FRDC

ANNUAL REPORT 2017–18

Key results in 2017–18

- Australia's seafood gross value of production (GVP) exceeds $3.0 billion.
- Seafood Industry Australia was approved as a new FRDC representative organisation.
- Through the Indigenous Reference Group, recommendations for overcoming the constraints to achieving positive social and economic Indigenous community outcomes have been developed.
- A vaccine for pilchard orthomyxovirus has been developed to protect farmed Atlantic Salmon.
- The FRDC partnered with industry and the Australian Maritime Safety Authority to coordinate a national RD&E marine safety and welfare initiative aimed at minimising workplace accidents.
- The National Carp Control Plan team progressed activities across all program areas, including engagement with key stakeholders (government, councils, primary producers and river communities).
- The inaugural national Fish and Chips Awards was run to engage with consumers, and deliver key messages on the sustainability that underpins Australia's fisheries management.
- Trials on the nutritional requirements for Yellowtail Kingfish has led to the development of an experimental diet to reduce feed costs and to optimise the growth and performance of farmed fish.
- The pilot Whichfish website was launched to assist businesses determine the stock, environmental and management risks associated with the seafood they buy and sell.
- The FRDC partnered with X-Lab and the Cotton Research and Development Corporation (RDC) to run a series of 'microhack' workshops aimed at fostering innovation in the seafood industry.
- Following the marine heatwave event in Western Australia, scallop stocks have recovered and the fisheries for the species has been re-opened.
- The new Status of Australian Fish Stocks (SAFS) species list has been agreed to, with 37 new species to be incorporated into SAFS 2018, bringing the total number of species to 120.
- The FRDC partnered with all 14 other RDCs through the Rural R&D for Profit Program highlighting that a significant increase in GVP could result through automation and labour savings.
- Test kits validated and implemented to improve the detection of paralytic shellfish toxins.
- Methodology progressed to determine the social and economic value of the recreational fishing sector at a national level.

Quick guide to the annual report

If you do not have time to read this report in detail, look first in the following sections:

- For an outline of the FRDC's investments and income, read pages i–iv and the financial statements starting on page 128.
- For an overview of operations during the past year, read 'The directors' review of operations and future prospects' starting on page 5.

More detailed coverage is in these sections:

- The FRDC's national priorities are shown on pages 37, 41 and 43.
- Outcomes by recent and current projects are in the research and development (RD&E) programs reporting starting on page 59 (Environment), page 72 (Industry), page 76 (Communities), page 80 (People) and page 84 (Adoption).
- Performance reporting for the Management and accountability program starts on page 107.
- Financial contributions by industry and governments are listed on pages i–iv and 142.
- Coverage of corporate governance information is in the section starting on page 115.
- The financial statements start on page 128.

2017–18 ACHIEVEMENTS THROUGH INVESTMENT

Five years at a glance

TABLE 1: INCOME

	2013–14	2014–15	2015–16	2016–17	2017–18
	$m	$m	$m	$m	$m
Total income	**26.89**	**31.75**	**30.12**	**37.32**	**36.00**
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

TABLE 2: MATCHABLE INCOME

	2013–14	2014–15	2015–16	2016–17	2017–18
	$m	$m	$m	$m	$m
Maximum matchable (government) contribution[1]	5.99	6.25	6.78	7.25	7.57
Actual government matching	5.96	6.22	6.48	7.25	7.57

1. Government funding and maximum matchable contribution (the maximum amount to which the Australian Government will match industry contributions) are detailed on page 142.

TABLE 3: FINANCIAL INDICATORS OF RESEARCH, DEVELOPMENT AND EXTENSION (RD&E) INVESTMENT

Expenditure	2013–14[1]	2014–15	2015–16	2016–17	2017–18
	$m	$m	$m	$m	$m
Total expenditure	**27.56**	**28.16**	**28.33**	**29.26**	**31.39**
Total of RD&E projects	22.87	24.85	24.58	24.41	26.00
RD&E Program 1 (Environment)	10.20	10.44	8.68	7.46	7.94
RD&E Program 2 (Industry)	8.33	10.09	11.54	12.31	11.24
RD&E Program 3 (Communities)	0.75	0.83	0.86	0.98	1.74
RD&E Program 4 (People)	1.94	1.49	1.55	1.34	2.30
RD&E Program 5 (Adoption)	1.66	2.00	1.95	2.32	2.78
Management and accountability	4.69	3.31	3.75	4.85	5.39

1. In 2013–14, the FRDC had a $1.2 million write down of assets included in Management and accountability.

TABLE 4: NEW, ACTIVE AND COMPLETED PROJECTS

	2013–14	2014–15	2015–16	2016–17	2017–18
Number of approved new projects	94	105	116	122	167
Total number of active projects under management during 2017–18	428	394	415	408	493
Number of final reports completed	128	155	133	86	85

TABLE 5: PROJECT LENGTH—AVERAGE COST PER PROJECT

Duration	Total investment ($)	Number of projects	Average total project value ($)
Short (up to 18 months)	29,899,574	244	129,998
Medium (between 18 and 36 months)	45,351,062	142	321,638
Long (36 months and over)	45,817,671	107	436,358
Total	**121,068,308**	**493**	**245,574**

Summary of contributions

TABLE 6: CONTRIBUTIONS, MAXIMUM MATCHABLE CONTRIBUTIONS BY THE AUSTRALIAN GOVERNMENT AND RETURN ON INVESTMENT, 2017–18

	A	B	C	D	E	F
Jurisdiction—by year	Maximum matchable contribution ($)	Actual contribution amounts ($)	Percentage of matchable (%)	Distribution of FRDC spend ($)	Return on contribution (D /B)	
	[note 1]	[note 2, 3]		[note 4, 7]	[note 5, 6]	
					2017–18	5 years
Commonwealth	1,233,393	1,314,989	107	2,770,506	2.11	2.62
New South Wales	368,745	623,409	169	2,538,051	4.07	3.99
Northern Territory	164,283	195,767	119	802,617	4.10	4.28
Queensland	561,320	805,000	143	3,228,248	4.01	3.80
South Australia	1,144,323	1,209,200	106	4,017,050	3.32	3.65
Tasmania	2,367,828	2,904,469	123	5,553,177	1.91	2.17
Victoria	224,973	231,646	103	2,380,082	10.27	5.55
Western Australia	1,505,415	1,752,594	116	4,188,759	2.39	2.45
Total	**7,570,280**	**9,037,070**	**119**	**25,478,490**	**2.89**	**3.00**
Australian farmed prawns [note 8]	213,433	151,738	71	406,152	2.68	2.02

1. Maximum matchable contribution is the maximum amount that the Australian Government will match industry contributions in accordance with the criteria detailed on page 166.
2. Note that contribution figures are accrual based—i.e. some payments for the year may have been made but will not show in the figures at the time of publishing.
3. There are timing issues in some jurisdictions therefore matching may not occur in the year in which the invoice is raised.
4. Distribution of FRDC spend is based on the estimated flow of RD&E benefits to the respective jurisdictions. It includes a deduction of prior project refunds.
5. Ratios in column F are derived from the distribution of FRDC spend (column D) for 2017–18 and the previous four years.
6. Australian Government investment in the National Carp Control Plan has resulted in an increased return on contribution in Victoria.
7. The total distribution of spend excludes $520,000 (approximately) invested in the Australian Capital Territory.
8. Australian farmed prawns are also included in the jurisdictional totals above.

The FRDC's balanced research investment approach

The FRDC aims to spread its investment in research, development and extension (RD&E) across the whole value-chain of fishing and aquaculture, and for the benefit of both Indigenous and recreational fishers. The FRDC balanced investment approach ensures RD&E investment covers issues of critical national importance, as well as recognising the diversity of stakeholder priorities. Ultimately all FRDC investment in RD&E is driven by the needs of its stakeholders.

Strategic national priorities

TABLE 7: 2017–18 EXPENDITURE BY INVESTMENT AREA

	2017–18 actual	2017–18 actual	2017–18 AOP[1] budget	Difference
	$m	as %	as %	%
National priorities	5.70	22	18	4
Priority 1: Ensuring that Australian fishing and aquaculture products are sustainable and acknowledged to be so	2.14			
Priority 2: Improving productivity and profitability of fishing and aquaculture	2.35			
Priority 3: Developing new and emerging aquaculture growth opportunities	1.21			
National infrastructure	6.50	25	12	13
Partnership agreements (industry sectors)[2]	7.50	29	37	–8
Partnership agreements (jurisdictions)[3]	5.34	21	27	–6
Response fund	0.61	2	6	–4
Incentive fund	0.35	1	0	–1
Total activities expenditure	**26.00**	**100**	**100**	**0**

Figures in this tables have been rounded, hence totals may not agree with component figures.
1. Annual operational plan.
2. Industry Partnership Agreements (IPAs) see page iv.
3. Research Advisory Committees (RACs) see page iv.

FIGURE 1: RD&E BUDGET ACTUAL EXPENDITURE 2017–18 VERSUS FORECAST EXPENDITURE 2018–19

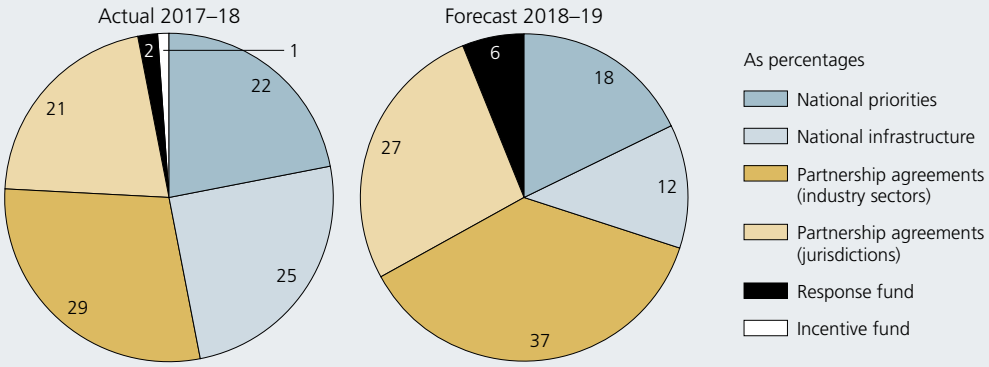


TABLE 8: TOTAL FORECAST EXPENDITURE AGAINST PROGRAM

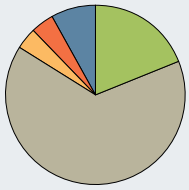
Programs	2017–18 AOP	Actual expenditure	Difference
	%	%	%
Environment	33	30	–3
Industry	42	43	1
Communities	6	7	1
People	8	9	1
Adoption	11	11	0
Total programs expenditure	**100**	**100**	

Industry Partnership Agreements investment by program 2017–18

Investment by Industry Partnership Agreements (IPAs) is driven by the needs of individual sectors. As a result, there will be a higher investment in projects focused on the Industry program. However, the FRDC requires IPAs to aim for a balanced portfolio approach to their investment.

TABLE 9: INDUSTRY PARTNERSHIP AGREEMENTS INVESTMENT BY PROGRAM 2017–18

Program	$	%
Environment	1,385,938	19
Industry	4,879,828	65
Communities	321,097	4
People	305,548	4
Adoption	604,233	8
Industry Partnership Agreements total	**7,496,645**	**100**

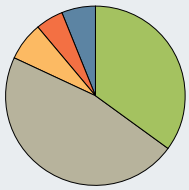


Research Advisory Committees investment by program 2017–18

Investment made through Research Advisory Committees (RACs) is driven by the needs of the various jurisdictions. It is expected there will be a higher investment in projects focused on public good and, generally, based around the Environment program. However, as with IPAs the FRDC requires RACs to aim for a holistic approach to their investment.

TABLE 10: RESEARCH ADVISORY COMMITTEES INVESTMENT BY PROGRAM 2017–18

Program	$	%
Environment	1,861,029	35
Industry	2,473,212	47
Communities	395,621	7
People	286,264	5
Adoption	322,980	6
Research Advisory Committees total	**5,339,108**	**100**



Australian Government
Fisheries Research and Development Corporation

15 October 2018

The Hon. David Littleproud MP
Minister for Agriculture and Water Resources
Parliament House
CANBERRA ACT 2600

Dear Minister,

On behalf of the directors of the Fisheries Research and Development Corporation (FRDC), I have pleasure in presenting the Corporation's annual report for the year ended 30 June 2018.

The report has been prepared and approved by the Board in accordance with our legislative obligations under section 28 of the *Primary Industries Research and Development Act 1989* (PIRD Act); and sections 39 and 46 of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act).

The report provides a clear picture of our performance against set priorities and performance indicators in achieving the FRDC's outcome (page 19) for you, the Minister for Finance, members of parliament, FRDC stakeholders and the Australian community.

FRDC's annual report [performance statements] is produced in accordance with s39 (1)(a) of the PGPA Act for the 2017–18 financial year. The performance statements start with the directors' report of operations (pages 4 to 14), followed by report of operations part 2: The FRDC's operational results, services and governance (pages 32 to 87). The financial statements and the Australian National Audit Office audit of the FRDC financial statements (pages 124 to 163)—which returned an un-modified audit report, complete the FRDC performance statements. It is the opinion of the Board of FRDC that the statements accurately present FRDC's performance in the reporting period and comply with s39 (2) of the PGPA Act.

This report documents inputs (income and expenditure on pages i–v, 132, 139), outputs from research and development against the performance measures published in the *2017–18 Portfolio Budget Statements 2017–18, Budget Related Paper No. 1.1, Agriculture Portfolio* and the *FRDC Annual Operational Plan* (pages 15–17). The report also includes an overview and assessment of the longer-term outcomes for the Corporation's investment that utilises the methodology developed by the rural research and development corporations (RDCs) benefit cost framework (pages 88–95). Future priorities and planned budgets for FRDC activities are on pages 15–17.

Fisheries Research and Development Corporation
Postal address: Locked Bag 222, Deakin West ACT 2600 Australia
Office location: Fisheries Research House, 25 Geils Court Deakin ACT
T: 02 6285 0400 **E**: frdc@frdc.com.au **www**.frdc.com.au

Analysis of key factors affecting performance during the year

FRDC remains highly regarded by its stakeholders with strong partnerships with seafood industry councils, recreational fishing bodies, peak bodies, fisheries managers, science providers and the Australian Government Department of Agriculture and Water Resources.

Looking forward, in 2018–19 the operating environment for the FRDC and its fishing and aquaculture stakeholders, there are a number of potential economic challenges which may impact on a number of fronts. These include, the value of the Australian dollar, fuel costs and fishery restructures in a number of jurisdictions.

The value of the Australian fishing industry has continued to see strong growth with the gross value of production rising to just over $3.0 billion at the end of 2017–18. It is expected that overall the sector will continue to grow, driven primarily by aquaculture.

More broadly, the Australian dollar is expected to face downward pressure as interest rate differentials between it and other developed economies narrow further. This may impact upon the ability of industry to borrow for capital investment and stronger than expected global growth could result in higher prices for Australian commodity exports.

Work continues across many fisheries to improve their sustainability status and management processes, and the FRDC will release a new instalment of the Status of Australian Fish Stocks (SAFS) Reports in December 2018.

However, with wider environmental debates ongoing, it is clear that community concerns extend beyond fish stocks and fisheries to include many broader challenges. These challenges include resource sharing and allocation; optimising both social and economic benefits to specific resource users as well as the community-at-large; diminishing social acceptability of commercial fisheries and aquaculture in some sectors of the community; understanding drivers of industry behaviour and community preferences in relation to marine resources and resource users; and supporting evidence-based and structured decision-making processes.

As those participating in recreational fishing continue to invest considerably more in technology and assets to support their pastime, this will require state, territory and local governments to invest in improved facilities to access aquatic habitats to accommodate bigger and improved fishing boats. Fisheries managers will also need to develop strategies to encourage recreational fishers to shift effort from popular locations and away from highly targeted species. Around urban areas there will be increased investment in stocking programs and artificial reefs to address angling pressure and improving recreational fishing experiences. Fisheries managers will need to develop harvest strategies with explicit recreational fishing objectives that often require a higher biomass than that currently managed for commercial fishing. Unless these competing objectives are addressed there will continue to be resource access disputes between the two sectors.

Biosecurity has been a focus in the past year, partly as a result of the White Spot Disease outbreak in South Queensland in 2016, Pacific Oyster Mortality Syndrome in Pacific Oysters, pilchard orthomyxovirus in Atlantic Salmon and the subsequent review and development of the Emergency Aquatic Animal Disease Response Agreement which will ensure a continued awareness across fishing and aquaculture. This focus will continue, and key sectors like Atlantic Salmon and Barramundi will focus on increasing biosecurity readiness to reduce future risks.

The development of the National Carp Control Plan, underpinned by an extensive research program, is ongoing, for delivery to the Australian Government in the coming year.

Key performance indicators

Over the year, the FRDC met and achieved its performance indicators as outlined in the 2017–18 Portfolio Budget Statements, with the exception of target project expenditure.

- The financial income target was $35.71 million and $36.00 million was achieved.
- The financial expenditure target was $35.87 million and actual expenditure was $31.39 million.

For a full explanation of financial target variance, see Note 5.1 B: Explanation of major variances in the financial statements for the difference between forecast and actual income and expenditure (page 163).

