluation of on-farm test kits for detection of WSSV in clinically-affected prawns (to be submitted through AAHBS)	\$148,000	CSIRO Australian Animal Health Laboratory	EOI
2018-065	Aquatic Animal Health and Biosecurity Subprogram: Diagnostic detection of aquatic pathogens using real-time next generation sequencing	\$216,000	CSIRO Australian Animal Health Laboratory	EOI
2018-098	Vaccination for emergency and long-term control of nodavirus in Australian marine aquaculture	\$668,462	University of Queensland (UQ)	New Project
2018-094	CRC Northern Australia - Biosecurity in northern Australian prawn aquaculture	\$146,000	APFA	New Project
2018-090	FRDC Response Fund: Improving early detection surveillance and emergency disease response to Ostreid herpesvirus using a hydrodynamic dispersion model	\$70,168	PIRSA	New Project
2017-238	WSD Response: Water treatment to control influent water biosecurity risk on Australian prawn farms. Effectiveness and impacts on production ponds.	\$155,700	QDAF	New Project
2017-190	WSD Response: Assessment of gamma irradiation as a feasible method for treating prawns to inactivate White Spot Syndrome Virus (submitted through AAHBS).	\$220,000	Biosecurity Qld	New Project
2017-117	Aquatic Animal Health and Biosecurity Subprogram: Identification of differentially expressed innate immune genes in the New Zealand paua ( <i>Haliotis iris</i> ) and the Australian hybrid abalone ( <i>H. laevigata</i> X <i>H. rubra</i> ) upon immersion challenge with the abalone herpesvirus-1 (HaHV)	\$121,127	CSIRO Australian Animal Health Laboratory	Active.
2016-013	Aquatic Animal Health and Biosecurity Subprogram: Comparative pathogenicity of exotic acute hepatopancreatic necrosis disease (AHPND) and the presumptive bacterial hepatopancreatitis detected in farmed <i>Penaeus monodon</i> in Queensland	\$131,106	CSIRO Australian Animal Health Laboratory	Active.
2016-011	Aquatic Animal Health and Biosecurity Subprogram: Disinfection measures to support biosecurity for infectious spleen and kidney necrosis virus (ISKNV) at aquaculture facilities	\$99,992	University of Sydney (USYD)	Active.
2016-009	Aquatic Animal Health and Biosecurity Subprogram: <i>Perkinsus olseni</i> in abalone - development of fit-for-purpose tools to support its management	\$139,908	Department of Fisheries Western Australia	Active.
2016-404	Aquatic Animal Health and Biosecurity Subprogram: Strategic planning, project management and adoption	\$457,144	CSIRO Australian Animal Health Laboratory	Active.
2015-001	Aquatic Animal Health Subprogram: Bonamiasis in farmed Native Oysters ( <i>Ostrea angasi</i> )	\$395,832	Department of Economic Development Jobs Transport & Resources (DEDJTR)	Active.
2015-005	Aquatic Animal Health Subprogram: Determining the susceptibility of Australian <i>Penaeus monodon</i> and <i>P. merguensis</i> to newly identified enzootic (YHV7) and exotic (YHV8 and YHV10) Yellow head virus (YHV) genotypes	\$159,941	CSIRO Australian Animal Health Laboratory	Active.
2014-002	Aquatic Animal Health Subprogram: Development of stable positive control material and development of internal controls for molecular tests for detection of important endemic and exotic pathogens	\$172,185	CSIRO AAHL	Active.
2015-003	Aquatic Animal Health Subprogram: Development of standard methods for the production of marine molluscan cell cultures	\$131,018	Department of Primary Industries (NSW)	Active.

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2016-404	Aquatic Animal Health and Biosecurity Subprogram: Strategic planning, project management and adoption	\$457,144	CSIRO Australian Animal Health Laboratory	Active.
2015-001	Aquatic Animal Health Subprogram: Bonamiasis in farmed Native Oysters ( <i>Ostrea angasi</i> )	\$395,832	Department of Economic Development Jobs Transport & Resources (DEDJTR)	Active.
2015-005	Aquatic Animal Health Subprogram: Determining the susceptibility of Australian <i>Penaeus monodon</i> and <i>P. merguensis</i> to newly identified enzootic (YHV7) and exotic (YHV8 and YHV10) Yellow head virus (YHV) genotypes	\$159,941	CSIRO Australian Animal Health Laboratory	Active.
2014-002	Aquatic Animal Health Subprogram: Development of stable positive control material and development of internal controls for molecular tests for detection of important endemic and exotic pathogens	\$172,185	CSIRO AAHL	Active.
2015-003	Aquatic Animal Health Subprogram: Development of standard methods for the production of marine molluscan cell cultures	\$131,018	Department of Primary Industries (NSW)	Active.

## IRG Subprogram

- Proposed IRG Subprogram led priorities:
  - Identify and synthesizing key messages from IRG projects
  - Sharing and preserving knowledge through story
- Proposed multi sector collaborative priorities:
  - IRG Collaborative/Co-Investment Approach for the 2018-19 Round of Funding (based on IRG 5 RD&E Priorities)



# HUMAN DIMENSIONS RESEARCH (HDR) SUBPROGRAM



Annual Stakeholder Planning Workshop  
Adelaide, 29<sup>th</sup> & 30<sup>th</sup> August 2018

# FRDC'S HUMAN DIMENSIONS RESEARCH RD&E PLAN PURPOSE:

to deliver world-class research into the *human dimensions* of fisheries and aquaculture to support these sectors in achieving sustainability and prosperity.



## Goal

# 1 ENSURE SOCIAL, ECONOMIC AND CULTURAL BENEFITS

### Priorities

- 1.1 Understanding distributions of benefits
- 1.2 Informing resource allocation
- 1.3 Decision support & governance tools & model



Image credit: Sam Nichols



## Goal

# 2 UNDERSTAND BEHAVIOUR OF FISHERS/FARMERS, ORGANISATIONS AND INSTITUTIONS

### Priorities

- 2.1 Effective compliance
- 2.2 Adoption, adaptation and innovation



## Goal

# 3 UNDERSTAND MARKETS AND HOW THEY CAN WORK MORE EFFECTIVELY

### Priorities

- 3.1 Seafood Input & output markets
- 3.2 Markets for fishing rights
- 3.3 Opportunities for market-based mechanisms

## Goal

# 4 EFFECTIVE ENGAGEMENT TO ACHIEVE SOCIALLY-SUPPORTED FISHERIES & AQUACULTURE

### Priorities

- 4.1 Determinants of socially-supported fisheries and aquaculture
- 4.2 Knowing who has influence
- 4.3 Understand social and economic contributions
- 4.4 License to engage: Designing, Doing and Evaluating Engagement



## Goal

# 5 ENHANCE HDR CAPABILITY

### Priorities

- 5.1 Social and economic data platforms and standards
- 5.2 Designing and evaluating human dimensions RD&E
- 5.3 Building capacity in human dimensions RD&E

By *human dimensions* we mean the social, economic and cultural factors that affect Australia's fisheries and aquaculture. This includes the attitudes, processes and behaviours of individual people, companies, management agencies, communities, organisations, consumers, and markets. Human dimensions research is the "science of human systems".



Fisheries Research & Development Corporation

## Current RDE Investment & Activities

- HDR Subprogram is doing/funding
  - BENEFITS: regional projects looking at new management frameworks
  - MARKETS: Product price dynamics; ITQ markets; non-market values
  - ENGAGEMENT: Influencers; Contributions; Community/Industry values
- We want to do something in:
  - Labour
  - Behaviours, esp best practice and supporting transition
  - Improving resource allocation processes

## HDR Subprogram

- Proposed HDR Subprogram led priorities:
  - Labour force issues
  - Allocation
  - Barriers to capacity adjustment (transitions)
  - Making ITQ markets work better
- Proposed multi sector collaborative priorities:
  - Measuring, managing, monitoring productivity and efficiency
  - Incentivising best practice behaviour
  - National Seafood Contributions Project phase 2 (wellbeing, “telling our stories”)

## RECFISHING RESEARCH Subprogram

- Proposed Recreational Fishing Research led priorities:
  - Managing Australia’s fisheries to optimise fishers’ experiences
  - Understanding and positively influencing community perceptions of Australia’s recreational fishing community
  - Upskilling current and emerging leaders within Australia’s recreational fishing community
- Proposed multi sector collaborative priorities:
  - Making fishing safer – improving maritime and rockfishing safety
  - Improving the social capital of recreational fishing in Australia
  - Capacity development of emerging leaders in the Australian recreational fishing community



**FRDC**

# **REPRESENTATIVE ORGANISATIONS & AFMF**

Annual Stakeholder Planning Workshop  
Adelaide, 29<sup>th</sup> & 30<sup>th</sup> August 2018

Australian Fisheries Management Forum



# NATIONAL STATEMENT OF INTENT ON FISHERIES AND AQUACULTURE

Sean Sloan, AFMF

# AFMF

- Heads of Commonwealth and State/Territory fisheries management agencies
- Informal network for communicating and sharing information
- Development and promotion of best practice fisheries and aquaculture policy and management
- Not a decision-making body



- 'National Statement of Intent'
  - outlines management/policy directions
  - goals consistent across all jurisdictions
  - living document which is amended in line with changes in fisheries and aquaculture management needs and priorities

# Key Goals



1. Australia's fisheries and aquaculture industries are managed, and acknowledged, to be ecologically sustainable
2. Secure and equitable access to fisheries and aquaculture resources
3. Profitable and viable fisheries and aquaculture sectors
4. Integrated aquatic resource management programs
5. Supporting the health of habitats and broader environment relevant to fisheries and aquaculture

# Key Outcome

The Australian community derives optimal economic, environmental and social benefits from its fishery and aquaculture resources

# Goal 1

*Australia's fisheries and aquaculture industries are managed, and acknowledged, to be ecologically sustainable*

## Key focus areas

- Improving management and governance of fisheries and aquaculture
- Improved fisheries and aquaculture reporting
- Promoting community awareness of management standards and the ecological status of Australia's fish resources
- Improved data harmonisation and consolidation

## Key outcomes

- National Fishery Harvest Strategy Guidelines
- Status of Key Australian Fish Stocks
- 3<sup>rd</sup> party accreditation of fisheries (e.g. MSC, Coles/Woolworths)
- Investigation of national fisheries management standard
- Investigation of recreational fisheries data collection and reporting

# Goal 2

## *Secure and equitable access to fisheries and aquaculture resources*

### Key focus areas

- ❑ Development of transparent allocation principles and processes
- ❑ Incorporation of commercial, recreational and indigenous sector interests in resource sharing policy frameworks
- ❑ Defining clear management objectives for each fishery
- ❑ Incorporation of broader social and economic information where appropriate to inform decision making
- ❑ Promotion of socio-economic benefits from fisheries and aquaculture and recognition in planning processes

### Key outcomes

- ❑ Resource sharing frameworks and processes
- ❑ Rights based management frameworks
- ❑ Indigenous and customary fishing policies
- ❑ Developing social and economic objectives for fisheries management

# Goal 3

## *Profitable and viable fisheries and aquaculture sectors*

### Key focus areas

- ❑ Streamlining of administrative/regulatory processes and reduction of red tape
- ❑ Development of risk based, effective and consistent compliance approaches
- ❑ Recreational fishing development
- ❑ Facilitation of opportunities for the indigenous sector
- ❑ Use of technology in reporting/monitoring

### Key outcomes

- ❑ National fisheries compliance strategy and risk based planning
- ❑ Regulatory review and reform/red tape reduction programs
- ❑ Integration of maximum economic yield and bio-economic modelling into fisheries management
- ❑ E-systems for reporting and licensing
- ❑ Aquaculture development planning

# Goal 4

## *Integrated aquatic resource management programs*

### Key focus areas

- Coordinated and collection of complementary data among jurisdictions to inform fisheries management and decision making
- Incorporation of recreational and indigenous sectors interests in resource management approaches
- Deriving optimum benefits for the community from the management of fisheries resources

### Key outcomes

- Recreational fishing surveys and stock assessment programs
- Clarity around customary fishing rights and socio-economic interests
- Establishment of Social Science and Indigenous Programs by FRDC.
- Indigenous fisheries and aquaculture economic development pathways, including ranger programs

# Goal 5

*Supporting the health of habitats and the broader environment, relevant to fisheries and aquaculture*

## Key focus areas

- Developing knowledge and processes to adapt to and mitigate the effects of environment changes and variability
- Minimising negative impacts of fishing and aquaculture through habitat protection programs, ecosystem based fisheries management etc
- Aquatic biosecurity programs
- Native inland fish management and habitat restoration and rehabilitation programs.

## Key outcomes

- Research and management responses to minimise TEPS interactions
- Aquatic biosecurity programs
- Improving native fish outcomes (Murray-Darling)
- Noxious fish management



# Summary

- ❑ AFMF important forum for information exchange and national approaches
- ❑ Focus across commercial, recreational, customary/indigenous and aquaculture sectors
- ❑ Key objective for optimal economic, environmental and social benefits from Australia's fisheries and aquaculture resources
- ❑ Statement of Intent sets out key focus areas and outcomes
- ❑ Approaches need to be responsive and adaptive to changing management needs and a complex environment



**FRDC**

# **REPRESENTATIVE ORGANISATION COMMONWEALTH FISHERIES ASSOCIATION**

Annual Stakeholder Planning Workshop  
Adelaide, 29<sup>th</sup> & 30<sup>th</sup> August 2018

# NAC R&D Priorities - 2018:

## Community Communication and Perception & Social Licence

- Comprised of many interrelated moving parts. Hard to navigate
- Socio-cultural / Economic Contribution on Aquaculture
  - Meaningful/Useful Indicators
  - What data and how to collect it
- Traceability and communication along the supply chain to market
- Communication of Environmental performance
- Balancing Aquaculture needs with Environmental responsibilities
- Animal Welfare
- Biosecurity, Animal Health and Disease Management
  - WSSD had a public effect ... confidence in the system

Aquatic Deed

Aquaplan



**FRDC**

# **REPRESENTATIVE ORGANISATION RECFISH**

Annual Stakeholder Planning Workshop  
Adelaide, 29<sup>th</sup> & 30<sup>th</sup> August 2018

## Brief background

- Recreational fishing is a large and vital component of the Australian fishing/seafood industry – value proposition to the economy is in the billions
- The current objectives/goals for recreational fishing
  - Quantifying the magnitude of Australia’s recreational fishing sector
  - Finding a better methodology to improve data collection processes
  - Examining ways to grow the business acumen, knowledge and industry understanding of recreational fishers
  - Partner with indigenous leaders to understand synergies between recreational and indigenous sectors

## Research Priorities

- The groups priorities include:
  - 1. Capacity building in the recreational sector,
  - 2. Quantifying the recreational take through improved data collection methodology, real time survey opportunities and data analysis.
  - 3. Managing recreational fisheries to maximise experience.
  - 4. Developing a strategy to manage the recreational catch of SBT.
  - 5. Collaboration between recreational and indigenous sectors to identify opportunities to influence community perceptions of recreational and indigenous fishing



# SEAFOOD INDUSTRY AUSTRALIA

Annual Stakeholder Planning Workshop  
Adelaide, 29<sup>th</sup> & 30<sup>th</sup> August 2018

## Brief background

- Organisational structure
  - Board
  - CEO, Media and Communications Manager, Membership Manager
- The current objectives/goals of our organisation are:
  - National peak industry body representing wildcatch, aquaculture and post harvest sectors of the Australian seafood industry
  - VISION
    - To be United, Effective and Respected.
  - MISSION
    - To Promote, Protect and Develop



## SIA Research Priorities

- The groups priorities include:
  - Social licence
  - Country of Origin Labelling for seafood in food service
  - Resource access
  - Biosecurity
  - Oil and gas – seismic
  - Mental health
  - Safety
  - Fuel Tax Credits