Portfolio Budget Statement performance measures	Targets 2017–18	Results
Projects focus on the FRDC Board's assessment of priority research and development issues.	Ninety-five per cent are a priority.	Achieved. All projects assessed were identified as a priority via funding process.
Projects are assessed as meeting high standards/peer review requirements for improvements in performance and likely adoption.	Ninety-five per cent are a high priority.	Achieved. All projects assessed were identified as a priority via funding process therefore likelihood of adoption is high.
Maintain ISO9001:2008 accreditation.	FRDC maintains certification.	Accreditation achieved, see page 108.
Submit planning and reporting documents in accordance with legislative and Australian Government requirements and time frames.	One hundred per cent met government requirements.	Achieved. All documents submitted on time.
Implement best practice governance arrangements to promote transparency, good business performance and unqualified audits.	Achieve unqualified audit result.	Achieved. FRDC audit received unqualified result, see pages 126–127.
Demonstrate the benefits of RD&E investments by positive benefit cost analysis results.	Benefit cost analysis undertaken on one investment area.	Achieved. FRDC undertook benefit cost analysis against each program area, see pages 62, 74, 78, 82 and 86.
Positive perceptions of the commercial fishing industry increase from 28% to 40% by 2020 as measured through the independently-commissioned FRDC stakeholder survey.	Perception of industry increases to 30%.	The results from the 2018 research into community perceptions of the sustainability of the industry show that 36% of respondents believe the industry is sustainable.
Provide RD&E to support increased trade of fishing and aquaculture products into countries with free trade agreements by 300% by 2020.	One report completed on the quantity of potential production from Australia's fishing and aquaculture resources.	Not complete, report is in progress and due for completion 2018–19.
Provide RD&E to support increased trade of fishing and aquaculture products into countries with free trade agreements by 300% by 2020.	Report detailing non-tariff barriers to trade.	Report completed and submitted to the Department of Agriculture and Water Resources.
There are two to three new aquaculture species that are seeing good productivity and profitability growth as measured by an increase in tonnage from other species.	One thousand tonnes of additional production.	National government production statistics not available. Forecasts and individual company records indicate that production will have exceeded the 2017–18 target.

Key factors contributing to performance

Throughout the year the FRDC focused on core business and priorities to promote sustainability, improve productivity and profitability and grow aquaculture with many significant projects initiated and completed.

The FRDC uses formal consultative structures (Research Advisory Committees, Industry Partnership Agreements, Indigenous Reference Group) to ensure that its investments remain targeted, relevant and deliver a balanced portfolio of activity—in line with the objects of the PIRD Act.

The use of these structures and the effort and investment to improve engagement with stakeholders has also started to pay dividends, with a majority of stakeholders satisfied with the approach taken to get information, make comment and the areas where investment has been made.

The FRDC has worked collaboratively with the other rural RDCs on issues relevant to fishing and aquaculture that deliver value for fishing and aquaculture stakeholders. Key to this has been the active participation in a number of Rural R&D for Profit projects including Accelerating Precision Agriculture to Decision Agriculture and Insights2Innovation.

Project expenditure is the one area that FRDC did not meet its Portfolio Budget Statement target. Researchers aim to deliver on time, and FRDC monitors milestone progress, however the timing for project activity does vary for a range of reasons (for example, seasonality of fisheries). This results in delays in expenditure.

The directors' review of operations (pages 4–14) provides further detail on events and activities that impacted the FRDC during the year.

I take this opportunity to acknowledge the strong support of my fellow directors in guiding the FRDC towards outcomes that will benefit people in fishing and aquaculture, and the broader Australian community.

Yours faithfully,

The Hon. Ron Boswell
Chair

FRDC

ANNUAL REPORT 2017–18

This annual report not only outlines the achievements over the 2017–18 financial year but also how they have contributed to the third year of FRDC's strategic plan 2015–20.

This year of the plan sees how the objectives initiated in 2015 are now 'bringing in the catch'.

CONTENTS

REPORT OF OPERATIONS PART 1

THE DIRECTORS' REVIEW OF OPERATIONS AND FUTURE PROSPECTS

THE YEAR IN REVIEW

External environment

FRDC remains highly regarded by its stakeholders with strong partnerships with seafood industry councils, recreational fishing bodies, peak bodies, fisheries managers, research providers and the Australian Government's Department of Agriculture and Water Resources (DAWR).

The FRDC continued to focus on its core business and priorities to promote sustainability, improve productivity and profitability and grow aquaculture with many significant projects completed. This includes investing across many fisheries to improve their management processes in order to ensure sustainable stock statuses.

The FRDC has also progressed the development of a new instalment of the Status of Australian Fish Stocks (SAFS) Reports which is due to be released in December 2018.

FRDC's investments are underpinned by a commitment to a balanced portfolio of investment. The portfolio reflects the priorities of stakeholders and emerging issues. The FRDC uses formal consultative structures (RACs, IPAs, Indigenous Reference Group) to ensure that its investments remain targeted, relevant and balanced.

The FRDC continues to look at how to improve stakeholder relationships and engagement. Results from the 2018 Stakeholder Survey show a high level of awareness and support; recognising the challenge of balancing diverse stakeholder interests. Overall there is an underlying confidence in the mix of activities the FRDC undertakes. Notwithstanding this, the survey also highlights that the FRDC needs to continually look at its roles and responsibilities and work with stakeholders (including industry associations and government) to maintain focus on core goals.

The effort and investment to improve engagement with stakeholders has also started to pay dividends with a majority of stakeholders satisfied with the approach taken to get information and make comment. However, some stakeholders would like more clarity around how various elements of the FRDC RD&E strategy fit together in delivering outcomes.

Key issues addressed during the year included: biosecurity, partly as a result of the White Spot Disease outbreak in South Queensland in 2016, and the subsequent review and development of the Emergency Aquatic Animal Disease Response Agreement. These activities will continue and key sectors, such as Atlantic Salmon and Barramundi, will focus on increasing biosecurity readiness to reduce future risks.

Marine safety remains a major issue across all fishing and aquaculture. The statistics on the rates of injury and death remain among the highest for any primary production sector. In response, the FRDC along with stakeholders has initiated a number of projects to improve safety at sea.

The FRDC has engaged more broadly with other rural research and development corporations (RDCs) to work collaboratively on Rural R&D for Profit projects. This includes exploring future opportunities to position the industry for a digital future through the projects Precision to Decision and Insights2Innovation.

During the year FRDC welcomed the commencement of the independent review of the funding agreement with DAWR. The review will assist FRDC to fine tune and focus its approach to managing investment and engagement with stakeholders. It will also ensure that the management systems are consistent with the quality systems and commitment to continuous improvement.

The key issues and activities for the year follow, starting with external drivers.

Seafood Industry Australia

Seafood Industry Australia (SIA) has been approved by Assistant Minister Ruston as a new FRDC representative organisation replacing the National Seafood Industry Alliance. FRDC has three other representative organisations: Recfish Australia, National Aquaculture Council, and the Commonwealth Fisheries Association. FRDC will also continue to consult with the Indigenous Reference Group.

SIA is the new national peak body which represents the Australian seafood industry as a whole. It is chaired by Veronica Papacosta, and Jane Lovell is the inaugural Chief Executive Officer.

Annual Stakeholder Planning Workshop update

FRDC's Stakeholder Planning Workshop, held in September 2017, provided a forum for representatives of each RAC, IPA, subprogram and representative organisation to discuss research priorities and identify potential collaborative opportunities for co-investment in research that will have multi-jurisdictional and/or national benefit.

A key output of the workshop was the identification of 'high-level' cross-cutting priority areas that were relevant to all the workshop attendees. These priority areas included:

- biosecurity,
- data,
- people and capacity,
- animal welfare,
- community engagement, social licence, branding of industry.

The summary report of the workshop is now available on the FRDC website.

National RD&E Marine Safety and Welfare Initiative

The FRDC is working with stakeholders to coordinate a national RD&E marine safety and welfare initiative. This initiative proposes a national goal of zero deaths, 80 per cent reduction in workplace injuries and 100 per cent compliance with national and jurisdiction work safety laws/rules.

Putting marine safety front and centre, the FRDC is set to launch its new National RD&E Marine Safety and Welfare Initiative, working with industry partners such as Austral Fisheries and the Western Australian Fishing Industry Council.

Over the past year the FRDC's internal policies have made wearing life jackets or personal flotation devices mandatory for all FRDC staff and others working on FRDC projects while on board vessels.

National Carp Control Plan

The National Carp Control Plan (NCCP) website (www.carp.gov.au) forms an engaging, up-to-date hub for digital communications. During the reporting period 1 July 2017 to 23 October 2017, there were 2199 unique users from 33 countries who visited the NCCP website. Australia represented 90 per cent of the audience, with the United States at 4 per cent, followed by South Korea, Brazil, China, the United Kingdom and Japan. Forty per cent of users were returning visitors. The most visited page was 'frequently asked questions', followed by 'the carp problem' and 'consultation'.

Communication and engagement activities advanced well. Those involved in developing the NCCP have been talking with river communities via communication and engagement processes to capture issues, concerns and ideas. From October 2017 to March 2018 the NCCP hosted 73 events in more than 40 locations, talking about the varying impacts of carp control and building early awareness of the process supporting development of the NCCP, risks and management strategies including clean-up in New South Wales, Victoria, Queensland, South Australia, and the Australian Capital Territory.

Since 30 June 2017, there have been 204 articles captured by media monitoring mentioning the NCCP and carp. One hundred and forty-six articles (72 per cent) were positive in sentiment, 25 articles (12 per cent) were negative, and 33 (16 per cent) were neutral.

Drafting of the NCCP and Operations Strategy are underway, and will continue to be informed by research and consultation throughout 2018.

Aquatic animal health and biosecurity

Aquatic animal health and biosecurity was again a critical focus for fishing and in particular aquaculture.

A stakeholder RD&E planning workshop was facilitated for responding to the White Spot Disease which is an internationally notifiable disease of crustaceans caused by the White Spot Syndrome Virus.

A project was approved that will review the animal welfare material available to date and identify any future requirements. The insight gained from this project will be used to determine whether the material is fit for purpose or requires revision. Additionally, gaps in RD&E will be identified that require attention.

Seismic testing research

Over the past 12 months, FRDC has informally coordinated industry discussions around seismic impacts on the marine environment. Following on from the most recent informal meeting of jurisdictions, it was outlined that a coordination program structure may be the best method to address seismic research priorities going forward. Further, Seafood Industry Australia has nominated seismic research as one of the possible national issues it will be addressing. The established coordination program will collate existing research into one portal and coordinate future research needs with relevant stakeholders.

FRDC has sponsored two industry representatives, Aaron Irving (National Aquaculture Committee) and Johnathon Davey (Seafood Industry Victoria) to attend the World Ocean Summit to present a paper on seismic research and industry responses. As well as raising awareness of this issue internationally, the goal is to improve our international networks to improve collaboration.

Fight Food Waste CRC

In April 2018, the Fight Food Waste Cooperative Research Centre (CRC) was approved by the Federal Government. The FRDC through the Australian Council of Prawn Fisheries and the Abalone Council of Australia were partners in the bid to set up the new CRC that will run for 10 years.

Under-utilised fisheries review

FRDC has supported numerous projects that have sought to investigate the feasibility of creating commercial seafood opportunities from currently under-utilised wild-caught fish species. Before investing additional funds in projects of this nature, FRDC requires an evaluation of past projects to determine the factors behind their success or failure. This analysis will then provide the basis for a decision matrix that can be used by project applicants and FRDC staff to design/evaluate future projects.

Internal environment

Call for applications for non-executive directors for the FRDC Board

A selection process for non-executive directors of the FRDC Board began in April 2018. Dr Michele Allan was appointed as the Presiding Member by the Minister for Agriculture and Water Resources to chair and manage the process of nominating candidates to the minister for the FRDC Board. It is expected the process will be completed in the first part of 2018–19 financial year.

See Appendix F (page 175) for further information on the process to 30 June 2018.

FRDC performance review

Under its funding agreement with the DAWR the FRDC is required to undertake a review of its performance every four years. FRDC management agreed to the terms of reference with DAWR in September 2017. Foresthill Consulting (led by Scott Williams) was selected to undertake the review. Interviews with the FRDC Board, staff and key stakeholders have been undertaken and results are due later in 2018.

FRDC stakeholder survey

Every few years the FRDC surveys a diverse group of stakeholders—fishing and aquaculture, Indigenous, researchers and government—to find out their views on the priorities, work and investments being undertaken. In 2018, the FRDC took a slightly different approach, in that we asked all stakeholders (or those with an e-mail address or mobile number) to have their say.

The results will be used to improve what we do and how we deliver it. The survey results will be posted on the FRDC website.

Fisheries and aquaculture data

On 6 March 2018, the Accelerating Precision Agriculture to Decision Agriculture Report was released by the Minister for Agriculture and Water Resources, the Hon. David Littleproud MP at the ABARES Outlook conference.

The Precision to Decision project was the first to involve the collaboration of all 15 rural RDCs focusing on how best to realise the potential of data in agriculture, as well as address any barriers. The suite of reports produced as part of the project highlights current deficiencies in digital leadership, trust and legal barriers, value proposition, connectivity, availability of data, digital literacy and decision support tools. Recommendations to resolve these deficiencies facilitate opportunities for policy, strategy, leadership, digital literacy and enablers. The RDCs are now in the process of considering how to best implement the recommendations across their respective industries.

Identifying the opportunities for a national fisheries digital data framework and what such a framework could look like was the focus of a workshop the FRDC organised with key stakeholders. Participants were invited based on their relevance to the fisheries data landscape and involvement along key parts of the data chain. A report detailing the outcomes of this workshop is available on the FRDC website.

Commercial Inshore Fisheries Subprogram

During the Seafood Directions conference, FRDC met with the executive officers from the state-based wild-catch industry councils to progress research needs in inshore areas as they relate to resource sharing. It was agreed at the meeting that the issue of resource allocation and access should be excluded and the focus be on taking advantage of sharing existing knowledge and opportunities, developing new opportunities and trialling initiatives such as new technology.

The timing is right for this initiative as the leaders in industry councils are instigating a range of measures to either reform or change the practices of these fisheries. FRDC is investing in many of these activities from developing markets for New South Wales finfish in China to community-based fisheries digital platforms.

The opportunity to partner across jurisdictions and accelerate these developments is the purpose of this proposed new subprogram. It is planned that this activity is funded through national priority 2: Improving productivity and profitability of fishing and aquaculture.

FRDC partners with X-Lab

The FRDC has partnered with X-Lab, and the Cotton RDC to run a series of agile development 'microhack' workshops and a follow-up mentoring program. The microhack program is aimed at broadening business-thinking horizons and challenging participants to answer key questions to develop their business or ideas.

This program provides a space for researchers to connect with primary producers for two days to imagine what the future of primary industry in Australia could look like. The initiative is designed to spark creative opportunities by facilitating synergies between people with different backgrounds. True innovation is challenging, but providing the right environment can prove to be fertile ground.

Human Dimensions Research Subprogram

Across Australia, seafood industry councils and individual sectors have identified the need to calculate their social and economic value beyond gross value of production. An excellent example of this work were the FRDC-funded studies undertaken by Dr Kate Barclay (University of Technology Sydney) for wild-catch fisheries in New South Wales (project 2014-301: Social and economic evaluation of New South Wales coastal commercial wild-catch fisheries) that was then replicated to also include the aquaculture industry (project 2015-302: Social and economic evaluation of New South Wales coastal aquaculture).

Given the increasing interest in this area, the FRDC's Human Dimensions Research Subprogram are coordinating a project (National Fisheries and Aquaculture Industry Contributions Study) that will look across all available methodologies and develop a common approach to provide values that are comparable and can be replicated at national and regional scales. The project will be seeking regional case studies to trial this work and will be looking to the RACs to partner (co-contribute) to these case studies.

Sustainability focus

The new Status of Australian Fish Stocks (SAFS) species list has been agreed to, with 37 new species to be incorporated into SAFS 2018, bringing the total number of species to 120 (up from the current 83 species across 294 stocks). The revised SAFS classification framework has been endorsed by the SAFS Advisory Group. The stock status classification categories are: sustainable, depleting, recovering, depleted, undefined and negligible.

Details on SAFS can be found on the dedicated SAFS website: www.fish.gov.au

Whichfish

FRDC launched a pilot online business-to-business risk assessment tool 'Whichfish' that will assist businesses who trade or sell wild-caught seafood to determine the stock, environmental and management risks associated with the seafood they buy and sell. The Whichfish website (www.whichfish.com.au) is aimed specifically to assist seafood buyers make better informed decisions.

Whichfish was developed in conjunction with Seafood New Zealand with their analogous OpenSeas platform (www.openseas.org.nz). Whichfish uses elements from the Global Sustainable Seafood Initiative (GSSI) Benchmarked Marine Stewardship Council Standard version 2.0. The site also shows seafood products (from fisheries) that have been third-party certified by a scheme benchmarked to the GSSI criteria.

Thank you

Continued support from the Australian Government and stakeholders across the commercial, recreational and Indigenous sectors has been welcomed by the Board over the last 12 months. Government and industry engagement play a vital role in ensuring high-quality research priorities are identified and turned into outcomes.

The Board thanks its four representative organisations for their continued strong collaboration. The FRDC also depends on the contributions of many other bodies and agencies for its success, including:

- peak and representative bodies (from all sectors),
- Commonwealth, state and territory fisheries management and research agencies,
- Research Advisory Committees,
- FRDC subprogram and coordination leaders and their committees,
- the many researchers who work on FRDC projects, and
- the many interested people and seafood consumers FRDC engages with.

The dedication and passion of FRDC staff is critical to the FRDC's ongoing success for which the Board is very grateful.

The Board welcomes feedback and invites you to contact any director and let them know your thoughts after reading this annual report.

Significant events after 30 June 2018

Nil.

PRIORITIES FOR 2018–19

The FRDC's RD&E Plan 2015–20 brought with it a significant change to the way planning and investment is undertaken. The most significant is that the FRDC will directly invest to deliver results and outcomes against the national priorities. The FRDC has devolved some authority to jurisdictions through RACs and industry sectors through IPAs to allow them greater ownership over setting research priorities and making recommendations on which projects to fund. The key areas of focus for the FRDC priorities in 2018–19 are as follows.

Lead

1. **Australian fishing and aquaculture products are sustainable and acknowledged to be so.**
    - Expand the Status of Australian Fish Stocks (SAFS) Reports to include information on bycatch, fisheries management and habitat, and reduce the number of undefined species in the report.
    - Progress the development and implementation of a national bycatch reporting framework.
    - Extend new forms of communication with stakeholders and end users (consumers).
    - Finalise guidelines for Australian Fisheries Management Standards.
2. **Improved productivity and profitability of fishing and aquaculture.**
    - Implement new approaches to industry development and innovation.
    - Progress the development of the Easy Open Oyster.
    - Deliver innovation acceleration programs to assist industry development.
    - Develop new ways to utilise under-utilised species and further improve post-harvest waste.
    - Invest in RD&E projects to improve efficiency in wild fishery capture methods.
    - Work towards understanding the social and economic contributions of recreational fishing in Australia.
3. **Development of new and emerging aquaculture growth opportunities.**
    - Continue the advances made in Yellowtail Kingfish production.
    - Explore options for developing aquaculture in northern Australia and scope the potential for novel species, systems and approaches.
    - Invest in RD&E projects that will assist to grow production volumes of aquaculture species across Australia.