## Potential Collaboration Themes:



- Animal Welfare
- Aquaculture development & growth
- automation/technology
- Biosecurity planning
- Bycatch mitigation
- Centro eradication
- digital data
- disease & vaccine
- EADRA - Aquatic Deed
- Ecosystem/System modelling
- engagement
- enviro impacts
- Future proofing
- Genomics/Microbiomes/eDNA
- husbandry
- industry safety
- inshore fishery
- International collaboration
- markets
- modelling & HS
- Oceanography
- oil and gas
- people development
- Plastics and debris
- recreational data
- Seafood Safety
- SLO
- TEPS
- traceability
- training
- valuations & contributions
- Welfare & Safety

## Potential Collaboration Themes:



- Aquaculture development & growth
- Automation/technology
- EADRA - Aquatic Deed
- Ecosystem/System modelling/Harvest strategies
- Engagement/SLO
- Genomics/Microbiomes/ eDNA
- International collaboration
- Markets
- Oil and gas
- People development & training (inc fisheries mgt)
- Plastics and debris
- Recreational data
- Seafood Safety
- Traceability
- Valuations & contributions
- Welfare & Safety

## Potential Collaboration Themes:



- **Animal Welfare**
- Aquaculture development & growth
- automation/technology
- **Biosecurity planning**
- Bycatch mitigation
- **Centro eradication**
- **digital data**
- disease & vaccine
- EADRA - Aquatic Deed
- Ecosystem/System modelling
- **Engagement & SLO**
- enviro impacts
- Extension & synthesis
- Future proofing
- Genomics/Microbiomes/eDNA
- husbandry
- **industry safety**
- **inshore fishery**
- International collaboration
- Labour issues
- Market research
- modelling & HS
- Oceanography
- **oil and gas**
- people development & training
- Plastics and debris
- Resource access
- Indigenous & recreational data
- Food Safety
- **TEPS**
- traceability
- training
- **valuations & contributions**
- **Welfare & Safety**

## Potential Collaboration Themes:



- Animal Welfare
- Biosecurity planning
- EADRA - Aquatic Deed
- Digital data
- Disease & vaccine
- Engagement & SLO
- Valuations & contributions
- Inshore fishery
- Oil and gas
- TEPS
- Welfare & Safety

Animal Welfare Publications and research projects include:

- [Aquatic Animal Welfare in Perspective - A summary of the Aquatic Animal Welfare Working Group process and findings](#)
- [Agreed Overarching Principles 2009](#)
- [Aquatic Animal Welfare Working Group \(AAWWG\) Stocktake Report - September 2006](#)
- [CoP for the Capture Fisheries Sector - Trawl - December 2012](#)
- [Codes of Practice for the Capture Fisheries Sector - Purse Seine - December 2012](#)
- [CoP for the Capture Fisheries Sector - Beach Seine - December 2012](#)
- [CoP for the Capture Fisheries Sector - Rod and Handline - December 2012](#)
- [CoP for the Capture Fisheries Sector - Mesh Netting - December 2012](#)
- [CoP for the Capture Fisheries Sector - Pot and Trap - December 2012](#)
- [Benchmarking harvest methodologies in the Australian barramundi aquaculture industry - impacts on stress, product quality and fish welfare](#)
- [A National Code of Practice \(COP\) for Recreational and Sport Fishing - May 2014](#)
- [Iki-Jime Project \(final Report\) AW1011-08t](#)
- [Iki-Jime Poster - Phone App](#)
- [Iki-Jime Offshore leaflet 2013](#)
- [Iki-Jime Freshwater leaflet 2013](#)
- [Iki-Jime Estuary leaflet 2013](#)
- [Recreational Fishing - Humane Killing Brochure](#)
- [FRDC 2012-507: AAWS: The Development of Specific Operator \(Boat\) level Fish Welfare Guidelines in the Commercial Capture Fishing Sector - July 2015](#)
- [FRDC 2012-506: AAWS: Development of welfare guidelines for restaurants and retail outlets holding live fish and shellfish in aquaria - August 2015](#)
- [Restaurant Animal Welfare Brochure - Chinese](#)
- [Restaurant Animal Welfare Brochure - Vietnamese](#)
- [Restaurant Animal Welfare brochure - English](#)

- 2017-221 “Raise awareness of the guidelines developed by the AAWWG (Aquatic Animal Welfare Working Group) with industry and review their adoption, uptake rates and utility”

### Objectives

1. Determine how well the implementation of the welfare guidelines developed have been adopted, whether they are seen as fit for purpose / capable of being operationalised and identify any gaps that require future RD&E input.
2. For these gaps, seek funding opportunities to carry out necessary work.

Contact: Brett McCallum and Nicole Stubing

- Provided additional resources to the Aquatic Animal Health & Biosecurity Subprogram (AAHBS). Terms of reference for additional \$200K per annum being developed – expected focus is on:
  - Research to support Emergency Aquatic Disease Response Agreement (EADRA) requirements
  - Research to inform improved biosecurity preparedness, detection and capacity building at wharf and on farm

Contact: AAHBS and Wayne Hutchinson



## Digital “data”



- Some activity under priority 2 to be highlighted this afternoon
- Worked with other RDCs on Precision 2 Decision (P2D) funded by R&D4Profit
  - Facilitating the development of digital technology in Australian agriculture.
  - Fostering the establishment of appropriate legal frameworks, data systems and access to critical datasets.
  - Identifying the data communications systems required to deliver the benefits of digital agriculture to the Australia farm and agribusiness sectors.
  - <https://www.crdc.com.au/precision-to-decision>
- Working with other RDCs on P2D2
- Initial workshop held with industry 2017-134 “Progressing the National Fisheries Digital Data Framework - Industry consultation”
  - Minutes from meeting being finalised
- Next steps to scope governance, interoperability and harmonisation options
- Work with AFMF and other sectors already working in this space (WRL, SRL, ACA, Mgt Agencies)



Contact Nicole Stubing

- Established the Centre for Aquatic Animal Health and Vaccine
- Several sectors working in this space
  - Atlantic Salmon
  - Barramundi
  - Prawns
  - Yellowtail Kingfish

Contact: Aquatic Animal Health and Biosecurity Subprogram and relevant IPAs



- Range of activities undertaken as part of Human Dimensions Research Subprogram regarding engagement and SLO
- SIA managing research to inform the “Pledge”
- Valuations and contributions completed in NSW for commercial sector in NSW
  - Underway in Victoria
  - Development of common methodology for jurisdictions and nationally being developed

Contact: Coordinate through HDR Subprogram – Emily and Sarah

## “Inshore” fishery



- Developing an “Inshore” Fisheries Coordination Program
- Main focus on:
  - Seafood trails
  - Seafood Festivals
  - Local Seafood Branding

Workshop planned for late September with the jurisdictional Seafood Industry Councils (SICs) to progress these activities.

Contact: Chris Izzo

- Coordination program developed
- 2017-186 “Oil and Gas: National coordination - seismic and other issues”
  - Publicly accessible portal - a "one stop shop" for seismic research bibliographies, case studies and other relevant commercial fishing O&G information etc.
  - Identification and qualification of relevant research papers and reference cases including annotated summaries
  - "best practice" document for commercial fishing representative bodies to use as a strong base for environment plan submissions
  - "best practice" document for commercial fishing representative bodies to use as a strong base and consistent process for fee-for-service environment plan consultation.

Contact: Mannie Shea at WAFIC

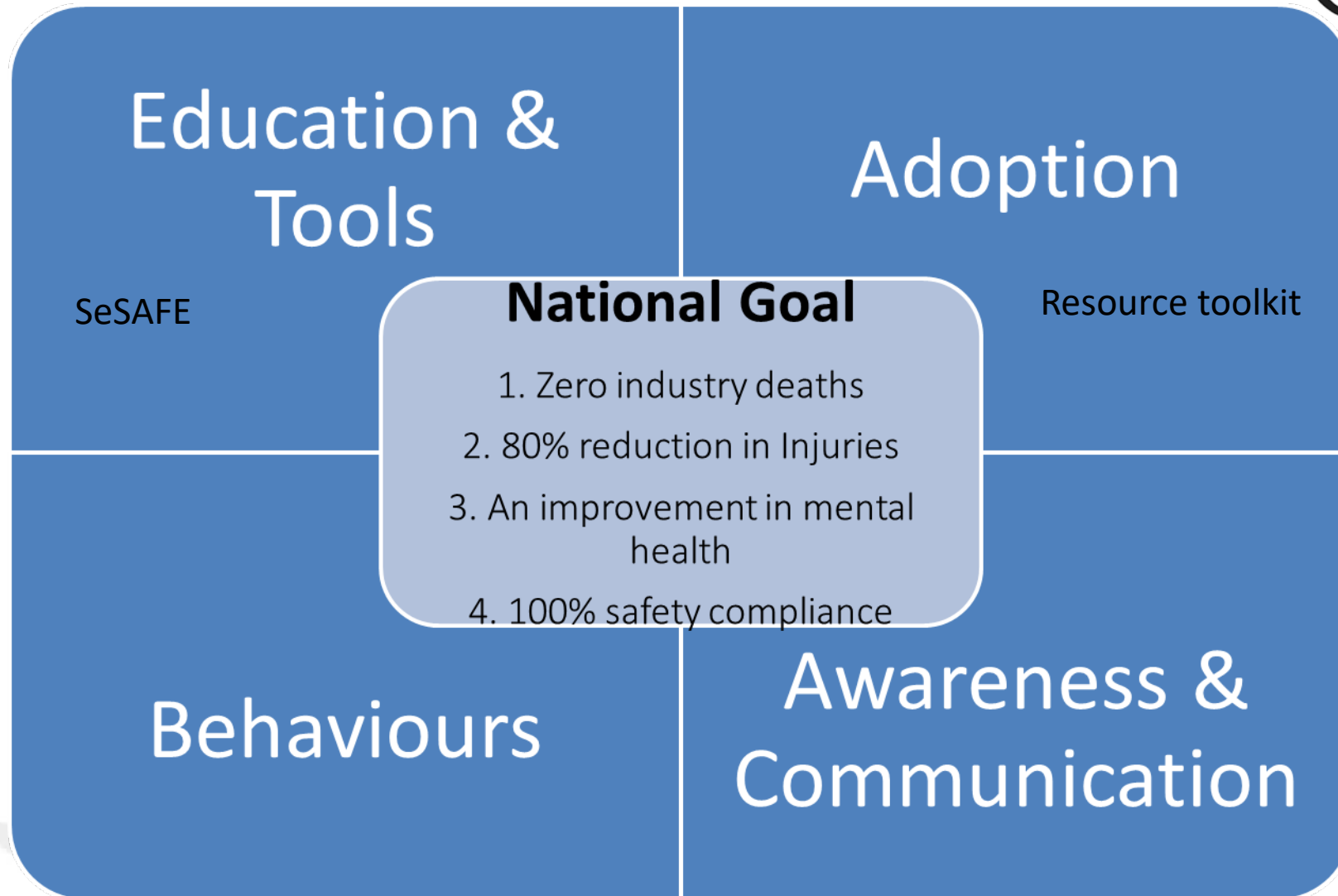
## Threatened Endangered and Protected Species



- As part of the National Marine Science Committee, have developed a marine mammal fisheries mitigation committee
- Engaged in the National Plan of Action Sharks
- Engaged in the National Plan of Action Seabirds

Contact: Carolyn Stewardson





## Potential Collaboration Themes:



- Aquaculture development & growth
- Automation/technology
- Bycatch mitigation
- Ecosystem/System modelling/HS
- Environmental impacts
- Fishing for research
- Extension & synthesis
- Future proofing
- Genomics/Microbiomes/ eDNA
- International collaboration
- Labour issues
- Market research
- People development & training (inc fisheries mgt)
- Plastics and debris
- Resource access
- Indigenous & recreational data
- Incident Response Plan
- Traceability & authenticity





# WORLD FISHERIES CONGRESS

ADELAIDE • AUSTRALIA

11-15  
OCTOBER  
2020



[wfc2020.com.au](http://wfc2020.com.au)





# FRDC National Priority 1

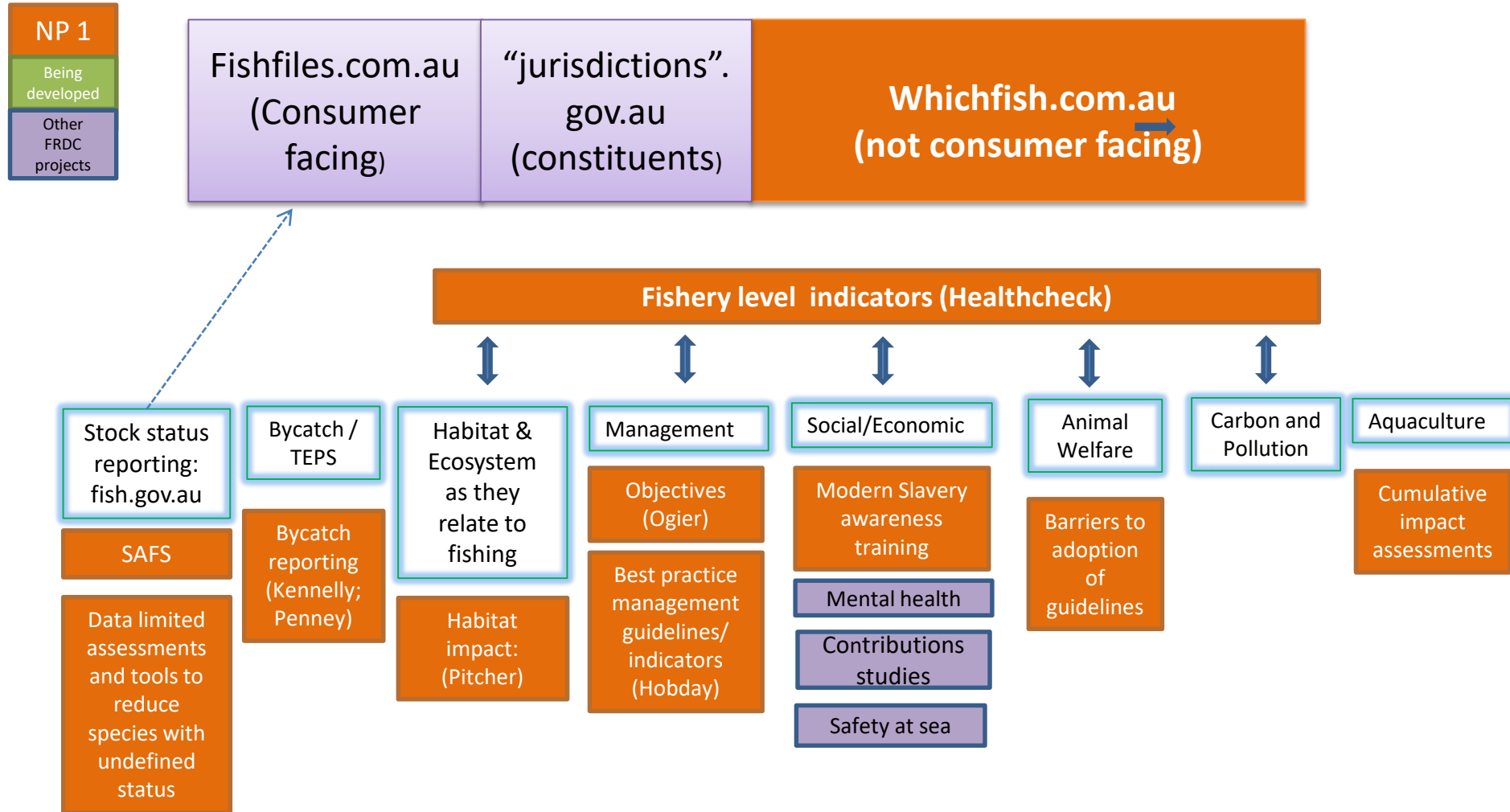
Ensuring that Australian fishing and aquaculture products are sustainable and acknowledged to be so