National infrastructure

- National Carp Control Plan—complete the development of the National Carp Control Plan.
- Recfishing Research—Southern Bluefin Tuna education on catch and release practices and assist in the development of a national social and economic survey.
- Aquatic Animal Health and Biosecurity Subprogram—procedures for operating in the presence of disease and research towards resistant stock to enable enhanced disease resistance in industry.
- Indigenous Fishing Subprogram—Indigenous Capacity Building Program; improved data on Aboriginal and Torres Strait Islanders fisheries resource use to better inform Indigenous community planning and fisheries agency decision making; developing a concise summary of Indigenous RD&E undertaken to date and how best to extend the outputs; and sharing and preserving knowledge through story.
- SafeFish—invest in research for the Harmonised Australian Retailer Produce Scheme that is consistent with the Global Food Safety Initiative and Global Sustainable Seafood Initiative frameworks.
- Australian Fish Names Standard—develop a standard names list for aquatic plants.
- Human Dimensions Research—nationally-coordinated estimate of the economic contributions of commercial fisheries and aquaculture; and effective engagement to achieve socially-supported fisheries and aquaculture.

Partner

Research Advisory Committees

The FRDC holds an annual stakeholder workshop to gain an insight into key issues and set priorities for the jurisdictional RACs' annual call for applications. The 2018–19 priorities for each RAC can be found on their individual webpages: www.frdc.com.au/Partners/Research-Advisory-Committees.

Industry Partnership Agreement priorities

Each IPA develops a RD&E Plan, which contain its specific priorities, from which it focuses its call for applications. The 2018–19 priorities for each IPA can be found on their individual webpages—www.frdc.com.au/Partners/Industry-Partnership-Agreements.

Collaborate

The FRDC encourages stakeholders—industry partners (through the IPAs), jurisdictions (through the RACs) and/or subprograms—to co-invest in projects addressing common or mutual priority areas. Funds are set aside to encourage and facilitate this collaboration. It is up to each partner to identify and prioritise projects with the FRDC to access collaborative funding.

FORECAST ANNUAL OPERATIONAL PLAN BUDGET 2018–19

FRDC FINANCIAL INCOME AND EXPENDITURE PLANNING 2015–20

REVENUE	2017–18 actual	2018–19 budget	2019–20 budget	2020–21 budget
	$m	$m	$m	$m
Australian Government 0.5% AGVP	15.14	14.85	15.10	15.35
Matching of industry contributions	7.57	7.42	7.55	7.68
Total revenues from the Australian Government	22.71	22.27	22.65	23.03
Contributions revenue from industry	9.04	7.61	8.70	8.70
Projects revenue from other parties	2.02	4.02	3.00	3.00
Other revenue	2.23	0.30	0.25	0.25
Marketing and promotion	0.00	0.50	1.00	2.00
Total revenue	**36.00**	**34.70**	**35.60**	**36.98**

EXPENDITURE	2017–18 actual	2018–19 budget	2019–20 budget	2020–21 budget
	$m	$m	$m	$m
Programs expenditure				
Total RD&E expenditure	26.00	28.35	28.56	28.89
Total marketing expenditure	0.00	0.45	0.90	1.80
Management and accountability	5.39	5.88	6.08	6.25
Total expenditure	**31.39**	**34.68**	**35.54**	**36.94**

PIRD ACT REQUIREMENTS

	2017–18 actual	2018–19 budget	2019–20 budget	2020–21 budget
	$	$	$	$
Remuneration to non-executive directors and independent committee member	306,254	409,000	422,000	435,000
Cost recovery expenses to pay to the Commonwealth	9,022	15,000	15,000	15,000
Selection committee expenses and liabilities	37,488	10,000	–	60,000

THE CORPORATION

FRDC is a statutory corporation within the Australian Government's Agriculture and Water Resources portfolio and is accountable to the Parliament of Australia through the Minister for Agriculture and Water Resources. Revenue for RD&E investment is based on a co-funding model between the Australian Government and the commercial fishing and aquaculture industries.

The Corporation was formed on 2 July 1991 and operates under two key pieces of legislation the *Primary Industries Research and Development Act 1989* (PIRD Act) and the *Public Governance, Performance and Accountability Act 2013* (PGPA Act).

Vision

The FRDC's vision is for Australia to have vibrant fishing and aquaculture sectors which adopt world-class research to achieve sustainability and prosperity.

Planned outcome

Increased economic, social and environmental benefits for Australian fishing and aquaculture, and the wider community, by investing in knowledge, innovation, and marketing.

Role

The FRDC's role is to plan and invest in fisheries RD&E activities in Australia. As a national organisation with strong linkages to industry, managers and researchers it has a fundamental role in providing leadership and coordination.

Portfolio minister

The portfolio minister for Agriculture and Water Resources is the Hon. David Littleproud MP. The Assistant Minister to the Minister for Agriculture and Water Resources for the 2017–18 financial year was Senator the Hon. Anne Ruston. On 28 August 2018, Senator the Hon. Richard Colbeck was sworn in as the Assistant Minister for Agriculture and Water Resources.

Stakeholders

FRDC works with a diverse and geographically dispersed group of stakeholders across fishing and aquaculture which are not mutually exclusive. For example, Indigenous fishers may participate in customary fishing, conduct aquaculture and commercial fishing, and fish recreationally.

Representative organisations

The FRDC has four ministerially-declared representative organisations:

- Seafood Industry Australia (representing the seafood industry),
- Australian Recreational and Sport Fishing Industry Confederation Inc., trading as Recfish Australia (representing recreational and sport fishers),
- Commonwealth Fisheries Association (representing commercial fishers operating in Commonwealth waters),
- National Aquaculture Council (representing the aquaculture industry).

The FRDC also involves the Indigenous Reference Group in all representational organisation activities.

Investment strategy—a balanced research investment approach

The FRDC aims to spread its investment in RD&E across the whole value-chain of the commercial fishing and aquaculture industry, and for the benefit of both Indigenous and recreational fishers. In line with the deliverables in the RD&E Plan, the FRDC will provide a balanced RD&E portfolio by investing in:

- the FRDC's five programs,
- national jurisdictional (lead); regional and sector-focused projects (partner); and these working together for similar priorities (collaborate),
- short-term and long-term projects (an indicator of adaptive versus strategic research),
- low-risk and high-risk projects (percentage chance of success),
- strategic and adaptive research projects.

All RD&E plans (FRDC, sector and jurisdictional) need to demonstrate how they achieve a balanced portfolio of investment. RD&E investments are regularly assessed to ensure the FRDC maintains a balanced portfolio that meets the needs of its stakeholders, including the Australian Government and the Australian community.

The portfolio is monitored through the FRDC's project management system which is based on the key metrics above to inform future investment decisions and ensure a balance is maintained. The FRDC ensures funding applications are developed and reviewed by the FRDC in line with broader portfolio requirements. A breakdown of investment for the past year can be seen on pages ii–iv.

The FRDC seeks to achieve maximum leverage from its investments by providing research administration and services using a value-adding model. Research projects have input provided by the FRDC during their development and assessment phase in order to decide on a specific outcome which is then actively managed and monitored.

Funding agreement

The funding agreement established under the PIRD Act requires establishment of necessary accounting systems, procedures and controls in accordance with the PGPA Act and the funding agreement, including a cost allocation policy. FRDC's Cost Allocation Policy sets out how to allocate direct and indirect costs across its research and development and marketing programs. (Noting that the FRDC's marketing program is yet to be established.) The Policy is available from www.frdc.com.au.

Staffing

The FRDC is governed by a board of directors (see page 116) appointed for their expertise and is led by a managing director who oversees the day-to-day operations of the organisation.

In 2017–18, the FRDC conducted its operations with 20.4 average staffing levels spread among 22 people (seven staff are part time). FRDC's staff are its most important resource, and are key to the Corporation's ongoing success. In addition to core staff, over the last year over 2450 people worked on FRDC projects around Australia. This includes approximately 533 principal investigators, 1117 co-investigators, 249 administration staff and 431 financial staff.

Equal employment opportunity

The FRDC promotes a work environment that is free from discrimination on the basis of race, colour, sex, sexual preference, age, physical or mental disability, marital status, family responsibilities, pregnancy, religion, political opinion, national extraction or social origin, or on the basis that an individual either is, or is not, a member of a union of employees, or of a particular union of employees.

The FRDC has a policy of equal employment opportunity. Merit-based principles are applied in recruitment and promotion to ensure discrimination does not occur. As at 30 June 2018, the positions spread among 22 people, nine are male and 13 are female. A number of staff members have culturally and linguistically diverse backgrounds.

Industrial democracy

The FRDC's staff members work as a team in which all contribute freely. This process is strongly reinforced by the FRDC's total quality management philosophy and the attendant emphasis on continual improvement. Staff members are provided with the opportunity at regular meetings to raise issues and discuss options to resolve how they are handled.

Disabilities

The FRDC's employment policies and procedures align with the *Disability Discrimination Act 1992* in the broader context of the National Disability Strategy 2010–2020. The FRDC's recruitment and staff development practices seek to eliminate disadvantage that may be contributed to by disabilities. Consultation with people with a disability and when required, with appropriate specialist organisations, is a component of the FRDC's policies and practices, recognising the effect of a disability differs widely between individuals and that often a little thought makes a big difference in meeting a person's needs.

Behaviour

Corporate governance practices are evolving rapidly, both in Australia and overseas. The FRDC is proactive in adopting better practices, including those governing ethical behaviour, into its own processes. The FRDC has a code of conduct that is appropriate to its structure and activities. New directors and staff are briefed and sign off agreeing to comply with the code during induction training.

Australian fishing industry statistics

From the latest fisheries statistics available (2015–16) the gross value of production (GVP) of Australian fishery and aquaculture increased by 9 per cent in 2015–16 to $3.03 billion. This increase was driven by a rise in the value of salmonid, rock lobster and prawn production.

The volume of Australian fishery production increased by 12 per cent to 267,094 tonnes. This arose largely from Commonwealth fisheries and the aquaculture sector. Wild-caught species accounted for 64 per cent (174,247 tonnes) of Australian fishery and aquaculture production, while aquaculture products accounted for 36 per cent (97,046 tonnes) of total production.

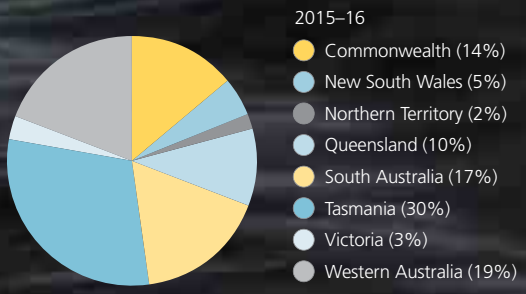
Aquaculture GVP increased by 10 per cent in 2015–16 to $1.31 billion. This was largely attributed to the higher production value of salmonids, which increased by 14 per cent to $718 million. Farmed salmonids remained the most valuable aquaculture species in 2015–16.

Tasmania accounted for the largest share of GVP (30 per cent), followed by Western Australia (20 per cent), South Australia (17 per cent) and Queensland (10 per cent). Commonwealth fisheries accounted for 15 per cent of GVP.

Salmonids production value was driven by growth in Tasmanian production up 14 per cent to $718 million in 2015–16.

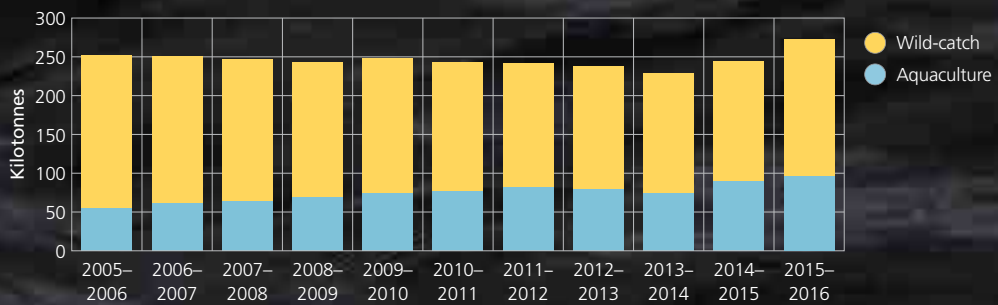
The value of Australian fisheries products exports increased to the highest value in real terms since 2008–09 up 7 per cent to $1.5 billion in 2015–16.

Despite a decline in production volume, rock lobster production value rose as a result of an increase in the average unit price.



TOP FIVE WILD-CATCH AND AQUACULTURE SPECIES BY VALUE, 2015–16

Species	Value ($ million)	Volume (tonnes)
Salmonids	717.7	56,319
Rock lobster	694.8	10,102
Prawns	388.0	24,559
Tuna	170.7	14,221
Abalone	160.2	4,151



Source: Australian fisheries and aquaculture statistics 2016 (published 2017). http://www.agriculture.gov.au/abares/research-topics/fisheries/fisheries-data#australian-fisheries-and-aquaculture-statistics-2016

Relationships with stakeholders

The FRDC works with diverse and geographically dispersed groups who operate or interact with fishing and aquaculture stakeholders. Some of these relationships are driven by a shared vision of working to address issues of concern, with some reinforced through mandate or legislation.

To meet and deliver on these needs the FRDC Board and staff regularly visit locations where they can engage directly with those involved in fishing and aquaculture and see issues firsthand.

FRDC is committed through formal policy to:

- treat stakeholders courteously and professionally,
- provide them with quality service,
- respond to written enquiries within 10 working days of receipt by the FRDC,
- return telephone calls by the close of business on the following day at the latest,
- provide information that is current and accurate.

Engaging with stakeholders plays an important part of the work program for FRDC staff members. Over the course of a year the FRDC aims to meet with its key stakeholders and participate in discussions on priorities, investment and related issues.

The FRDC values its relationships with all stakeholders. To ensure that we continue to deliver and meet expectations the FRDC surveys a diverse group of stakeholders—fishing and aquaculture, Indigenous, researchers, and government to find out their views on the priorities, work and investments being undertaken. The surveys are an important way for the FRDC to assess its performance and provide an opportunity for stakeholders to contribute direct feedback.

The latest, as well as past surveys, are available on the FRDC website—http://www.frdc.com.au/Services/Market-research.

Consultation with representative organisations

The FRDC has four representative organisations with which it consulted during 2017–18.

- Seafood Industry Australia,
- Recfish Australia,
- Commonwealth Fisheries Association,
- National Aquaculture Council.

Under clause 6.6 of the FRDC's funding agreement with DAWR, the FRDC may meet travel and other expenses incurred in connection with consultation between the FRDC and each of its representative organisations. The FRDC aims to meet with these organisations at least twice a year. The organisations often combine their visits to meet with other Canberra-based government agencies. While the FRDC budgeted $20,000 for representative organisation consultation, payments are only made to reimburse costs when they are associated with this activity ($28,095 exclusive of GST was spent in 2017–18). The FRDC also involves the Indigenous Reference Group which is not technically a representative organisation but is invited to all meetings.

Consultation with its representative organisations allows the FRDC to gain valuable insights into the RD&E priorities for industry sectors. It also provides a way for the FRDC to report the outcomes from its RD&E investment.

Consultation with Australian Prawn Farmers Association

The FRDC's investments in prawn farming research and development is mostly guided by the Australian Prawn Farmers Association's (APFA) RD&E Plan. FRDC and APFA have enjoyed a very close working relationship for a number of years and APFA has a lead role with the FRDC in ensuring its RD&E priorities are met. The table below outlines the financial record of the relationship.

Year	2013–14	2014–15	2015–16	2016–17	2017–18
APFA contribution	$148,956	$189,250	$161,515	$177,197	$151,738
FRDC expenditure on projects[1]	$170,476	$147,599	$40,711	$383,588	$406,152

1. Prior year amounts are updated with revised data.

Year	2016–17 actual	2017–18 actual	2018–19 estimate	2019–20 estimate	2020–21 estimate
Cost recovery expenses to pay to the Commonwealth	$15,880	$9,022	$15,000	$15,000	$15,000

Research Advisory Committees (RACs)

The FRDC supports a network of RACs—one covering Commonwealth fisheries and one in each state and the Northern Territory. The RACs play an important role in delivering efficient, effective planning and investment processes, and the development of project applications. The FRDC works to ensure a majority of research funding applications are submitted through, reviewed and prioritised by the RACs.

The RACs represent the fishing industry, fisheries managers and researchers, and most also have environmental and other community interest representation. RACs are a relatively new approach for FRDC, and represent an evolutionary step from the jurisdictionally-based Fisheries Research Advisory Bodies which have served the FRDC well since their inception.

The RAC Chairs at the end of 2017–18 were as follows.

Commonwealth	Peter O'Brien
New South Wales	Peter Dundas-Smith
Northern Territory	Rik Buckworth
Queensland	Cathy Dichmont
South Australia	Don Plowman
Tasmania	Ian Cartwright
Victoria	Peter Rankin
Western Australia	Brett McCallum

For further information on the RACs—www.frdc.com.au

Industry partners

The FRDC has continued its close relationship with seafood industry sectors and members. IPAs are a growing part of the FRDC's business because they provide individual sectors with greater certainty for long-term investment against their RD&E plans.

The FRDC will develop and maintain partnerships with various fishing and aquaculture sectors and jurisdictions, encouraging them to take a major role in developing RD&E priorities. It is expected that sector, jurisdictional and national RD&E priorities will interact and contribute to each of their achievements. During the year the FRDC had IPAs with the following organisations:

- Australian Abalone Growers Association,
- Abalone Council Australia,
- Antarctic and Subantarctic Fisheries (new),
- Australian Barramundi Farmers Association,
- Australian Council of Prawn Fisheries,
- Australian Prawn Farmers Association,
- Australian Southern Bluefin Tuna Industry Association,
- Oysters Australia,
- Pearl Consortium,
- Southern Rocklobster Limited,
- Tasmanian Salmonid Growers Association,
- Western Rock Lobster Council.

Australian Government

The Minister for Agriculture and Water Resources through his department identifies the key priorities that need to be addressed from an Australian Government perspective. The department acts as the day-to-day policy intermediary between the office of the Minister, Assistant Minister and the FRDC. The Australian Fisheries Management Authority and the Department of the Environment also play an important role in informing research priorities.