*Sevaly Sen*

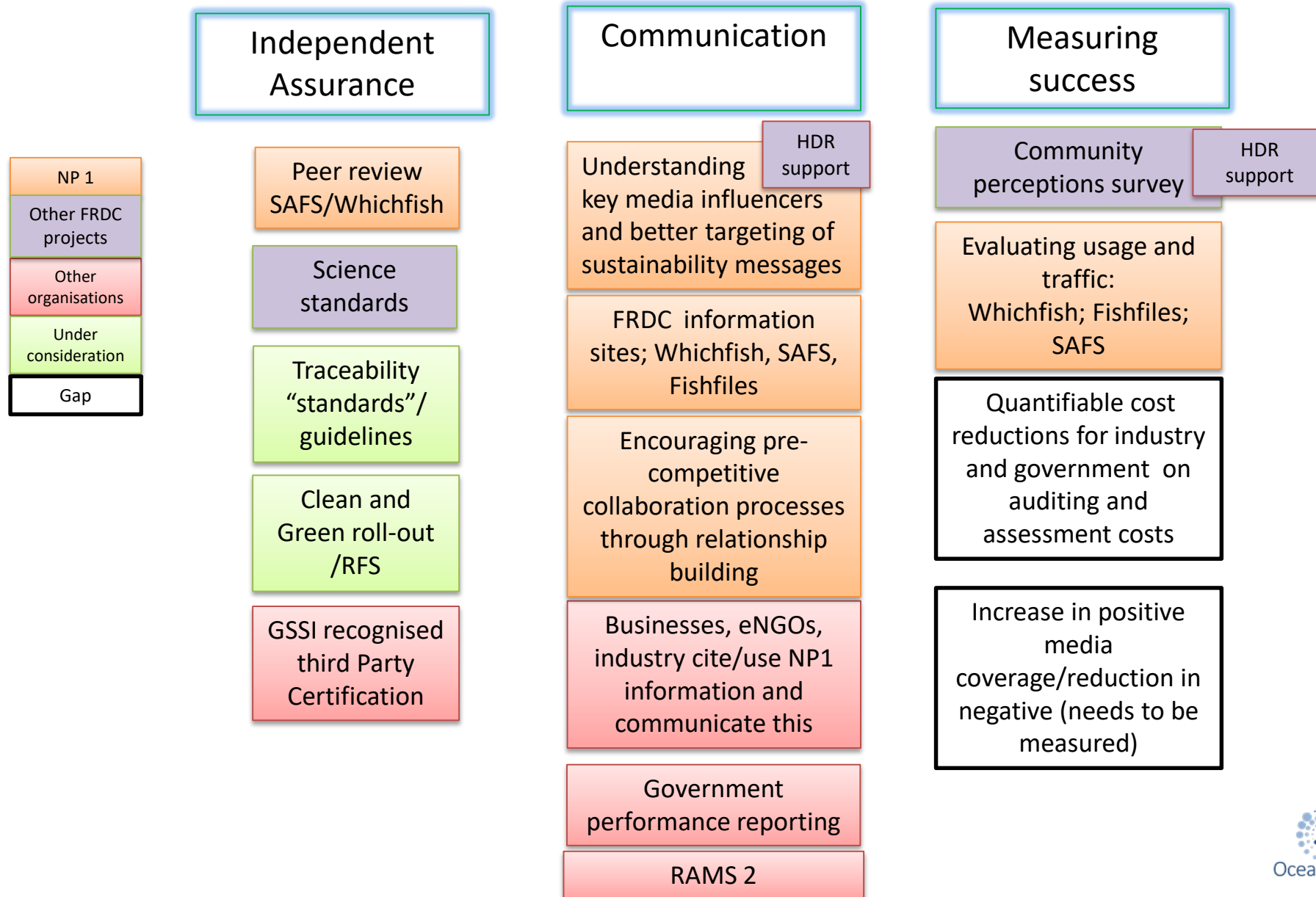
*Co-Coordinator, FRDC National Priority 1*

*Presentation to FRDC Stakeholder Annual Stakeholder Workshop 29-30 August 2018*

# INFORMATION ON SUSTAINABILITY AVAILABLE AND TRANSPARENT



# Ensuring that fishing and aquaculture products are sustainable and acknowledged to be so



## National Priority 2

### *Improving profitability & productivity*

- Range of key activities:
  - Inshore Fishery
  - Lesser Known Species
  - Innovation in fisheries RD&E – *e.g. FISH-X & Fish 2.0*
  - Digital Data
  - National RD&E Seafood Industry Safety & Welfare Initiative

# Inshore Fishery Initiative

- Objectives:
  - Increase profitability, particularly through novel approaches to marketing and the development of new products
  - Social & economic factors, including valuing the sectors contribution to the regional communities
  - Build and support capability, health and wellbeing



## Nominal Inshore Fishery Activities

- Developing the terms of reference for the Subprogram (and Objectives)
- Developing priorities and potential projects:
  - Common Seafood Branding Among Jurisdictions
  - Seafood Festivals
  - Developing a National Seafood Trail Network



# Digital Data

- National Industry Led Digital Data project
  - Johnathon Davey (Seafood Industry Victoria)
- Case studies:
  - Spencer Gulf Prawn Trawl sector – improve coordinated fishing at the fleet level
  - Goolwa Pipi Fishing sector – build in economic metrics to inform near real time fishing strategies



# Seafood Industry Safety & Welfare Initiative



NB: activities are not exclusive to an area and can cross over

## Education & Tools

SeSAFE project

## Adoption

Safety extension resource toolkit

### National Goal

1. Zero industry deaths
2. 80% reduction in Injuries
3. Are reduction in mental health
4. 100% compliance

## Behaviours

*“What’s stopping your mates?”*

## Awareness & Communication

Industry mental health & wellbeing

## 2017-194: SeSAFE project

*Fishing Industry Safety Hub – Delivering Industry Safety through Electronic Learning*

**Principal Investigator:** Steve Eayrs

**Collaborators:** Austral Fisheries, AMSA, & WAFIC

1. Trial an electronic Learning Management System (LMS) in Australian fisheries
2. Pathways for the LMS up by industry, industry associations, and agencies
3. Facilitate development of 'fishery specific' LMS modules
4. Utilise information from current safety FRDC projects to ensure that the LMS is designed to optimise industry adoption and uptake
5. Identify and, where feasible, implement mechanisms to integrate the LMS into the overall marine safety program aimed at changing the culture and behaviour towards safety of the fishing industry



## *Fishing Industry Safety Hub – Delivering Industry Safety through Electronic Learning*

### **Progress:**

- Completion of 20 training modules: risk assessment, boat policy, emergency procedures, personal safety – fatigue, heat, noise, hand, manual handling etc.
- Co-funding from AMSA & (potentially) industry bodies
- Three industry videos: *What if you don't come home?*
- Proposal accepted by WRLC to provide safety training to over 300 fishers
- Australia Bay Seafoods using modules to train all crew



# Developing new and emerging aquaculture growth opportunities

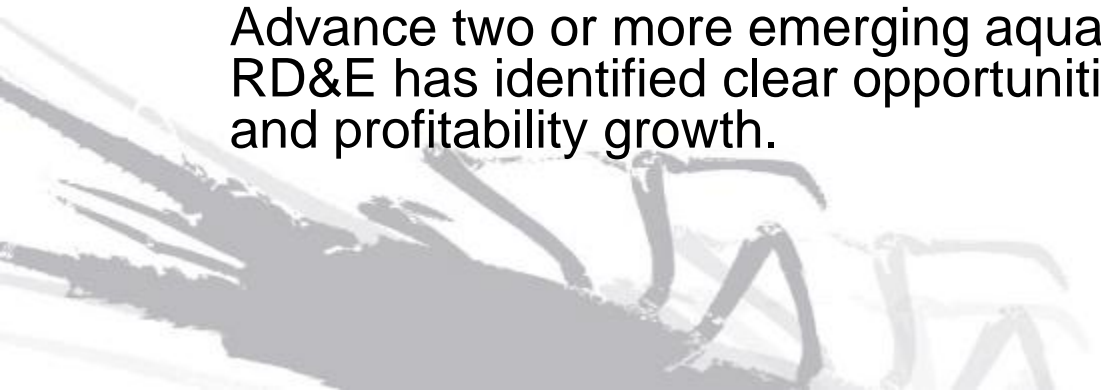


A nationally-coordinated strategy for the growth of new aquaculture subsectors.

Support RD&E to address barriers to aquaculture development including improved:

- hatchery production technologies
- breeds
- feeds and feeding systems
- husbandry
- health
- market access and/or value add

Advance two or more emerging aquaculture opportunities/species for which RD&E has identified clear opportunities and technologies for good production and profitability growth.



# Projects



## Yellowtail Kingfish

2016-200: Rural R&D for Profit: Growing a profitable, innovative and collaborative Australian Yellowtail Kingfish aquaculture industry: bringing 'white' fish to the market

2018-101: A trivalent vaccine for sustainable yellowtail kingfish growout

## Tropical Oysters

2017-061: Pilbara rock oyster research and development project

Australian tropical oyster aquaculture development workshop

## Cobia and Grouper

2017-103: The evaluation of two species, Cobia and Giant Grouper, as alternative species to farm in the WSSV affected areas of South East Queensland.

2018-098: Vaccination for emergency and long-term control of nodavirus in Australian marine aquaculture

2017-143: Boosting the emergence of Cobia farming in Australia

2017-165: Adopting intensive bio-secure hatchery protocols and improving dietary strategies for grow-out to support the emerging Cobia (*Rachycentron canadum*) aquaculture industry in Queensland

## Murray Cod

2018-084: Development of technical and extension material to support Murray Cod aquaculture industry expansion in Australia

## Other

2017-171: Undertaking an audit and assessment of past Australian aquaculture research, development and extension for all species, to determine what factors led to successful or not successful development of the aquaculture species

2018-001: FRDC sponsorship International Symposium for Genetics in Aquaculture XIII

2016-210: Sturgeon aquaculture in Australia: feasibility study

## *Oil and Gas: National coordination – seismic and other issues*

**Principal Investigator:** Mannie Shea    **Organisation:** WAFIC

**Outcome:** Develop a key reference point for the commercial fishing sector and its engagement with oil and gas activities. Facilitate the creation and sharing of best practice Policy, Standards and Guidelines with regards to managing the titleholder engagement process and managing risks (i.e. associated with seismic testing). Facilitating and developing an inclusive and unified industry approach to seismic and other oil and gas activities.



## *Oil and Gas: National coordination – seismic and other issues*

**Principal Investigator:** Mannie Shea    **Organisation:** WAFIC

### **Project Objectives:**

1. Deliver a publicly accessible portal - a "one stop shop" for seismic research bibliographies, case studies and other relevant commercial fishing O&G information etc.
2. Identification and qualification of relevant research papers and reference cases including annotated summaries to ensure relevance for ready and easy access by the commercial fishing sector, O&G and the broader community.
3. Deliver a set number of supported research applications relevant to the effects of oil and gas activities on commercial fishing / commercial fishing stocks etc. – i.e. gap analysis and prioritisation.
4. “Best Practice” guides for commercial fishing representative bodies to adopt as a base for environment plan submissions.
5. Deliver a "best practice" document for commercial fishing representative bodies to use as a strong base and consistent process for fee-for-service environment plan consultation.
6. “Framework Agreements” to improve the O&G consultation process. Ideally, such that each State have their own specific framework agreements.

# Key Results – fishing and aquaculture overview



## Satisfaction of contributions by sector of industry



6.2

Satisfaction that contributions to FRDC are being invested wisely



5.8

Wild catch only



6.9

Aquaculture only



6.5

Both wild catch and aquaculture



6.3

Likelihood to recommend FRDC



61%

are **positive** about the future of the fishing and aquaculture in Australia over the next 12 months

## DISPOSITION



8.1

Importance of having an organisation like FRDC

## KNOWLEDGE & UNDERSTANDING

98%

have heard of FRDC when prompted

69%

could **identify** FRDC as the organisation responsible for managing/investing in R&D

65%

could **accurately describe** FRDC's role and responsibilities

## ENGAGEMENT



5.7

Satisfaction with how FRDC engages with businesses



5.8

Adequate opportunity to have their say

## INVESTMENT



6.0

Satisfaction that contributions are being invested in areas that matter to **the fishing industry**

5.0

Satisfaction that contributions are being invested in areas that matter to **your business**



# Key Results – non industry



## Satisfaction of contributions by main area of industry



6.8

Satisfaction that contributions to FRDC are being invested wisely



7.3

Research



7.8

Government



6.3

Recreational Fishing



5.6

Business



7.2

Likelihood to recommend FRDC



77%

are **positive** about the future of the fishing and aquaculture in Australia over the next 12 months

## DISPOSITION



9.0

Importance of having an organisation like FRDC

## KNOWLEDGE & UNDERSTANDING

98%

have heard of FRDC when prompted

82%

could **identify** FRDC as the organisation responsible for managing/investing in R&D

68%

could **accurately describe** FRDC's role and responsibilities

## ENGAGEMENT



7.0

Satisfaction with how FRDC engages with stakeholders



6.2

Adequate opportunity to have their say

## INVESTMENT



6.7

Satisfaction that contributions are being invested in areas that matter

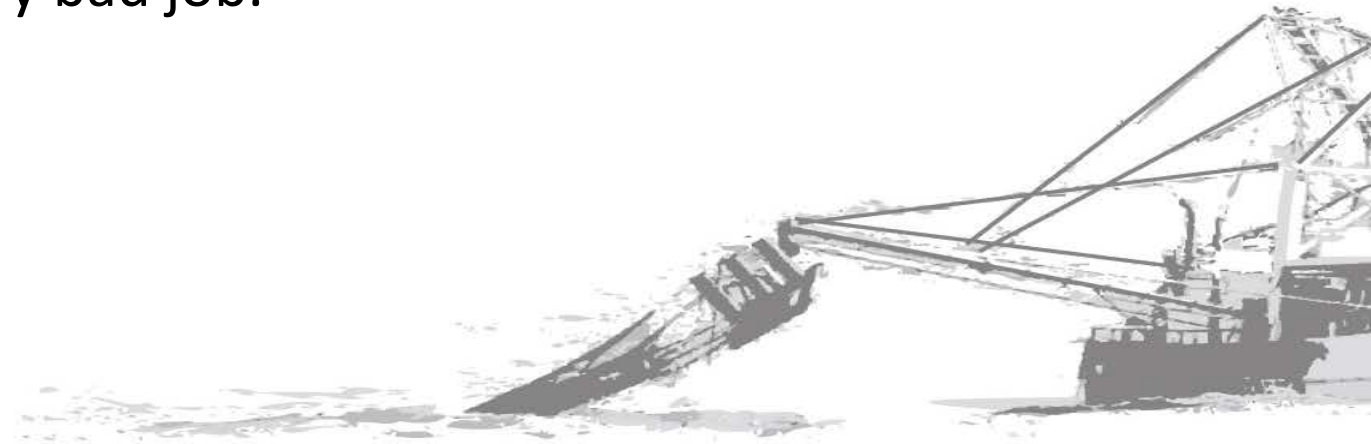
- 22 in depth telephone interviews
- June 2018
- 4<sup>th</sup> study of this kind conducted by FRDC
- Previous studies in 2008, 2011, 2013



## Roles and Responsibility



- There are some stakeholder concerns about the FRDC's roles and responsibilities, as some of the areas FRDC plays in are expanding there is concern about its ability to cater for them when they turn to FRDC to solve their issues.
- The FRDC should continue to work closely with industry associations to ensure key information and messages from FRDC are communicated to the extended industry stakeholders
- FRDC should use stakeholders for dissemination of material/information – despite acknowledging they do a very bad job.



## Investment Areas

- Balancing the diverse stakeholder interests will remain a challenge – overall there is an underlying confidence the mix is ‘about right’.
- There is “rightly or wrongly” a fairly established view that the commercial sector ‘funds’ the R&D program and so should always attract the dominant share of funding.
- Positive response from both indigenous and recreational fisher stakeholders on investment.
- There was consensus across both these groups that the investment in their respective areas had been well received, reflected their contribution to the overall industry and acknowledged the contribution these sectors could make to some of the overall outcomes sought by FRDC.