Australian Fisheries Management Forum

The Australian Fisheries Management Forum (AFMF) is attended by the heads/chief executives of the Commonwealth, state and territory government agencies responsible for the management of fisheries. The AFMF discusses issues relating to fisheries and aquaculture management.

The FRDC believes that adoption of research outputs by management agencies is key to optimising management outcomes. It will continue to work with AFMF, participating as an invited representative to its meetings, providing advice and ensuring AFMF priorities are incorporated into the FRDC's planning processes.

Council of Rural Research and Development Corporations and cross-RDC collaboration

The FRDC continues to partner with other RDCs on a range of activities to enhance joint strategic outcomes. The FRDC attends meetings of the Council of Rural Research and Development Corporations (CRRDC), as well as meetings of executive directors, business managers and communications managers.

The CRRDC is the peak body and structure through which the 15 rural RDCs (covering 10 industry-owned companies and five statutory authorities and corporations) work together on matters of common interest and importance. In 2017–18 the Council had four areas of priority activity: strategy and leadership; collaboration and co-investment; impact assessment and performance; and stakeholder engagement and communications.

During the 2017–18 financial year the Council initiated a major piece of work to explore and define a vision for the future of the rural research and development (R&D) system in the context of the Australian economy and community through to 2040. The FRDC actively participated, providing input and staff as required. This work will draw out a range of strategic insights that support the RDCs and other participants in the RD&E system prepare for a range of eventualities, and work together to deliver improved operations, activities and investments. The project will report its findings in October 2018.

The FRDC also partners and participates with other RDCs at the project level. A key area for collaboration has been the Rural R&D for Profit Program and projects in which the FRDC is a co-investor. The program has continued to be a useful process to further facilitate cross-RDC collaboration. These include the Forest and Wood Products Australia Natural Capital Accounts, the Meat & Livestock Australia led market and consumer insights to drive food value-chain innovation and growth and the Accelerating Precision Agriculture to Decision Agriculture project (P2D).

The P2D project is believed to be the first project ever to involve all 15 RDCs. The reports from this project were launched by the Minister for Agriculture and Water Resources the Hon. David Littleproud MP at the ABARES Outlook conference in March 2018. P2D has been recognised for its approach in managing a large cross-sectoral collaboration, and for the quality of research outputs delivered. A phase two project is in development and a number of other parties, including the National Farmers' Federation and the National Research and Innovation Committee, are considering how to take its recommendations forward.

The FRDC and other RDCs continue to support the implementation of the program and develop projects for submission via round four.

Research partners

Investment in research is the FRDC's core business. As a result, it is vital to the FRDC's success that good relationships are built and maintained with its research partners. In any given year FRDC will have more than 400 active projects under management. The research is undertaken and delivered by key partners including:

- fishing and aquaculture industry,
- Department of Agriculture and Water Resources,
- Australian Fisheries Management Authority,
- state/territory fisheries research centres,
- Commonwealth Scientific and Industrial Research Organisation (CSIRO),
- universities,
- cooperative research centres,
- other rural RDCs and corporations,
- industry groups,
- co-investors from the private sector.

Aligning RD&E priorities

Knowledge for fishing and aquaculture into the future: The FRDC's RD&E Plan 2015–20 was launched by Senator the Hon. Richard Colbeck at Parliament House on 16 September 2015. To date there have been no variations to the plan.

The FRDC has taken great care to align its planning processes to clearly show how the priorities of a grassroots fisher can fit with, and align to, national priorities and programs (see Figure 2 on page 28), and this in turn helps achieve the Corporation's outcome statement.

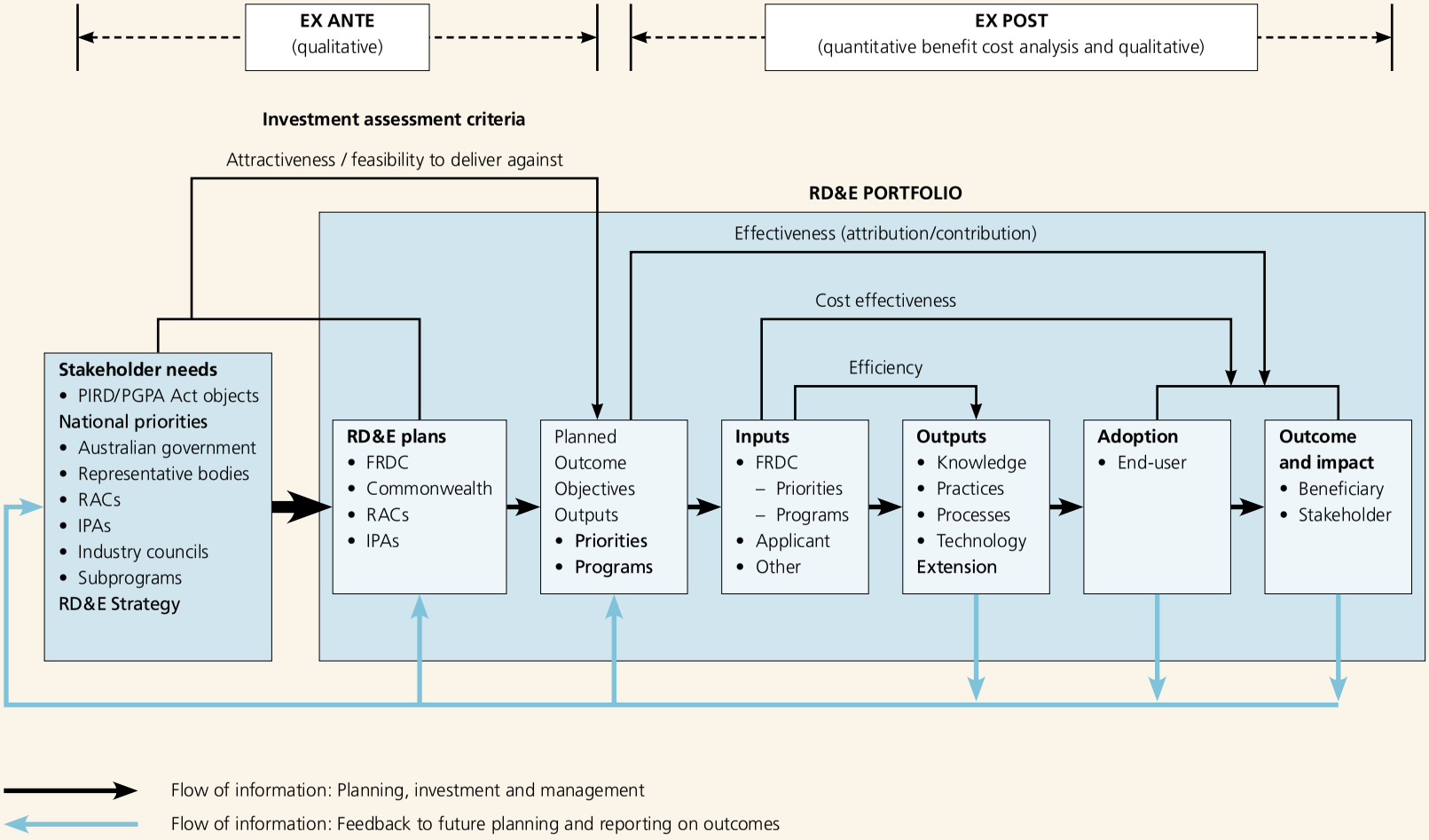
In addition, the FRDC program areas have been aligned closely to the objectives of the PIRD Act—environment, industry, people and communities, adoption and accountability and governance (see Figure 3 on pages 30–31)—further strengthening the link between activity investment and outcomes.

The FRDC's annual planning and priority setting cycle starts with the Board undertaking a review of operations (including achievements listed in the previous year's annual report), which is followed by feedback being sought from stakeholders about their priorities for the next year. These are factored into the cycle leading to an updated annual operational plan (and portfolio budget statements), ensuring these documents align with the FRDC's five-year RD&E Plan.

Requests for investment against the Plan are then called for and projects that address the priorities and needs of stakeholders and the FRDC are provided with funding.

The FRDC aims to spread its investment in RD&E across the whole value-chain of commercial fishing and aquaculture, and for the benefit of both Indigenous and recreational fishers. This balanced approach ensures RD&E is funded that incorporates issues of critical national importance as well as stakeholder priorities, because—ultimately—all FRDC's investment in RD&E is driven by the needs of its stakeholders. The following year's annual report completes the cycle by reporting on key achievements.

FIGURE 2: FRDC RD&E MONITORING AND EVALUATION FRAMEWORK



National Primary Industries Research, Development and Extension Framework

The Australian, state and Northern Territory governments, rural RDCs, CSIRO and universities jointly developed the National Primary Industries Research, Development and Extension Framework to encourage greater collaboration and promote continuous improvement in the investment of RD&E resources nationally.

Under the Framework there are 14 sector strategies and eight cross-sector strategies. Implementation of these strategies is overseen by the Agricultural Senior Officials Committee's Research and Innovation Committee. While not all cross-sectoral strategies have relevance to the FRDC and fishing and aquaculture, but where they do the FRDC provides input into the strategy, and wherever possible encourages industry to also provide input and sit on committees for these strategies. Key cross-sectoral strategies relevant for fishing and aquaculture are animal biosecurity, animal welfare, biofuels and bioenergy and climate change.

National Fishing and Aquaculture RD&E Strategy

Success through innovation: The National Fishing and Aquaculture Research, Development and Extension Strategy 2016 was finalised October 2016. The next iteration builds on the platform established by the original strategy (*Working Together: The National Fishing and Aquaculture RD&E Strategy*) and provides a nationally agreed, common vision for the industry over the next five years, guiding the investment of state and national research funding.

The FRDC continues to invest and undertake RD&E in line with the Strategy.

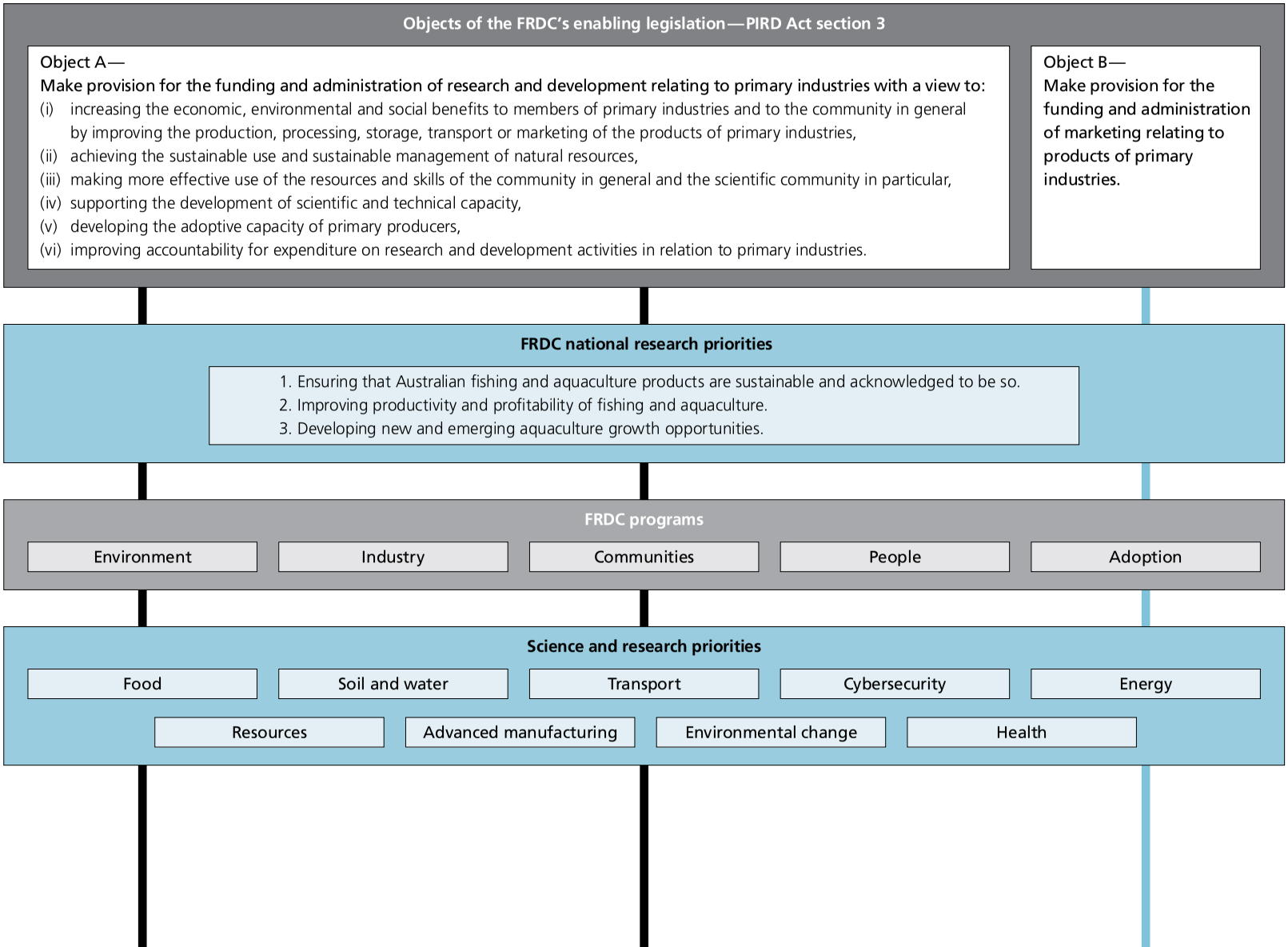
There are six 'goals' in the Strategy, each with a number of priority areas. The goals are:

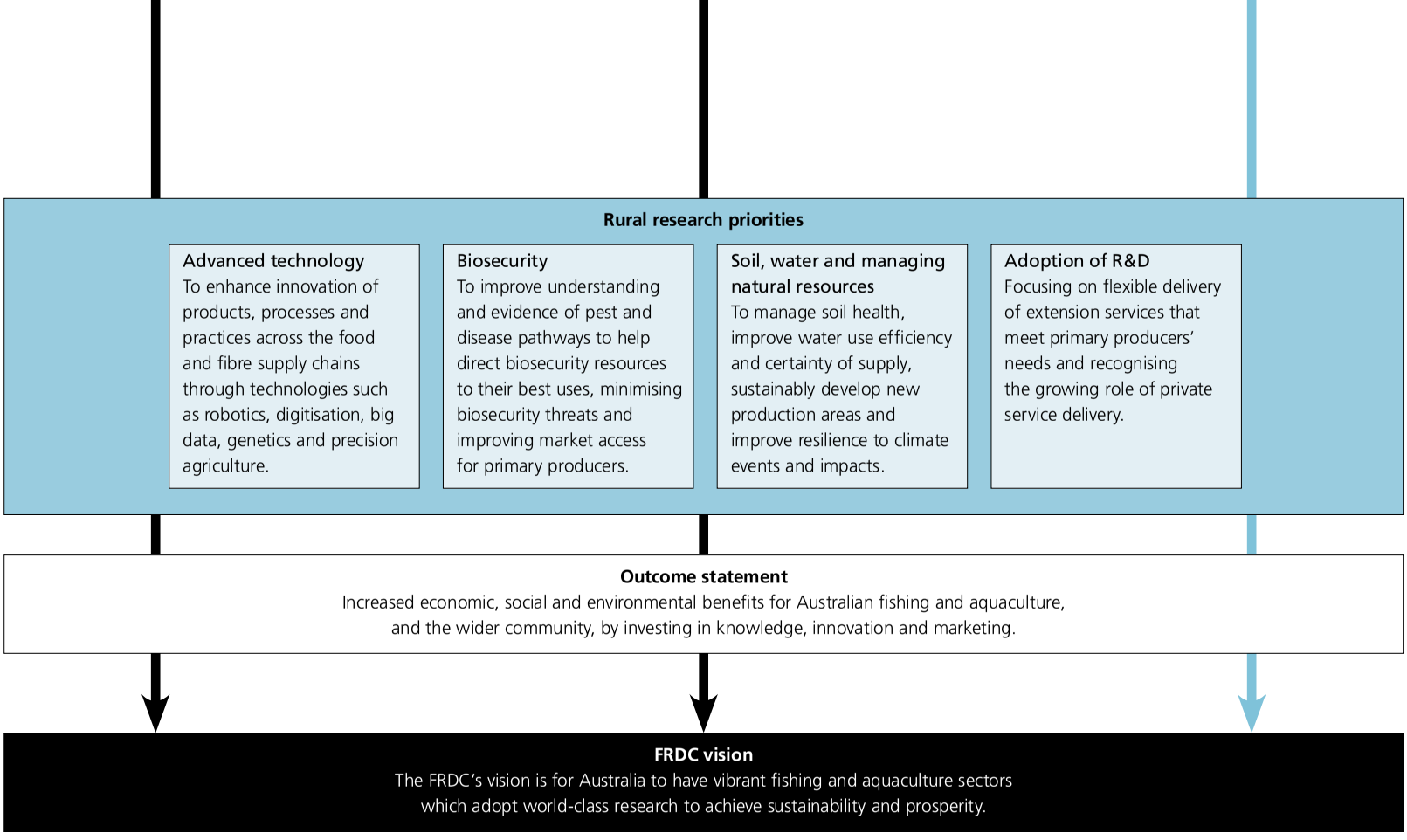
- Australia's fisheries and aquaculture sectors are well managed, and acknowledged to be, ecologically sustainable.
- Security of access to, and allocation of, fishing and aquaculture resources is improved.
- Benefits and value from fisheries and aquaculture resources (productivity and profitability) are maximised, and aquaculture production is increased.
- Governance and regulatory systems are streamlined.
- Health of the habitats and environments upon which fisheries and aquaculture rely are maintained.
- Aquatic animal health management is improved.

The goals and priority areas are designed to seize on opportunities in fishing and aquaculture as well as ensure that industries and activities using these natural resources will be able to continue to do so in the future.

The Governance Committee and associated Research Providers Network are committed to identifying major research in relevant areas of the Strategy and supporting researchers for the various types of RD&E to ensure a coordinated and collaborative approach is in place. Key to the Strategy is a strong monitoring and evaluation framework to ensure that researcher capability and technical expertise are available to deliver on the priority areas for fishing and aquaculture RD&E nationally.

FIGURE 3: THE FRDC'S FRAMEWORK FOR INTEGRATING LEGISLATIVE, GOVERNMENT AND INDUSTRY PRIORITIES

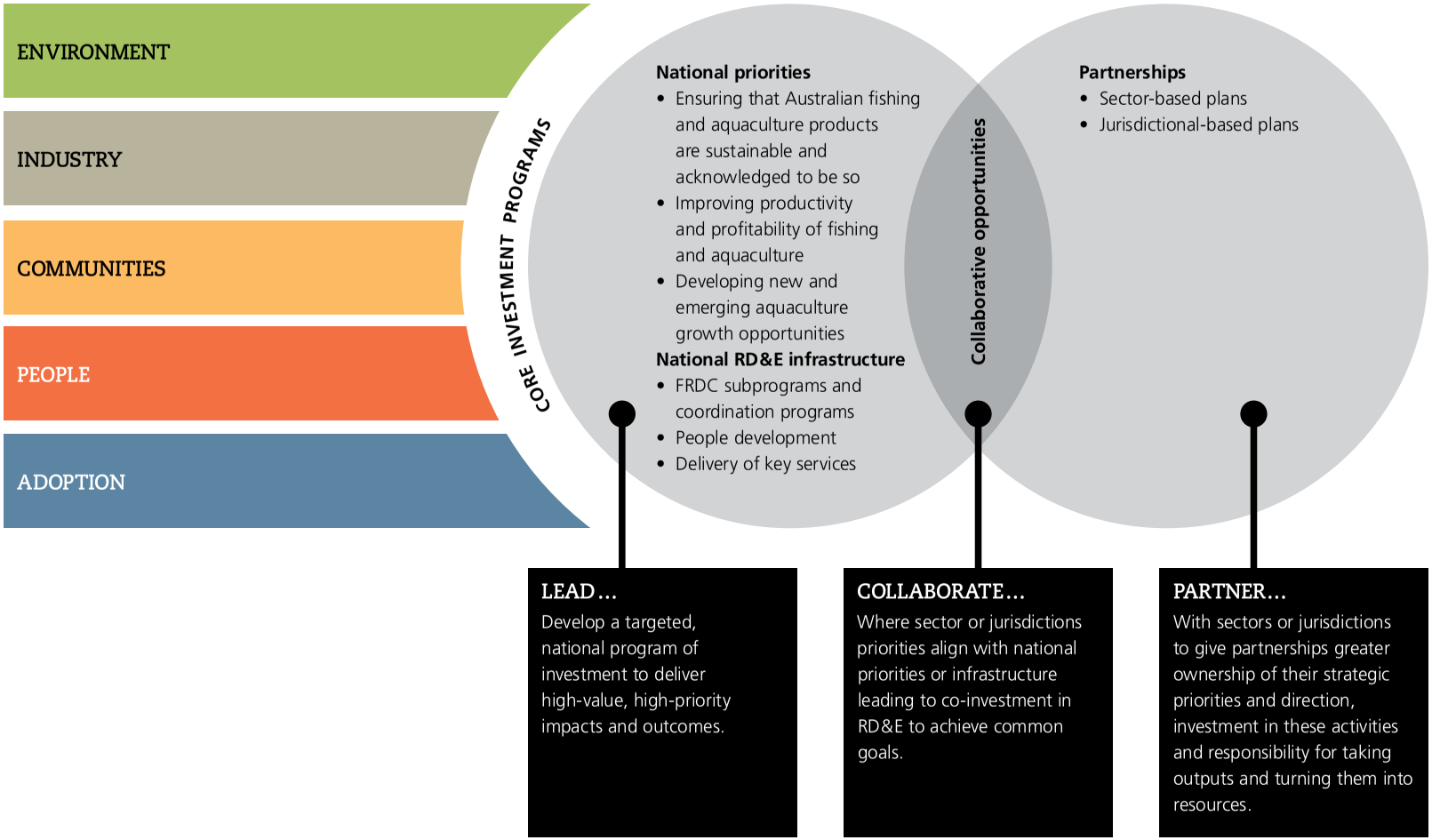



Rural research priorities
Advanced technology
To enhance innovation of products, processes and practices across the food and fibre supply chains through technologies such as robotics, digitisation, big data, genetics and precision agriculture.
Biosecurity
To improve understanding and evidence of pest and disease pathways to help direct biosecurity resources to their best uses, minimising biosecurity threats and improving market access for primary producers.
Soil, water and managing natural resources
To manage soil health, improve water use efficiency and certainty of supply, sustainably develop new production areas and improve resilience to climate events and impacts.
Adoption of R&D
Focusing on flexible delivery of extension services that meet primary producers' needs and recognising the growing role of private service delivery.
Outcome statement
Increased economic, social and environmental benefits for Australian fishing and aquaculture, and the wider community, by investing in knowledge, innovation and marketing.
FRDC vision
The FRDC's vision is for Australia to have vibrant fishing and aquaculture sectors which adopt world-class research to achieve sustainability and prosperity.

REPORT OF OPERATIONS PART 2

THE FRDC'S OPERATIONAL RESULTS

FIGURE 4: THE FRAMEWORK FOR RD&E INVESTMENT BY THE FRDC 2015–20



INPUTS TO OUTPUT

The FRDC has developed a flexible approach to how it funds projects to align with the principles of 'lead, collaborate and partner' in its current RD&E Plan (2015–20).

This means projects can sit under the categories of:

- national priorities or infrastructure, collaboration or partnerships (sector or jurisdiction), or
- FRDC's five foundation programs (Environment, Industry, Communities, People, Adoption).

See Figure 4 on the opposite page.

How to read the project reports

To show where each project or activity story in this section of the annual report sits within the FRDC's investment framework, it has been coded into the grid shown below. The grid shows the national priorities, infrastructure, collaboration or partnerships and FRDC's foundation programs. The purpose is to show that a single project can cross a number of fields, and allows the reader to see how a project fits within the investment framework.

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

For example, FRDC's investment in the SAFS Reports is funded under national priorities and collaboration but is also coded against FRDC programs — Environment, Communities and Adoption.

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

The tables on subsequent pages highlight the third year of progress towards achieving deliverables in FRDC's RD&E Plan 2015–20. These are expected to be completed or implemented throughout the life of the Plan. In the tables that show the status of deliverables, the icons below mean that activity:

	has been completed,
	is on track for completion,
	is underway,
	work is yet to start.

FRDC's RD&E Plan 2015–20 is available from—www.frdc.com.au

FRDC NATIONAL PRIORITIES

PRIORITY 1. Ensuring that Australian fishing and aquaculture products are sustainable and acknowledged to be so

Strategy

Continue to prioritise investment in RD&E that contributes to the sustainability of fishing and aquaculture, including consideration of target species; bycatch species; threatened, endangered and protected species; and the broader marine environment.

Build understanding of the drivers of social licence to operate and respond to community concerns and the needs for information with science-based evidence.

Principal inputs

During 2017–18, there was $2.14 million or around 8.23 per cent of the total RD&E investment for this priority.

Priority area activities	Portfolio Budget Statements (PBS) target 2017–18	Achievement
By 2020, the community has effective access to, and understanding of, RD&E that supports fishing and aquaculture sustainability and informs improved perceptions of Australian seafood.	Positive perception of the commercial fishing industry increases to 30%, measured through independently-commissioned FRDC stakeholder surveys.	The results from the 2018 research into community perceptions of the sustainability of the commercial fishing industry show that 36% of respondents believe the industry is sustainable.

The following table provides a guide to progress in achieving the deliverables in FRDC's RD&E Plan.

Output	Status	Comment
Information on the performance and value of Australia's fisheries is available.		Australian fisheries statistics and the SAFS Reports both provide overviews of production and worth of the industry. Whichfish, a pilot scheme provides independently commissioned assessments to rapidly screen for environmental risks of Australian wild-caught seafood using publicly available information. Assessments were peer reviewed and are publicly accessible online.
The number of species in the national SAFS Reports increases to include 200 species.		Planning for the 2018 [December] SAFS commenced. In 2018, the SAFS Reports will expand to cover 120 species.
RD&E has provided a basis to reduce the number of species classified as 'undefined' from the approximately 30% currently to less than 10%.		Current levels indicate undefined rates under 10%. Workshops have been undertaken in all jurisdictions to increase the use of methodologies to further reduce the number of undefined species (project 2017-102: Reducing the number of undefined species in future Status of Australian Fish Stocks Reports: Phase two—training in the assessment of data-poor stocks).
Positive perceptions of the commercial fishing industry increase from 28% to 40% by 2020 as measured through the independently-commissioned FRDC stakeholder survey.		The number of respondents who believe the community perception of the Australian fishing industry (as a whole) is sustainable is 36% in the independently-commissioned community perceptions survey.

Project activity during the year

Voting jump-starts seafood conversations

FRDC project 2016-136

For further information: Peter Horvat, peter.horvat@frdc.com.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

The FRDC created new fish and chips awards this year—both a people's choice category and a judged category selected from the people's choice finalists—to engage the Australian public in a conversation about seafood, integrating these with an existing industry-judged award.

Media interest helped raise the awards' profile, along with a healthy dash of parochial competition, typified by the enthusiasm of Senator Anne Ruston, the Assistant Minister for Agriculture and Water Resources who wholeheartedly threw her weight behind the awards, particularly in support of her home state, South Australia.

Over the seven months of the state and territory, and then national awards, judges travelled more than 22,000 kilometres to sample fish and chips across the entire country. There were more than 95,000 consumer votes for almost 1000 stores. The awards generated more than 200 media stories, 800,000 social media impressions and led to free publicity for many fish and chips stores in their local media.

There were some unexpected outcomes and definite lessons from this first foray into the food awards territory. The goal was to raise the profile of seafood in general and showcase why Australian seafood and potatoes are among the best in the world.

Despite the challenges, the FRDC believes the awards have positively raised the profile of seafood in Australia and looks forward to an even greater level of participation when the awards are next run. The winners will be announced in October 2018.

Access all areas

FRDC project 2015-041

For further information: Peter Horvat, peter.horvat@frdc.com.au

NATIONAL PRIORITY	INFRASTRUCTURE	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

The FRDC's revamped websites will provide unprecedented access to fisheries information for diverse audiences, from consumers and fishers to researchers, traders, managers and the media.

Centralising its information and data and connecting what were previously standalone websites into a suite of integrated sites is allowing the FRDC to make greater use of its resources and improve user experiences.

The shared information means that users can move easily between different content types. With the upgrade to Fishfiles and the FRDC's corporate site (frdc.com.au), all six of the FRDC's web portals will be connected around a central pool of information. The revamped websites offer a new interface, which is consistent across the FRDC's digital platforms; drawing on common sources of data to ensure consistency and accuracy across all websites.

Other websites include fish.gov.au, which hosts the SAFS Reports, and fishnames.com.au—the go-to point for names officially registered under the Australian Fish Names Standard. Additionally there is safefish.com.au, which focuses on the technical details of import and export food requirements, and carp.gov.au, the key portal for the National Carp Control Plan.

The biggest advantage of the new system is the integration of disparate sources of data and content into a publicly available platform that can be targeted towards particular purposes or user groups. Another advantage is that information is collected once, but used multiple times. This helps to maximise efficiency for the FRDC's small team, reduce errors and deliver targeted, relevant content across the different platforms.

Evaluation of fisheries data

FRDC project 2014-200

For further information: Andrew Tobin, admin@tobinfishtales.com

NATIONAL PRIORITY	INFRASTRUCTURE	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

The problems of managing data-poor fisheries have been the subject of much research in recent years. This project aimed to critique data collection methods by evaluating data robustness, identifying data gaps and exploring areas for improvement in two of Queensland's fisheries: reef line fishery for coral reef species and Spanish Mackerel, Mud Crab and Blue Swimmer Crab fishery. It also sought to explore data collection methods and provide an analysis of the costs and benefits of those methods and changes to existing processes and protocols.

The project found that misunderstandings about data are widespread across all sectors. A lack of communication and relationship building, particularly between fishers (data collectors) and managers (data custodians and users) has fishers and industry at odds with the current data collection processes. An urgent need to rebuild communication channels and develop resources in order to improve data collection and validation and to educate fishers about the need for data collection was identified.

PRIORITY 2. Improving productivity and profitability of fishing and aquaculture

Strategy

Invest in RD&E to understand the drivers of, and impediments to, productivity and profitability growth in all fishing and aquaculture sectors; research means of increasing sustainable production and profitability; link these to business education; encompass the needs of Indigenous communities.

Principal inputs

During 2017–18, there was $2.35 million or around 9.04 per cent of the total RD&E investment for this priority.

Priority area activities	PBS target 2017–18	Achievement
Provide RD&E to support increased trade of fishing and aquaculture products into countries with free trade agreements by 300% by 2020. Understand the quantity of potential production from Australia's fishing and aquaculture resources.	One report completed on quantity of potential production from Australia's fishing and aquaculture resources. Report detailing non-tariff barriers to trade.	Not complete, fishing and aquaculture resources report in progress which is due for completion 2018–19. Non-tariff barriers to trade report completed and submitted to the Department of Agriculture and Water Resources.

The following table provides a guide to progress in achieving the deliverables in FRDC's RD&E Plan.

Output	Status	Comment
Provide RD&E to support increased trade of fishing and aquaculture products into countries with free trade agreements by some 300%.		Trade database is being utilised by industry. Seafood Trade Advisory Group working with key sectors to improve exports.
Understand the quantity of potential production from Australia's fishing and aquaculture resources.		In 2017–18 the value of fish and aquaculture increased marginally to just over $3 billion. It is expected to grow in the coming year with expansion of aquaculture in key sectors.
Understand and improve the utilisation of fisheries resources by Indigenous Australians.		Partnered with Torres Strait Regional Authority to develop business and market plans for finfish and Mud Crab. FRDC Indigenous Reference Group undertaking scoping project to collect Indigenous catch data.
Identify obstacles and opportunities to increase productivity through habitat.		National Habitat Strategy in development (project 2015-501 Recfishing Research Subprogram: Empowering recreational fishers as champions of healthy fish habitat). Initiated project on calculating the value of habitat type to fishery production (project 2017-175: Linking ecosystem services to the profitability of prawn fisheries linked to project 2017-188). This is part of the Rural R&D for Profit Program.

Project activity during the year

FRDC sponsors innovation competition

FRDC project 2017-219

For further information: Peter Horvat, peter.horvat@frdc.com.au; Fish 2.0, info@fish20.org

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

In 2018, the FRDC will support the Fish 2.0 event in Australia. The goal is to improve the value of sustainable seafood ventures, create regional and international connections among enterprises that help ventures grow and to demonstrate a range of attractive opportunities to interested investors.

The FRDC is interested in Fish 2.0 as a way to link RD&E solutions with alternate funding models that accelerate products to commercialisation. This will come about through people applying to the competition with ideas that respond to sector needs and deliver through RD&E.

This is in line with the FRDC's RD&E Plan 2015–20 national priority 2: Improving productivity and profitability of fishing and aquaculture.

Data-smart fishing

FRDC project 2017-089

For further information: Patrick Hone, patrick.hone@frdc.com.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

The FRDC coordinated a workshop in Melbourne to help industry and government begin the development of a national data vision. The aim is to give the industry a lead role in developing the future of Australian fisheries 'digital data landscape'.

The future digital data, internet and cloud systems are going to be the largest transformation for fisheries in decades. Ensuring that this development is led by industry and government working together on a shared vision and strategy is critical to make the most of this opportunity.

The workshop attendees agreed that ensuring that ownership, privacy and governance processes are addressed to facilitate access and sharing of data would be critical to this development.

Developments already in the pipeline include the use of continuous digital data streams from satellite, ground radar and ocean current sensors to tell Western Rocklobster fishers where best to set their pots while avoiding losses from strong currents.

PRIORITY 3. Developing new and emerging aquaculture growth opportunities

Strategy

Identify research constraints to industry growth—such as potential markets, cost of production, survival, deformities and uniformity of growth—and invest in RD&E to identify opportunities for successful and competitive commercial activity.

Principal inputs

During 2017–18, there was $1.21 million or around 4.65 per cent of the total RD&E investment for this priority.

Priority area activities	PBS target 2017–18	Achievement
There are two to three new aquaculture species that are seeing good productivity and profitability growth as measured by an increase in tonnage from other species.	One thousand tonnes of additional production [above 2016–17 figure].	National government production statistics not available. Production for 2017–18 for Yellowtail Kingfish, Cobia, Barramundi and Queensland Groper has increased.

The following table provides a guide to progress in achieving the deliverables in FRDC's RD&E Plan.

Output	Status	Comment
Advance two or more new or emerging aquaculture opportunities/species for which RD&E has identified clear opportunities and technologies for good production and profitability growth, as measured by increases in harvest tonnages.		Forecasts and individual company records indicate that production will have exceeded the 2017–18 target. The three-year R&D for Profit Program project that is developing new white fish (Yellowtail Kingfish) has continued to provide information and assist the two new growers in New South Wales and Western Australia. Both new farms produced fish and overcame major issues with production.

Project activity during the year

Prawn farmers regroup

FRDC projects 2011-724, 2014-242, 2017-103, 2017-165

For further information: Serena Zipf, szipf@rockypointaquaculture.com.au; and Richard Knuckey, rknuckey@thecompanyone.com

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

Queensland's Rocky Point Aquaculture is cutting its losses to farm fish species, after the White Spot Disease hit its prawn farming operations on the Logan River. Instead of prawns, the Zipf family, owner–operators of the company, have used their knowledge of aquaculture and its business infrastructure to grow and market two new fish products, Queensland Groper and Cobia.

Rocky Point Aquaculture was approached by Richard Knuckey about farming Queensland Groper (also known as Giant Grouper). Richard is general manager of The Company One and a member of the new FRDC-funded project investigating farming fish in the Logan River.

Queensland Groper fingerlings are now being grown indoors in a hatchery facility before being moved to a nearby lake. As well as Queensland Groper production, the Zipfs decided to try Cobia farming, with support from the Queensland Department of Agriculture and Fisheries' (DAF) Bribie Island facility.

Rocky Point also offered Queensland DAF the opportunity to evaluate Cobia performance in a tank-based system, a valuable addition to its existing Cobia research, which had focused on pond aquaculture. It also fits with the department's aim of expanding opportunities for Cobia aquaculture in Queensland.