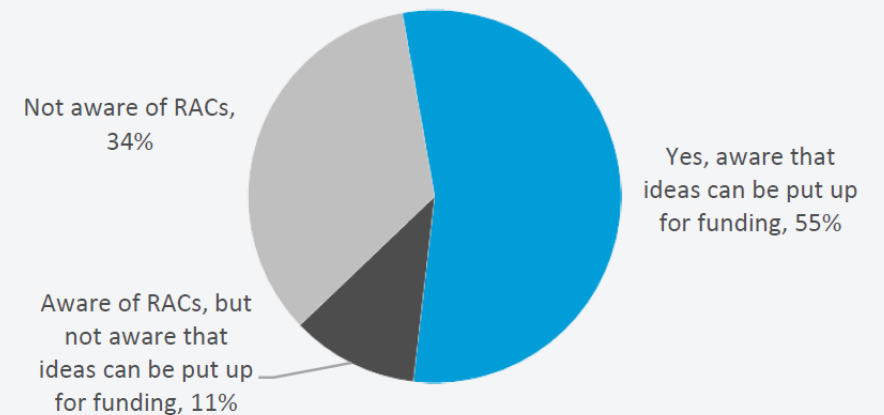
## RAC and Priority Setting



- The FRDC needs to reflect on the revised RAC structures and processes. Communicate more clearly about what FRDC RACs do.
- Seen as an old boys club. Usual suspects get the money.
- The FRDC needs to consider the processes for priority setting to ensure they are clearer, simpler, faster and achieve a greater harmonisation across jurisdictions.
- No visibility how priorities come in or who puts them up.
- Need discussion between RAC/IPA Managers
  - do not think there is coordination.

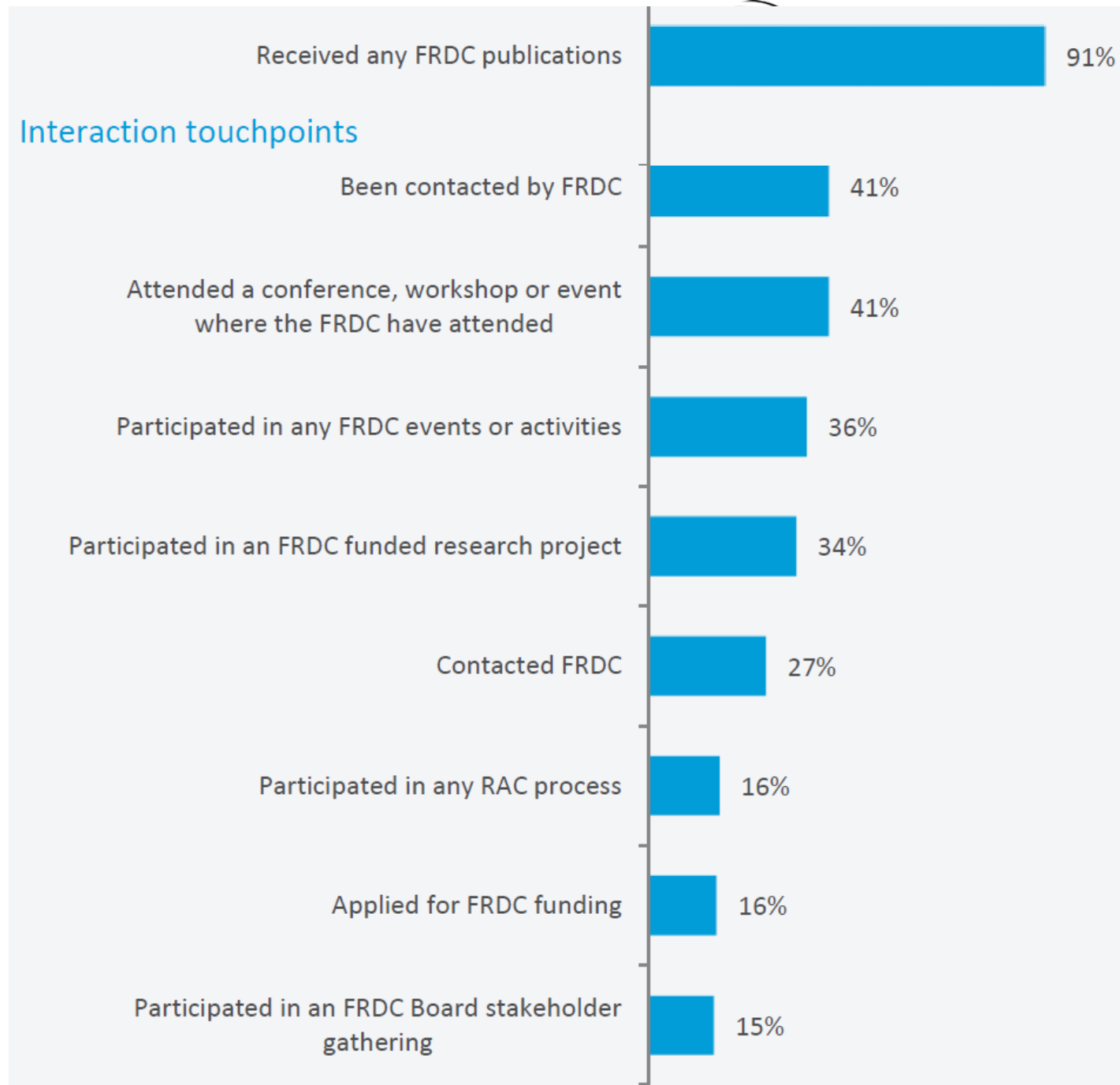
Were you aware that you can put your research ideas up to the RAC for funding?

Base: All commercial stakeholders, n = 163.



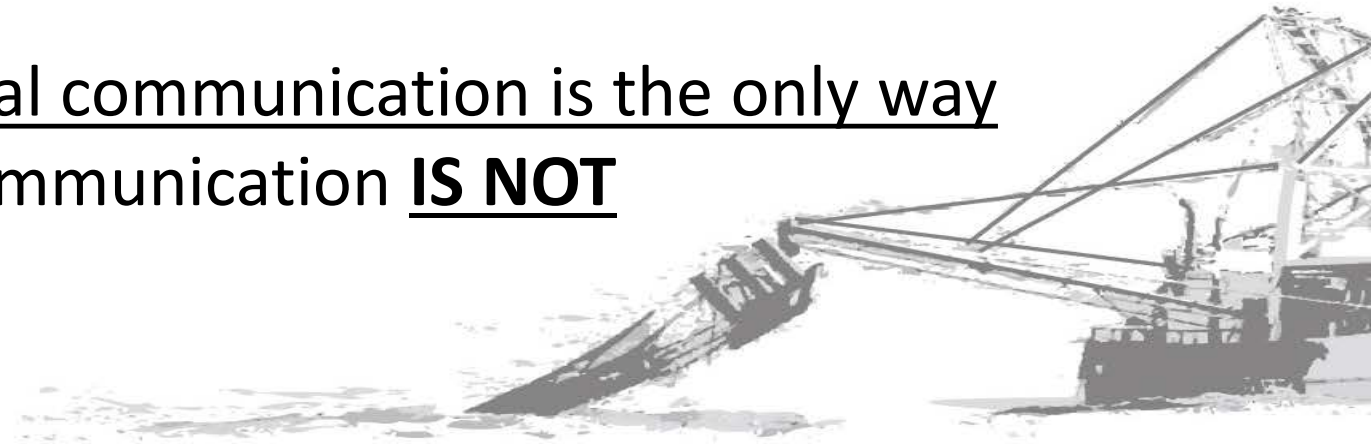
## Communication and engagement

- Engagement with stakeholders continues to strengthen
  - the effort and investment in engagement is paying dividends.
- The FRDC should communicate in greater details to stakeholders around short term tactical research needs.
  - a number of respondents were not aware the *Tactical Research Fund* had ceased [many years...].