The FRDC-funded project is also evaluating both species' performance within indoor biosecurity aquaculture systems and then growing them in ponds. If successful, the species could be overwintered indoors before being moved to ponds belonging to other affected prawn farms. Although fish farming is still in its early days, it has helped the Zipfs move on from the devastation of White Spot Disease.

Kingfish research gathers momentum

FRDC projects 2016-200.40, 2016-117

For further information: Steven Clarke, steven.clarke@sa.gov.au; Wayne Hutchinson, wayne.hutchinson@frdc.com.au; Wayne O'Connor, wayne.o'connor@dpi.nsw.gov.au

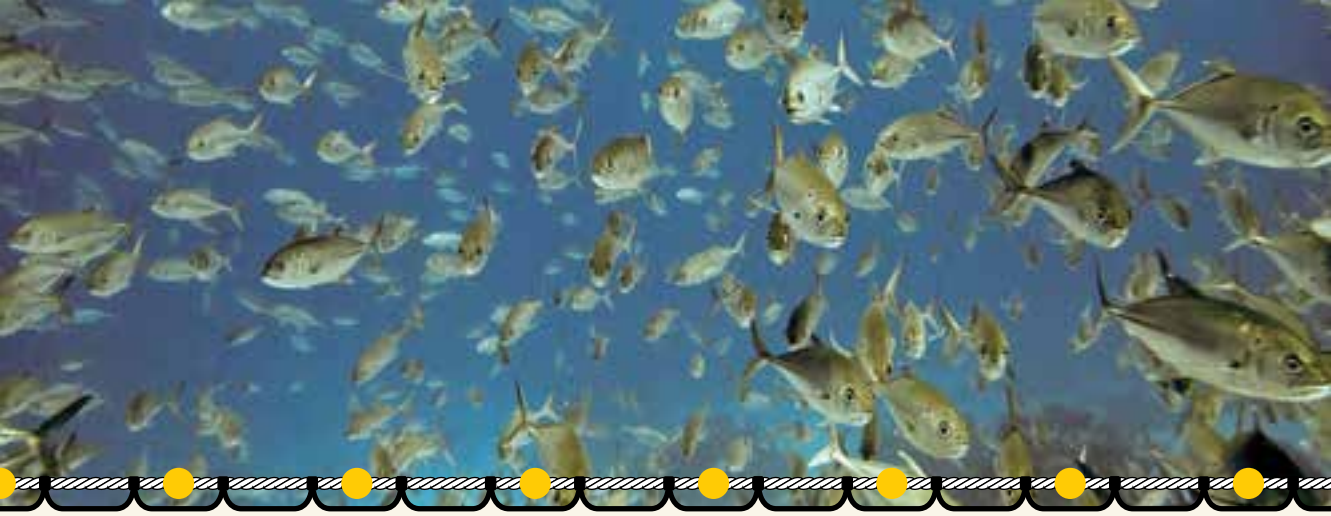
NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

The 'Kingfish for Profit' (K4P) initiative is in the final year of a three-and-a-half-year national program and researchers have identified several fish health and nutrition 'signposts' to help improve the viability of Yellowtail Kingfish (*Seriola lalandi*) aquaculture as it continues to expand in Australia.

The $6 million K4P initiative is part of the Rural R&D for Profit Program. It is coordinated through the FRDC, which oversees research by the New South Wales Department of Primary Industries and the South Australian Research and Development Institute in collaboration with industry partners Clean Seas Seafood, Huon Aquaculture, Ridley Aqua Feed and Skretting Australia.

The aim of the K4P research project is to bring an affordable, consistently available farmed 'white' fish to market in Australia—a companion to the increasingly popular Atlantic Salmon. This is being achieved through evaluations of nutritional requirements and alternative feed ingredients, developing better feeding strategies for different environmental conditions and growth stages, and gaining a greater understanding of the interaction between nutrition and health of farmed Yellowtail Kingfish. Results from completed trials have been provided to collaborating feed companies and kingfish growers to improve productivity and profitability of this expanding aquaculture industry.

The FRDC also funds other Yellowtail Kingfish aquaculture research in line with its national research priority 3: Developing new and emerging aquaculture growth opportunities. This continues its historical investment in this species, which was previously conducted through the Australian Seafood CRC.



NATIONAL RD&E INFRASTRUCTURE

The FRDC has three subprograms (Aquatic Animal Health and Biosecurity, Recfishing Research and the Indigenous Reference Group) and one coordination program (Social Science and Economics Research Coordination).

The FRDC will continue to use the system of nation-wide groups and lead in these areas of RD&E. It will also lead in the areas of people development and service delivery.

Principal inputs

During 2017–18, there was $6.5 million or around 25 per cent of the total RD&E investment for this priority.

Strategies

- Continue to invest in leadership capacity building.
- Co-invest with partners in other areas of capacity building.
- Invest with universities in students to study marine science-specific topics relevant to the FRDC's stakeholders.
- Collect and analyse data to better understand the training needs of fishing and aquaculture.
- Partner in the development of research centres of excellence.

The table that follows provides a guide to progress in achieving the deliverables in FRDC's RD&E Plan.

Measure	Targets 2017–18	Output
People development		
Continue to invest in people development and leadership.	Targets for this subprogram are aligned to the People program.	• Achieved. National Seafood Industry Leadership Program completed with 16 people participating. This year there were two courses funded due to high demand. • Catch the drift program was trialled in Victoria as part of a grassroots leadership program. Project 2016-401 Catch the drift: Leadership and development training for the next generation in the commercial fishing and aquaculture industries. • Helen Jenkins of the Australian Prawn Farmers Association and Alex Ogg of the Western Australian Fishing Industry Council graduated from the Australian Rural Leadership Program. • A number of bursaries were given out for national and international study. Participants travelled to Brussels and London to learn about international markets. • Two industry people received Nuffield Australia Farming Scholarships to study innovative practices in the fishing or aquaculture sectors. • Young Science and Innovation Awards Scholarship awarded.
Recfishing Research		
• Provide investment capacity for the recreational fishing sector. • Deliver on identified recreational RD&E needs. • Invest data collection on social and economic impacts which is comparable with other sectors. • Invest in people development activities for this sector.	National recreational fishing survey on economic and social values. Young recreational fishers take part in leadership program.	• Project by ABARES underway to initiate the national recreational fishing survey. • Participation in the 8th international recreational fishing conference followed by educational activities.
Human Dimensions		
Continue to encourage stakeholders to use Human Dimensions expert group to aid investment in this area.	Understanding the social importance of fisheries to communities.	• Commenced a Victorian survey to understand the social and economic value of the fishing sector to Victorian communities. • Committed funds to a national social and economic study.

Measure	Targets 2017–18	Output
Aquatic Animal Health and Biosecurity Subprogram (AAHBS)		
Maintain the AAHBS, ensure adequate investment in risk areas and this expert group is used by FRDC stakeholders when required.	Two projects to address White Spot Syndrome Virus. One project to fast track vaccine development.	• FRDC continues to invest in addressing White Spot Syndrome Virus. These include projects to re-establish farming in affected areas. THE AAHBS continues to provide technical advice regarding projects addressing White Spot Syndrome Virus. • One project completed to increase speed of development of vaccines for Atlantic Salmon pilchard orthomyxovirus.
Indigenous Reference Group		
Maintain the Indigenous Fishing Subprogram and ensure extension of priorities to all FRDC stakeholders.	Three projects relating to fishery and product development for Torres Strait fisheries.	The FRDC partnered with the Torres Strait Regional Authority to develop two projects that addressed business and market development needs for finfish, rock lobster and Mud Crab.
Key services		
Maintain FRDC's accreditation for standards development.	Accreditation maintained.	Achieved.
Supply trade and market access data and fisheries statistics.	Data analysis tools developed.	Achieved. See www.frdc.com.au/Services/Seafood-Trade-and-Market-Access.

Project activity during the year

Northern exposure—8th World Recreational Fishing conference

FRDC project 2016-129

For further information: Frank Prokop, fprokop60@gmail.com

NATIONAL PRIORITY	**INFRASTRUCTURE**	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	**PEOPLE**	ADOPTION

An Australian delegation of 38 attended the official 8th World Recreational Fishing Conference held in July 2017 in Vancouver, Canada which was attended by 396 delegates representing 21 countries.

The FRDC provided travel bursaries for 10 members of the Australian delegation through its Recfishing Research Subprogram in support of emerging leaders in the sector. Sponsored delegates included recreational fishing journal *Fishing World*'s Jamie Crawford; Sam Williams, a marine science PhD candidate at the University of Queensland; Isaac Tancred, a Western Australian tackle manufacturer; and Jackson Davis, a competition angler from New South Wales.

Sponsored recreational peak body representatives included Evan Dixon, a competition angler and Amateur Fishermen's Association of the Northern Territory committee member; Michael Burgess, executive officer for VRFish, Victoria; James Florisson, research officer at Recfishwest, Western Australia; and Travis Preece, northern Tasmanian regional representative for TARFish, Tasmania.

The FRDC also provided academic travel bursaries to Tasmanian fisheries scientist Sean Tracey and Domenic Holland, who works in the retail fishing tackle industry in Western Australia and is completing a degree in marine science.

After the conference, the group began a week-long study tour through southern British Columbia, investigating the challenges faced and the programs and initiatives that support the longevity and sustainability of Canada's recreational fishing sector.

Ranger research helps protect fishing favourites

FRDC project 2013-017

For further information: Thor Saunders, thor.saunders@nt.gov.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

The need to know more about the stock structure of three vulnerable tropical reef species has been used as an opportunity to build capability in Indigenous communities in the Northern Territory, providing multiple benefits for government agencies and local people.

A collaboration involving the FRDC, the Northern Territory Government, several universities and research agencies across northern Australia has resulted in a wealth of new fisheries data to improve the management of Black Jewfish, Golden Snapper and Grass Emperor.

It has also provided a new training curriculum and a successful cohort of graduates, many of whom have already moved into new job roles.

Increased capability in Indigenous communities has the potential to both increase employment opportunities in those communities and reduce the costs of doing research in these remote areas.

COLLABORATE

The FRDC will provide the means so that sectors or jurisdictions may leverage funding where there is alignment between their RD&E priorities and those at the national level. This will encourage sectors to collaborate. Specific areas of RD&E such as people development, service functions and social sciences will be actively supported by the FRDC.

Principal inputs

During 2017–18, there was $0.35 million or around 1 per cent of the total RD&E investment for this program. It is important to note that the $600,000 fund sits above the normal funding and collaboration, and acts as a bonus to encourage other partners in projects.

The following table provides a guide on the progress FRDC has made in meeting its output target.

Activity	Input	Status	Comment
Incentive Fund	Invest $600,000 into collaborative projects.		In 2017–18, a number of projects met the criteria for the incentive fund during the year. In total $271,000 were invested as part of the fund. The following projects are examples: • National Seafood Industry Leadership Program completed with 16 people participating. This year there were two courses funded due to high demand. Courses start in February and April and finish in September and November. • Responding to the need to improve the safety record of Australia's fishing and aquaculture sector, the FRDC is investing in a number of safety and welfare projects.

Project activity during the year

Focus on ocean workplace safety

FRDC projects 2017-046, 2017-194

For further information: www.frdc.com.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

Putting marine safety front and centre, the FRDC is set to launch its new National RD&E Marine Safety and Welfare Initiative, working with industry partners such as Austral Fisheries and the Western Australian Fishing Industry Council.

The FRDC's national research initiative will build on and broaden previous FRDC investment in this area, committing research funding around the following four key areas.

Education: The development of electronic learning tools to facilitate the uptake of knowledge required for an improved culture of safety awareness, including general workplace safety requirements under workplace health and safety legislation and Australian Maritime Safety Authority legislation (project 2017-194).

Adoption of a new 'safety focused' culture within the industry: For example, through the promotion of 'marine safety champions' or the development of capabilities to ensure that safety regulations are adopted.

Behaviour, understanding and influencing: For example, to understand the inhibitors and motivators for behaviour change in relation to industry safety (project 2017-046).

Coordination and communication: The initiative will establish a coordination and communication hub to ensure all FRDC marine safety projects are linked and collaborate effectively, and will establish a process for collecting and reporting statistics on marine safety and welfare.

As part of the national initiative the FRDC is in discussion with further industry partners and organisations who share a vision to make commercial fishing a safe workplace and an attractive one for young people to work in.

PARTNER

Jurisdictional and industry sector research priorities

Under partnership agreements the RD&E priority-setting process will be led by the relevant sector or jurisdiction. As part of this process the FRDC has put in place a requirement that each group maintain a balanced portfolio (see the table that follows, pages ii–iii and 20). Project selection and approval while accepting recommendation from the groups remains the responsibility of the FRDC Board.

Industry Partnership Agreements

Principal inputs

During 2017–18, there was $7.5 million or around 29 per cent of the total RD&E investment for partnership agreements. This is 8 per cent below the AOP forecast budget.

The following table provides a guide on the progress FRDC has made in meeting its output target.

IPA with	Targets 2017–18	Rating	Output
Australian Abalone Growers Association (AAGA)	Implement RD&E Plan. See plan for key performance indicators (KPIs).		RD&E Plan implemented and projects beginning on KPIs such as development of sector-specific biosecurity planning and nutritional work to improve productivity.
Australian Barramundi Farmers Association (ABFA)	Implement RD&E Plan. See plan for KPIs.		RD&E Plan implemented including real-time monitoring and mechanisation to address biosecurity and productivity priorities.
Abalone Council Australia (ACA)	Implement RD&E Plan. See plan for KPIs.		Major planning for RD&E Plan undertaken which is due to be finalised in 2018–19.

IPA with	Targets 2017–18	Rating	Output
Australian Council of Prawn Fisheries (ACPF)	Implement RD&E Plan. See plan for KPIs. Supply chain efficiency gains documented for wild-catch prawns. Continual improvement in the environmental performance of Australia's wild-capture prawn fisheries.		RD&E Plan implemented (available at www.australianwildprawns.com.au/wp-content/uploads/2017/02/ACPF-RDE-Plan-FINAL.pdf) with projects starting to address a number of priority areas: • education for retailers and consumers, • product provenance, • further work on bycatch reduction and fishing vessel and gear efficiency.
Australian Prawn Farmers Association (APFA)	Implement RD&E Plan. See plan for KPIs.		RD&E Plan 2018–22 in development. The following projects addressing nominated priorities are progressing: • Disease. RNA [ribonucleic acid] interference treatment of brood stock to reduce disease impacts in farmed prawns (project 2015-240). • Sustainability best practice. Investigating the use of trace element profiles to substantiate provenance for the Australian prawn industry (project 2016-261). • Biosecurity. Assessment of frozen uncooked imported prawns for antimicrobial-resistant micro-organisms of aquaculture and public health significance and residues of Ag-vet chemicals (project 2017-091).
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	Implement RD&E Plan. See plan for KPIs.		RD&E Plan 2013–18 complete. Future RD&E Plan to align with new FRDC–ASBTIA IPA iteration which is in development.
Oysters Australia (OA)	Implement RD&E Plan. See plan for KPIs. Invest in enhancing Pacific Oyster breeding; accelerated Sydney Rock Oyster breeding research; new technologies to improve Sydney Rock Oyster breeding and production.		RD&E Plan implemented. Projects addressing genetic selection for resistance to Pacific Oyster mortality syndrome (project 2012-760) and genetic services for the multi-trait, single pair-mated Sydney Rock Oyster breeding program (project 2015-230) are progressing.

IPA with	Targets 2017–18	Rating	Output
Pearl Consortium (Pearls)	Implement RD&E Plan. See plan for KPIs.		RD&E Plan implemented. Projects being progressed to address nominated priorities include: • greater understanding of technical, biological, husbandry and environmental factors affecting pearl production and quality, • improved husbandry methods to improve pearl quality, minimise work health and safety risks and reduce the production cost per oyster.
Southern Rocklobster Limited (SRL)	Implement RD&E Plan. See plan for KPIs. Invest in improved pot design and risk assessment of biotoxin events. Conduct a risk assessment on current bait supplies and traceability systems. Establish a formal relationship with the seafood processing sector. Investigate marketing development opportunities.		RD&E Plan implemented (www.southernrocklobster.com/assets/SRL_Strategy_2022.pdf). Projects being progressed include: • assessing the efficiency of alternative pot designs for the Southern Rocklobster fishery (project 2016-258), • field trials to experimentally test if alternative sea lion excluder devices adequately prevent Australian sea lions from entering rocklobster pots (project 2016-055). Project 2017-086: Improved risk management of paralytic shellfish toxins in Southern Rocklobster has commenced. The Australian Southern Rock Lobster Exporters Association is now a member of the Southern Rocklobster Limited Board and are working together on supply chain-related project ideas.
Tasmanian Salmonid Growers Association (TSGA)	Implement RD&E Plan. See plan for KPIs.		TSGA priorities continue to be around vaccine development and research to underpin expansion: • One project completed to increase speed of development of vaccines for Atlantic Salmon pilchard orthomyxovirus. • A program of research is being developed to underpin expansion opportunities in the Storm Bay region of Tasmania.
Western Rocklobster Council (WRLC)	Implement RD&E Plan. See plan for KPIs. Demonstrate the Western Rocklobster fishery's value to the state's economy and regional communities with evidence-based information. Invest in building human capacity, improving professionalism, developing future leadership.		RD&E Plan implemented (www.westernrocklobster.org/wpcontent/uploads/2018/04/Strategic-Plan-reviewed-March-2018.pdf). Project completed to determine the economic contribution of the Western Rocklobster industry to Western Australia.

Research Advisory Committees

Principal inputs

During 2017–18, there was $5.34 million or around 21 per cent of the total RD&E investment for jurisdictional RACs. This is 6 per cent below the AOP forecast budget.

RACs are in place with the Commonwealth (COM), New South Wales (NSW), the Northern Territory (NT), Queensland (QLD), South Australia (SA), Victoria (VIC), Tasmania (TAS) and Western Australia (WA).

The following table provides a guide on the progress FRDC has made in meeting its output target.

RAC	Targets 2017–18	Status	Comment
COM-RAC	Identify opportunities for investment in people development. Develop mechanisms for stakeholder engagement and priority setting that are independent of and augment the Australian Fisheries Management Authority's (AFMA) Management Advisory Committees/Resource Assessment Groups and AFMA Research Committee processes.		People development is explicit with the RACs RD&E Plan (www.frdc.com.au/Partners/Research-Advisory-Committees/COM-RAC). Mechanism developed and to be trialled in 2018–19 regarding stakeholder consultation to identify priorities.
NSW-RAC	Identify opportunities for investment in people development. Develop mechanisms for regular and improved stakeholder engagement and priority setting. Produce the new five-year NSW-RAC RD&E plan.		People development is being included in the RD&E Plan. As part of finalising the RD&E Plan, mechanisms are being discussed regarding improved stakeholder engagement. Final draft provided to the RAC for endorsement.
NT-RAC	Identify opportunities for investment in people development. Develop mechanisms for regular and improved stakeholder engagement and priority setting, starting with a call for expressions of interest from selected consultants. Produce five-year NT-RAC RD&E plan.		As part of the RD&E Plan development, people development is being considered. One project completed to identify stakeholder priorities and mechanisms for their collection (project 2016-504: NT-RAC: Stakeholder engagement, research and development priorities). Project commenced to develop RD&E Plan (project 2016-116: Development of a five-year sector and NT Strategic RD&E Plan for Northern Territory fisheries and aquaculture based on priority needs of major stakeholder sectors).
QLD-RAC	Identify opportunities for investment in people development. Develop mechanisms for regular and improved stakeholder engagement and priority setting.		As part of the RD&E Plan development, people development is being considered. Mechanism to engage each sectors working group have been established. This is to be discussed with the Queensland Department of Agriculture and Fisheries for the annual stakeholder workshop.

RAC	Targets 2017–18	Status	Comment
SA-RAC	Develop mechanisms for regular and improved stakeholder engagement and priority setting, likely through the SA-RAC Executive Officer establishing a fixed role in the Primary Industries and Regions SA (PIRSA) and fisheries industry executive officers meetings. Determine if the SA-RAC has a role in planning the 2020 World Fisheries Congress in Adelaide.		Options paper completed on engagement strategies for further consideration by the SA-RAC and also to be presented at the annual stakeholder workshop. Scoped the establishment of a fixed role which was found to be unfeasible and therefore discontinued. Scoped whether the SA-RAC has a role in the planning of the World Fisheries Congress. Given that planning committees are already established it was felt that further structures or involvement was unnecessary.
TAS-RAC	Establish new RAC structure. Produce the new TAS-RAC RD&E Plan. Develop formal processes to ensure continued linkages between the Tasmanian Research Advisory Committees and Research Advisory Groups priority-setting structures and TAS-RAC. These are to be defined in the TAS-RAC RD&E Plan.		New RAC structure established and finalised. New TAS-RAC RD&E Plan completed (www.frdc.com.au/Partners/Research-Advisory-Committees/TAS-RAC). Linkages between the TAS-RAC and Research Advisory Groups priority-setting processes established.
VIC-RAC	Develop mechanisms for regular and improved stakeholder engagement and priority setting.		Mechanism developed and to be trialled in 2018–19 regarding stakeholder consultation to identify priorities.
WA-RAC	Identify opportunities for investment in people development. Continue implementing mechanisms for stakeholder engagement and priority setting that are independent of representative bodies.		Support opportunities for people development including support for Morgan Hand to attend National Seafood Industry Leadership Program (project 2017-003), support for Department of Primary Industries and Regional Development, Recfishwest, Southern Seafood Producers (WA) Association and Western Australian Fishing Industry Council to attend the Engaging Leaders Innovating across Sectors program (project 2017-250). Mechanisms for stakeholder engagement and priority setting that are independent of representative bodies are still being scoped.

Project activity during the year

The blue waters of salmon farming

FRDC project 2017-149

For further information: Tasmanian Salmonid Growers Association; www.tsga.com.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

Is the future of Atlantic Salmon farming in Australia at sea, or all ashore? It is an issue that has generated much local debate in the state of Tasmania and was a focus of the 'Planning for a Blue Future' Global Salmon Symposium in Tasmania in December, along with biosecurity and environmental issues.

Held at the University of Tasmania in Hobart, the FRDC-sponsored event was coordinated by the university and Atlantic Salmon production companies, recognising that the industry is 'at a crossroads' in Australia.

The symposium brought local players together to learn from government, production and research leaders from Norway, Denmark, the Faroe Islands, Scotland and Canada, who provided examples of the issues that have shaped the industry in their countries.

Local participants are keen to provide a common direction to development so that, going forward, they can better meet the challenges of increasing production in a sustainable way and address community concerns.

On a global scale, Tasmania's industry may be 'boutique', but in Tasmania, and in Australian terms, it is big business and a leading example of industrialised food production. That, in itself, generates some opposition. But Atlantic Salmon producers effectively put more fresh, locally grown fish on Australian tables than any other species, with all the attendant health, economic and social benefits that this brings.

The 2017 'Planning for a Blue Future' symposium was the precursor for a larger Global Salmon Symposium to be held in Tasmania later in 2018.

Antarctic opportunities spur joint investigations

FRDC project 2015-036

For further information: www.frdc.com.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

Australian fishers operating in the most remote of our Southern Ocean fisheries have entered an IPA with the FRDC to better coordinate and consolidate research efforts, including international collaborations.

Australia's subantarctic fisheries include areas around Heard Island and McDonald Islands, and Macquarie Island. Australia also has fishing rights in the Ross Sea and Amundsen Sea in the Antarctic region, which are managed by the international Commission for the Conservation of Antarctic Marine Living Resources of which Australia is a member.

The two Australian companies targeting Patagonian Toothfish and Antarctic Toothfish in these regions are Austral Fisheries and Australian Longline. And while the Amundsen Sea icefish fishery is still considered to be in a 'research' phase of development, the Heard Island and McDonald Islands Toothfish Fishery, Macquarie Island Toothfish Fishery and Ross Sea Toothfish Fishery have received Marine Stewardship Council certification.

The companies have recently entered into an IPA with the FRDC for five years. The agreement manages the industry contribution to the FRDC alongside the Australian government's matching contribution to invest in a strategic RD&E plan to meet identified needs. This agreement also provides the potential to leverage funds from other Australian and international sources.

Cooperative approach on seismic impacts

FRDC projects 2012-008, 2014-041, 2017-142, 2017-186

For further information: Johnathon Davey, Seafood Industry Victoria, johnd@siv.com.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

The last wild-stock fishery of the Silverlip Pearl Oyster, the world's largest and rarest pearl oyster, lies just offshore from the remote Eighty Mile Beach in north-west Western Australia. These wild oysters have been sustainably harvested by Australia's pearling industry for more than 150 years.

The region has also recently attracted the attention of the oil and gas exploration industry. The Canning Basin and Roebuck Basin each harbour potentially rich oil and gas reserves. But locating these reserves requires seismic surveying of these basins—the same areas that are home to the Silverlip Pearl Oyster broodstock.

Research suggests that the undersea exploration for mineral resources using seismic surveying could cause damage to commercially valuable fisheries such as rock lobster, scallops, pearl oysters and finfish. Three years ago the seafood industry and the oil and gas exploration industry were locked in what appeared to be an intractable conflict.

Fast forward to 2018, and the two industries are working to find common ground. Seismic operators and the oil and gas industry are not only listening to the concerns of the seafood industry, but energy companies such as Quadrant Energy are also helping fund research to better understand how seismic surveys might impact upon marine life.

This research is being undertaken by the Australian Institute of Marine Science under the 'North West Shoals to Shore' research program. The 'marine noise monitoring and impacts' part of this program will investigate the impacts of seismic noise on finfish and pearl oysters.

Australia is far from the only nation wrestling with the challenge of seismic surveying around commercially valuable fisheries. Aaron Irving and his colleague Johnathon Davey, the executive director of Seafood Industry Victoria, were funded by the FRDC to present at the 5th Sustainable Ocean Summit in Halifax, Canada, in 2017, on the unfolding situation in Australia.

Joint approach aids abalone recovery

FRDC projects 2005-024, 2007-066, 2008-076, (Tactical Research Fund number) 2012-236

For further information: Harry Peeters, info@wada.com.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

The rebuilding of abalone stocks in south-western Victoria over the past decade provides a world-first model for the recovery of the species, combining painstaking data collection and careful management with fisher-led initiatives to preserve breeding stock.

A decade ago, predictions for the future of the state's Western Zone Abalone Fishery, from Warrnambool to the South Australian border, were dire. Abalone viral ganglioneuritis had wiped out up to 80 per cent of the wild abalone in the zone after being detected in 2006; the herpes-like virus brought commercial harvesting to a standstill.

But a decade later the affected reefs have seen a remarkable recovery, with breeding populations re-established, the decline in abalone stocks reversed and quotas climbing, albeit slowly.

The recovery has been attributed to a combination of extensive data collection and analysis, careful monitoring, use of cutting-edge technology, conservative fishing efforts and increasing the minimum size limit for harvesting to protect spawning animals.

The future of the industry is looking up, new opportunities are also opening overseas. Abalone now being harvested average 137 to 141 millimetres, allowing the industry to venture into the live export of large abalone to China, attracting a premium price for their shellfish.

OUTPUTS—ANALYSIS BY FRDC PROGRAM

PROGRAM 1: ENVIRONMENT

Australia has a broad range of freshwater and marine habitats that support a diverse range of aquatic species. Australia's maritime zone is one of the largest in the world covering about 13.6 million square kilometres which is about twice the area of Australia's land mass. This zone contains about 4500 known species of finfish (and perhaps tens of thousands of invertebrate species)—most in relatively small numbers.

Federal, state and territory government agencies have legislative responsibility under fisheries legislation and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for managing the fisheries and aquaculture activities within their jurisdictions.

Principal inputs

During 2017–18, there was $7.94 million or around 31 per cent of the total RD&E investment. This is 2 per cent below the annual operational plan forecast budget.

Performance indicators	Targets 2017–18	Status	Comment
Demonstrate improved sustainability performance from the use of RD&E outputs. Development of innovative technologies to reduce fishery take and interaction with bycatch and with threatened, endangered and protected (TEP) species.	Conduct field trials to assess gear development that may reduce TEP species interactions (with pots).		Field trials undertaken through project 2016-258: Assessing the efficiency of alternative pot designs for the Southern Rocklobster (*Jasus edwardsii*) fishery, and project 2016-055: Field trials to experimentally test if alternative sea lion excluder devices adequately prevent Australian sea lions from entering rock lobster pots.
Improvement in understanding of the impacts of climate change that leads to adaptation by fisheries management and industry. Development of mitigation methods to reduce greenhouse gas emissions of industry.	One report on alternate energy sources in aquaculture.		Company has ceased operation. Report unlikely to be delivered.

Performance indicators	Targets 2017–18	Status	Comment
Development of mechanisms and technologies to collect economic, environmental and social data to inform management processes. Improvement in knowledge of the relationship between environmental processes and known biological processes. Development of techniques for incorporation of ecosystem-based fisheries management in fisheries. Development of knowledge to help the industry to meet environmental standards.	Establish framework regarding data provision for SAFS, facilitating data provision to the public. Invest in improved scientific methodologies to support biomass assessments (daily egg production method, close kin).		Developing template for data provision and dissemination for all jurisdictions (currently trialled in Queensland). Further developing SAFS outputs for the general public. Research using close kin genetics for School Shark biomass estimation nearing completion.

Reporting in relation to the EPBC Act

Section 516A requires annual reports for Commonwealth entities to report against the criteria set out in this section of the Act. The section requires the FRDC to outline how it impacts on the environment through its activities. FRDC's annual report covers its two primary functions—its internal operations and footprint and the external projects it funds.

RD&E project management

The FRDC identifies RD&E needs, and the means of addressing them, through a planning process and by entering project agreements with research providers. Management of fisheries RD&E involves reporting against economic, environmental and/or social outcomes at a strategic level through this annual report, and in more detail in the final reports for projects.

As part of the assessment and contracting for projects, the FRDC looks at a range of factors including their environmental impacts, and ensures that appropriate approvals are in place and are obtained. The FRDC project agreement sets out a range of obligations to ensure that not only the FRDC meets its obligations, but researchers working on FRDC-funded projects also adhere to that high standard. Not only does the agreement require researchers to comply with relevant legislation, such as the EPBC Act, it requires that where a project involves changes to the natural environment, or can have an effect on the natural environment that the researchers must ensure all necessary permits or licences are obtained from the relevant state, territory or Commonwealth authority. In addition, where an interaction (death or serious injury) occurs with a threatened, endangered or protected species the FRDC must be notified within 10 days.

Large components of the RD&E undertaken by the FRDC focus on providing information that will a ssist these agencies improve the sustainable use of Australia's aquatic resources. The projects outlined on the following pages highlight the diversity and excellence of the FRDC's current research portfolio. For a full listing of projects funded visit the FRDC website—www.frdc.com.au.

Project activity during the year

Habitats of a lifetime

FRDC project 2013-046

For further information: Marcus Sheaves, marcus.sheaves@jcu.edu.au

NATIONAL PRIORITY	INFRASTRUCTURE	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

Research carried out in north-east Queensland delves into the detail of habitats that tropical fish species depend upon at different stages of their development. To do this, researchers at James Cook University have developed life cycle–habitat matrices to help better identify and protect areas in the Hinchinbrook region that are crucial.

While significant research has previously been undertaken on the habitats of adult fish—the age at which they are most targeted by fishers—little has been known about other habitats tropical fish might need to progress through their life cycles.

Researchers have used advanced underwater video sampling over three years to uncover the specific characteristics and features important to different species of fish at different points in their life cycles. Using this information, they have developed summary diagrams (or matrices) that highlight the value of critical ecological areas to the survival of particular tropical fish species of north-east Queensland.

The research highlights that not all inshore tropical fish species use the same nursery areas, emphasising the danger of conducting large-scale works—such as dredging in coastal areas—without a complete understanding of the life-history values of these areas. The research has underscored the importance of the nursery mosaic, meaning each species requires numerous different habitats at each different stage throughout its life, most of which are not interchangeable.

Risk reviews beyond fish stocks

FRDC project 2016-062

For further information: Sevaly Sen, sevaly.sen@gmail.com

NATIONAL PRIORITY	INFRASTRUCTURE	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

While the sustainability of fish populations underpins the future of seafood supplies, buyers across the supply chain are increasingly calling for additional performance measures when sourcing their fish. These include the impact of fishing on the broader environment and the kind of management plans in place in a fishery. In the future, further performance measures could include labour and animal welfare practices.

While the SAFS Reports provide status information for particular target species, the FRDC has launched the Whichfish database, which uses a risk assessment approach to provide additional information on the environmental impact and fisheries management for Australia's leading commercial species.

Whichfish is a 'rapid scanning tool', based on the similar business-to-business risk tool developed by the United Kingdom's industry body Seafish. It has now been developed for Australia in collaboration with Seafood New Zealand. The New Zealand 'OpenSeas' tool is also available online.

At its launch in October, Whichfish included 25 Australian species and 20 New Zealand species. The Australian species account for 36 per cent of national wild-harvest fisheries production. Whichfish also separately identifies fisheries that have been certified under a third-party scheme recognised by the Global Sustainable Seafood Initiative, such as Marine Stewardship Council certification.

Benefit cost analysis

Impact assessment of the FRDC investment in the revision of the Australian Shellfish Quality Assurance Program—in light of the FRDC-funded PST review

Rationale

Shellfish, as a seafood classification for the purpose of this report, includes all edible species of bivalve molluscs such as oysters, clams, scallops, pipis, and mussels, either shucked or in the shell, fresh or frozen, whole or in part or processed, and harvested for human consumption (Australian Shellfish Quality Assurance Advisory Committee (ASQAAC), 2017).

In 2015/16 the gross value of production of molluscs (wild-caught and farmed) was approximately $391.1 million (wild-caught: $176.3 million at 12,392 tonnes; farmed: $214.8 million at 15,728 tonnes) (ABARES, 2017).

In October 2012, a shipment of mussels derived from the east cost of Tasmania was rejected by Japanese import authorities due to the presence of unacceptable levels of paralytic shellfish toxins (PSTs). Following the initial discovery, additional seawater and bivalve samples revealed the presence of PSTs in bivalves at several sites between Eddystone Point and Marion Bay (Tasmania). The presence of PSTs at high levels in mussels represented a major breakdown in the Tasmanian component of the Shellfish Quality Program.

In 2013, FRDC funded the project 2012-060: Review of the 2012 paralytic shellfish toxin non-compliance incident in Tasmania. In light of the review, the ASQAAC noted the urgent need to update the Australian Shellfish Quality Assurance Program (ASQAP) Operations Manual. Project 2013-056 was funded to update the ASQAP Manual to ensure that guidance on shellfish management is up-to-date, sufficient to allow consistency of interpretation and risk assessment, and is in line with international best practice.

Results/key findings

The major potential impact identified was of a financial nature and involved reduced expected economic losses for the Australian shellfish sector through a decreased risk of future food safety incidents associated with Australian shellfish.

Funding for the project totalled $50,915 (present value terms) and produced estimated total expected benefits of $0.28 million (present value terms). The project was funded by FRDC over the period May 2014 to July 2016.

This gave a net present value of $0.23 million, an estimated benefit cost ratio of 5.6 to 1, an internal rate of return of 16.7 per cent and a modified internal rate of return of 11.0 per cent.

TRIPLE BOTTOM LINE CATEGORIES OF PRINCIPAL IMPACTS FROM PROJECT 2013-056

Economic	• Potentially, reduced expected productivity losses for Australian shellfish industries through the manual's contribution to a reduced risk of shellfish food safety incidents and maintained access to international markets.
Environmental	• Nil
Social	• Maintenance of the reputation of Australian shellfish as food safe and sustainable.
	• Potentially, maintained regional community wellbeing through the spillover effects of maintained profitability for Australian shellfish industries.
	• Potentially, maintained health and wellbeing outcomes for Australian and overseas consumers of Australian shellfish.

Public versus private impacts

Both private and public impacts were identified for project 2013-056. Private impacts potentially will occur through reduced expected production losses for Australian shellfish producers because of a reduced risk of food safety incidents and maintained access to international markets. On the other hand, public impacts are likely to be delivered through community wellbeing spillover effects from maintenance of industry incomes and through maintained reputation and health and wellbeing outcomes.

Conclusions

The investment in the revision of the ASQAP Operations Manual has provided Australian shellfish managers and producers with a national framework that will assure that shellfish grown in Australian waters continue to be produced in a safe manner, following internationally respected risk assessment principles and a scientifically sound management framework.