### But...

- Some continue to struggle to see how various elements of communication activity ‘fit’ into together.
- It is evident that some of the criticism of specific channels and approaches being used by FRDC is likely to be the result of a poor understanding of the role these channels play.
- Likewise there was disagreement on the channels FRDC should use...
- Some stakeholders suggest digital communication is the only way forward, but other say digital communication **IS NOT** appropriate for industry.



## Extension and adoption

- Remains a need to get industry involved in projects.
- Across the surveys, there was an acknowledgement that some progress had been made on creating a more effective extension process.
  - Some sectors indicate a very high rate of adoption rates others are not as confident.
- There was an indication across the discussions that stakeholders have become somewhat fatigued with the challenges around extension.
- For some stakeholders they do not see any clear pathway forward.

**33%** followed up info or stories they saw in the FISH magazine AND learned something new for their business / introduced new systems, technologies or approaches to the way they do business.






# FISH2.0

## Calling Australian seafood entrepreneurs!

**Fish 2.0 and the FRDC invite you to Fish 2.0 Australia Innovation Workshop and Networking Event Melbourne.**

**Oct. 23-24**

To join this free, fun and informative event, go to [www.fish20.org/australia](http://www.fish20.org/australia).



**Hurry space is limited!**

**APPLICATIONS CLOSE  
SEPTEMBER 16, 2018**

You'll get a head start on the new Australia track in the Fish2.0 2018-2019 business competition cycle (for more info visit [www.fish20.org](http://www.fish20.org)).

The workshop is open to businesses throughout Australia. It will include:

- ◆ Expert advice on how to present your venture or innovation to investors and potential partners.
- ◆ Detailed information about Fish 2.0 and what you can gain from participating.
- ◆ The workshop will conclude with a reception offering you an opportunity to pitch your innovation investors.

Entrepreneurs and investors can also apply to hear pitches on the 24th of October.



## Stream One: Two-Day Workshops

The first step in the program starts with a two-day workshop. The workshop brings together diverse participants who have ideas for new products or services that aim to solve big industry challenges. Over the course of the workshop participants dedicate their time to working hands-on on their idea using design-thinking, lean-startup and agile methodologies.

Individuals or teams (up to 4) can apply. Applicants can come from a range of backgrounds and may include innovators, researchers, primary producers, fishers, business owners and more.

## Stream Two: Accelerator Program

Selected participants also have the opportunity to take their ideas to the second stream of the program, the Fish-X Accelerator. The program involves weekly coaching and business growth support delivered by X-Lab.

The Fish-X Accelerator also offers local and global '*linkage*' opportunities where teams are exposed to national and international innovation services, investor networks, and supporting partners.

So far teams have benefited from linking with the Innovative Food Solutions and Technologies (IFST) Centre (QLD), the Australian Government's Austrade Delegation to the World AgriTech Summit (USA), and the Global Seafood Expo (Belgium).

<http://fish-x.com.au/microhack/>



# NATIONAL SYMPOSIUM ON SEAFOOD MARKETING

RYDGES SOUTH BANK / BRISBANE / 28 SEPTEMBER 2018

*Hear the seafood stories that sell.*

Fishermen are great at tales, seafood professionals sell their story. In a global economy where any product can be sourced from anywhere, it's your story that creates value, difference and margin.

At the 2018 National Symposium on Seafood Marketing you'll hear how to tell and sell your story, increase the value of what you produce and how turn today's bycatch into tomorrow's hot ticket item.

If you're better at catching than marketing, then this is for you. If you're an experienced marketer and want to be better, this is for you. If you're in the seafood industry and you want your story to be heard, this is for you.

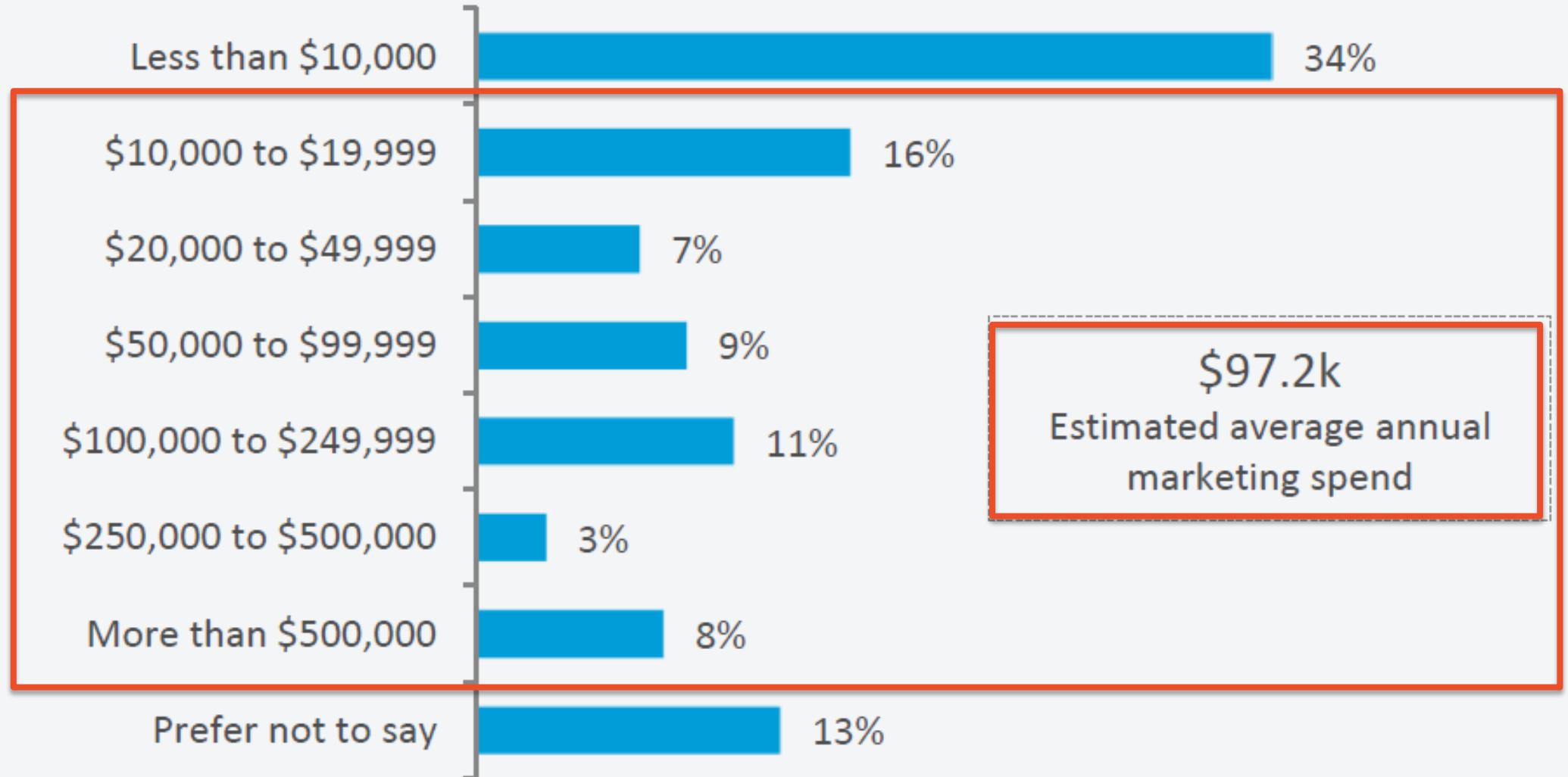
**Register today.**

For registrations, speaker lineup and topics go to [www.queenslandseefoodmarketers.com.au](http://www.queenslandseefoodmarketers.com.au)

**REGISTRATIONS CLOSE 25 SEPTEMBER 2018.**

## As a guide only, which of the following categories best reflects your level of commitment to marketing (annual spend)?

Base: All commercial stakeholders who currently invest in marketing, n = 101.



## Over the past twelve months, what marketing activities has your business/sector invested in?

Base: All commercial stakeholders who currently invest in marketing, n = 101.