While several potential social impacts identified were not valued, the linkages between the project and these impacts were weak and the impacts were considered uncertain and minor compared with the impacts valued. Nevertheless, combined with conservative assumptions for the impacts valued, investment criteria as provided by the valued impacts may be underestimates of the investment performance.

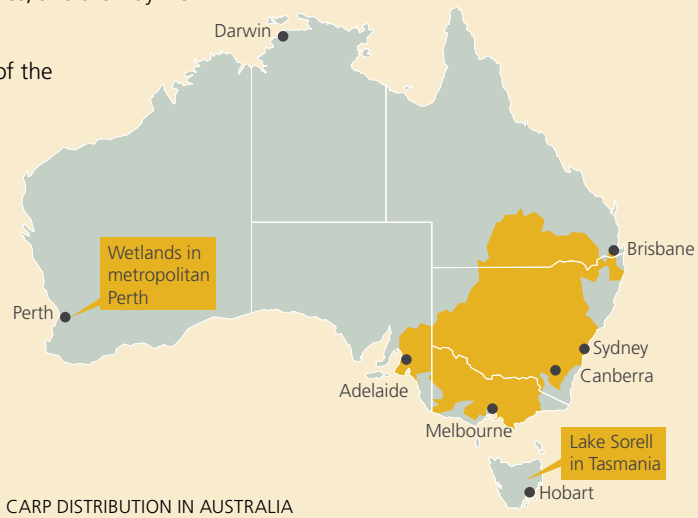
National Carp Control Plan

The problem

Common carp (*Cyprinus carpio*) have been in Australia for over 100 years and are now established in all states and territories, except the Northern Territory. The pest species had a slow start in Australia. Several deliberate attempts to introduce carp in Australia during the mid 1800s and early 1900s did result in large, self-sustaining populations. The species got its first real foothold on Australian ecosystems in the 1960s when a strain bred for aquaculture purposes was introduced into a reservoir in south-western Australia. The 'Boolarra Strain' had gained access to the Murray River by the mid-late 1960s despite eradication attempts, and extensive flooding in the 1970s and early 1990s facilitated the spread. People also aided the spread of carp through deliberate translocation, undetected presence of carp among stocked native fish, and the use of small carp as live bait for predatory fish. The latter is thought to be the primary mechanism explaining the presence of carp in several Tasmanian lakes, and in New South Wales coastal river systems. Ornamental carp (also known as Koi) continue to be released by the public.

Carp now completely dominate freshwater fish communities in south-eastern Australia, comprise a significant proportion of fish biomass, at times exceeding 1500 kilograms per hectare in some areas. Carp impacts are felt environmentally, economically and socially. They affect water quality, aquatic vegetation, invertebrates, some waterbirds and amphibians, as well as native fish. They also impact on the quality of fishing opportunities, and the way we use our waterways.

Controlling carp will not fix all of the issues affecting our waterways, however it will help.



CARP DISTRIBUTION IN AUSTRALIA

The possible solution

A species-specific virus, Cyprinid herpesvirus 3 (CyHV-3), may offer an opportunity to substantially reduce carp numbers and restore the balance for native species. A national process funded by the Australian Government and coordinated by the FRDC is compiling evidence through careful research, planning and consultation to determine whether biological control of carp could be undertaken safely and effectively. If so, this process will also consider how to estimate likely costs, and benefits. This evidence will inform development of the National Carp Control Plan (NCCP), which will inform decision making on the way forward with respect to controlling carp impacts in Australia.

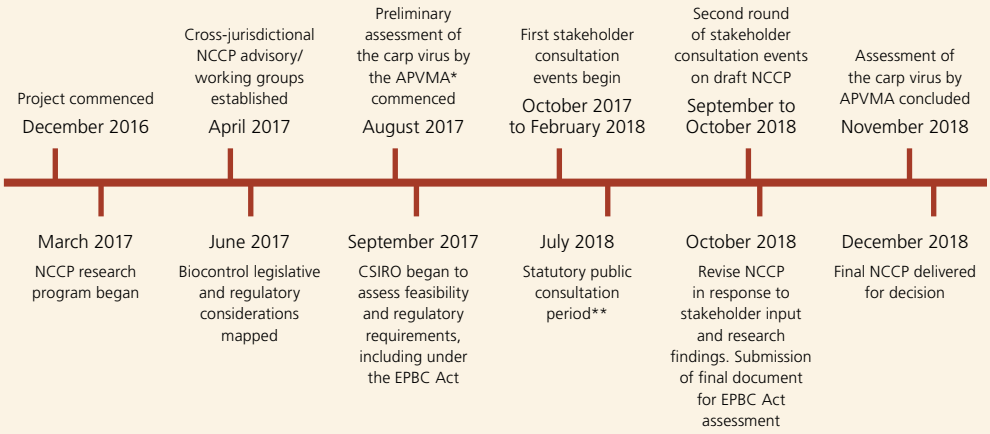
It is a big and complex task that involves all levels of government, Australian and international scientists, policy makers, and diverse communities working together to interrogate scenarios, challenge assumptions, and ask and answer real questions.

Forming the carp community

A nation-scale biocontrol planning process requires input and guidance from a broad array of experts. A network of advisory groups was established involving several states and territories, and individuals and organisations with diverse skillsets to guide the project and progress aspects of the workplan:

- Science Advisory Group (SAG) (established December 2016) combines jurisdictional representation with expertise across relevant biophysical science disciplines, as well as the social sciences, economics and emergency response. The SAG has oversight of the NCCP research program, while remaining alert to emerging research needs.
- Policy Advisory Group (PAG) (established January 2017) combines jurisdictional representation with expertise in the regulatory and legislative dimensions of environmental management, fisheries management and biological control. The PAG is coordinating a Strategic Assessment under the EPBC Act.
- Operations Working Group (established July 2017) comprises experts in logistics, water management, infrastructure management, environmental assessments, key stakeholder engagement, governance and policy. This group will collaboratively drive development of the NCCP.
- Communications Working Group (established July 2017) comprises communications specialists from the public and private sectors. It will provide a coordinated approach to NCCP communications activities.

NCCP PROJECT TIMELINE



* Australian Pesticides and Veterinary Medicines Authority

** under the EPBC Act relating to the risk assessment commenced; feedback incorporated into NCCP development

Science answering the big carp questions

At the last annual report, the NCCP's research program had only just begun, with the newly-formed Science Advisory Group assessing research priorities. After a year's intensive work in laboratories, in the field, and out in Australian communities, data-sharing between interconnected projects is underway and results are beginning to emerge. Some of these preliminary results are fundamentally reshaping expectations of what a national carp biocontrol program might entail.

The most detailed and comprehensive survey of carp abundance ever attempted in Australia is almost complete, and initial results indicate that carp biomass has been estimated with good precision. Epidemiologists are using these biomass estimates, along with other data, to clarify the manner in which CyHV-3 is likely to transmit through, and ultimately impact, Australian carp populations. This epidemiological research indicates that major epidemics are unlikely. Instead, the virus appears best suited to targeted deployment against schooling carp.

Understanding of the clean-up challenge is also evolving, enabling operational planning for this vital activity. New processes for making useful products out of virus-killed carp have been identified. Results from these, and other research projects are summarised in the following pages. Further updates will be published as research proceeds.

Counting carp: How many jellybeans in the jar

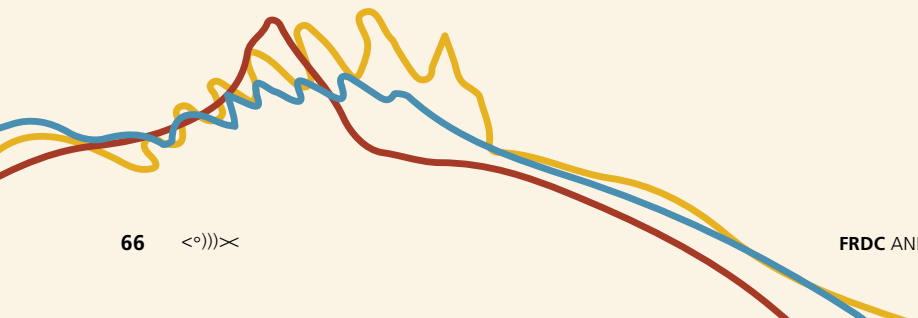
Assessing the viability of carp biocontrol demands an accurate estimate of Australia's carp biomass and its distribution across different geographic regions and habitat types. Carp biomass estimates are an essential input to many NCCP research projects. In particular, biomass estimates are critical for understanding how the virus, if released, will impact carp populations, and for planning post-release clean-up. These crucial biomass estimates will be available in late 2018. Obtaining usable estimates required cross-validating catch data from field experiments and surveys with historical carp abundance data, and understanding how carp density varies across geographic regions, different waterbody types and sizes, and at different depths. These, and other insights, enable carp catch data to be converted to biomass estimates. Preliminary results indicate that estimates possess the precision necessary to inform research and planning.

Predicting carp knockdown

Veterinary epidemiologists work to understand how diseases move through, and impact, animal populations. Epidemiological modelling therefore provides an essential tool for understanding the likely impact of CyHV-3 on carp in Australia. In turn, these insights are essential for planning post-release clean-up activities.

This project has improved understanding of the key variables, including carp demography, physiological condition, and seasonal changes in water temperature, that affect the virus's impact on carp populations. Initial results indicate that the best chance of successful infection would be in spring and early summer in areas where carp aggregate to spawn. This would provide the virus with warmer water, high carp densities and carp that are physiologically stressed due to the spawning effort.

Because outbreaks require the co-occurrence of these environmental and behavioural factors, the 'carpageddon' scenario (an epidemic of CyHV-3-induced carp mortalities spreading rapidly across south-eastern Australia) envisaged by some at the NCCP's inception now seems unlikely.



Understanding risks to water quality

If CyHV-3 is released as a carp biocontrol agent, significant carp mortalities will likely follow. Understanding the potential impact of these events on water quality is essential for planning virus release and clean-up. Changes to dissolved oxygen concentrations and cyanobacterial ('blue-green algae') abundance following major carp mortalities are being investigated by two closely-linked projects, which use hydrodynamic and biogeochemical models developed and refined over 10 years. Preliminary results indicate that major carp mortality events, if not promptly cleaned up, can reduce dissolved oxygen concentrations and contribute to temporary cyanobacterial blooms, particularly in shallow wetlands.

However, these impacts do not occur within all habitats or at all biomass levels, and lie within limits manageable through clean-up activities. Field trials conducted over summer 2017–18 involved adding dead, commercially-caught carp to closed wetlands at densities higher than those occurring in Australian waterways to investigate 'worst-case' water-quality scenarios with no clean-up actions. Emerging carp biomass estimates and improved understanding of likely knockdown will now enable investigation of the water-quality impacts ensuing from a broader range of carp mortality scenarios. Importantly, water-quality research will enable identification of areas where the impacts of dead carp are likely to be most severe, thereby assisting in development of clean-up strategies.

Upcycling pests

Identifying productive uses for virus-killed carp is an important consideration for the NCCP, as disposal in landfill represents a wasted resource, and may pose legislative challenges. The research has identified processing techniques and fertiliser/compost products that could involve operators ranging from commercial plants (processing tens of tonnes per day) to community groups (processing one tonne batches). Crucially, some of these processes can use even heavily-decomposed carp. Private companies from the animal waste processing sector have displayed considerable interest in this research, and have generously provided facilities and equipment for commercial-scale trials.

Risk assessment

A systematic and, wherever possible, quantitative, assessment of the risks entailed in carp biocontrol is a crucial component of the NCCP. Ecological risk endpoints (i.e. situations in which virus release would be untenable) have been defined, including an assessment of botulism risk following major carp mortalities. Analyses quantifying exposure of other species and their habitats to risks associated with carp biocontrol is underway. Importantly, the risk assessment also addresses 'social risks' (negative social impacts, such as loss of employment or recreational opportunities) that could ensue from carp biocontrol.

Counting the costs of carp control (and benefits)

Balanced decision making about carp biocontrol should include an ability to rigorously and systematically evaluate the costs and benefits resulting from such an activity. Costs and benefits will include those that can be directly assigned a market value (for example, temporary increases in water treatment costs following carp mortalities), and those that are less readily monetised (for example, environmental amenity values). The NCCP benefit cost analysis aims to quantify both the market and non-market costs and benefits of implementing carp biocontrol.

Economists have developed a range of techniques for assessing the value people place on non-market goods and services, including those delivered by ecosystems. The NCCP benefit cost analysis is currently using an approach called choice modelling to assess consumers' 'willingness to pay' for various carp control outcomes. Willingness to pay is a monetary measure of the value different people place upon a particular environmental attribute. Choice modelling will focus on environmental outcomes including several indicators of wetland health, and abundance of native fish and waterbirds. The benefit cost analysis is due for completion in mid-2019.

A future with fewer carp?

Understanding the costs and benefits associated with carp biocontrol requires a clear picture of the ways in which Australia's freshwater ecosystems are likely to change over medium-term (5–10 years) and longer timescales (10 years and over) under various carp-reduction scenarios. Making general predictions about ecosystem responses to carp reduction is challenging, because carp inhabit many different aquatic habitats over a large geographic area and vary markedly in abundance. These diverse ecosystems differ naturally in numerous traits (e.g. water clarity, species diversity), and are also subject to different environmental stressors and impacts.

Disentangling carp impacts—and the ecological changes that might follow carp reductions—across this patchwork of ecosystems requires a systematic evaluation of the knowledge accumulated by experts in Australian freshwater ecology. This project will provide that evaluation, with results from two expert workshops and an online survey currently under analysis. Experts provided advice on the likely effects of various carp reduction scenarios on measures of environmental health that included a range of water quality parameters and abundance of different types of aquatic flora and fauna.

In general, most experts believed aquatic ecosystems would respond positively to carp reductions, particularly if sustained reductions of 70 per cent or greater could be achieved. Importantly, experts indicated that the full benefits of carp control are unlikely to be realised unless other environmental impacts are also addressed. Experts also noted that the overall importance of carp impacts (relative to other environmental stressors) varies substantially across geographic areas. Results from the expert workshops and surveys will inform the choice modelling component of the NCCP benefit cost analysis.

Independent review of research demonstrating species specific nature of virus

Specificity to the target organism is an essential criterion for any prospective biocontrol agent. To investigate whether CyHV-3 could infect animals other than common carp, CSIRO researchers have exposed 22 species, including fish, frogs, reptiles, lampreys, mammals and birds, to the virus in a biosecure laboratory. These trials found no evidence of infection in any non-target species, and the results have been published in the peer-reviewed international *Journal of Fish Diseases*.

The CSIRO trial results provide considerable confidence that CyHV-3 infects only common carp. However, rigorously investigating the virus's species specificity is of such fundamental importance that the NCCP has commissioned an independent veterinary pathologist to review the methodology used in the CSIRO trials, and, more generally, to define best practice for viral challenge trials. This research will ensure that future non-target species testing for CyHV-3 conforms to global best practice. Thus far, the review has identified that laboratory techniques used to detect replicating (i.e. reproducing) virus in the CSIRO trials were appropriate, and has recommended that test animals used in future trials are deliberately stressed prior to viral exposure. The review is due for completion in December 2018.

The perfect one-two combination?

Previous experience with vertebrate biocontrol has clearly demonstrated that effective, long-term pest suppression requires deployment of multiple control measures that work together. The carp virus has the potential to substantially reduce carp numbers in the years following release, but populations will rebuild unless biocontrol is complemented by other techniques. Genetic biocontrol technologies, which include techniques that ensure carp only produce offspring of a single sex, or cause fish to die upon reaching a predetermined age, are one potentially useful class of complementary control measures.

While several biocontrol technologies could be applicable to carp in Australia, none are currently ready for field deployment, and some pose logistical and social-acceptability challenges, such as the need to breed carp carrying the genetic control and stock them into waterways. This recently-commenced project will systematically review genetic biocontrol technologies that are potentially applicable to carp in Australia to determine which (if any) technique, or combination of techniques, are most appropriate for future research investment. Crucially, the review will go beyond each technique's biological efficiency to consider logistical and social constraints to deployment. The review is due for completion in January 2019.

Community engagement

Understanding community and stakeholder attitudes and assessing social effects

Stakeholders' knowledge, concerns, and aspirations are crucial to informing decision making on carp biocontrol. Research led by the University of Canberra and leveraging off the Regional Wellbeing Survey has surveyed more than 10,000 Australians to better understand their views on carp biocontrol. The research also includes focused engagement with key stakeholder groups likely to be affected by, or involved with, carp control. These stakeholders include commercial fishers who harvest carp, koi carp breeders and hobbyists, native fish aquaculturists, and the tourism industry.

The research has identified that communities generally support carp biocontrol at this time, if underpinned by rigorous, transparent science, and implemented as part of an integrated program. It also has identified that younger Australians tend to be more concerned about the virus release than their older counterparts. A relatively small, but highly-engaged, group of stakeholders with a strong interest in the technical details of NCCP research has also emerged through this project. This research has revealed opportunities to co-design elements of the plan with specific interest groups, and will ensure that the NCCP's engagement strategies remain responsive to stakeholder needs and interests.

Case studies

The NCCP has been taking research to regions, speaking with local communities to develop national case studies that will contribute to the planning for the possible virus release. Local knowledge is seen as crucial in complementing the extensive research and expert advice that are informing the NCCP and possible release strategies, contributing to the most effective release strategies and identifying potential problems.

The unique characteristics and conditions of local waterways and their surrounding areas will influence the effectiveness of the virus in controlling carp, if it is released, as well as efforts to remove the large number of carp expected to be killed by the virus.

Three case studies have been delivered to date, in the Lower Murray in South Australia, Lachlan River in New South Wales, and Logan-Albert rivers in Queensland. Workshops to date have explored the timing and location of carp aggregations in their area, local considerations with respect to access and biomass disposal, and important assets in the area requiring consideration.

Information sessions

From October 2017 to March 2018 the NCCP hosted 73 events in more than 40 locations. These were held in carp-affected communities across Victoria, New South Wales, South Australia and Queensland. Sessions were hosted by state agencies and natural resource management groups in partnership with the NCCP team.

NCCP COMMUNITY INFORMATION SESSIONS

Location	State	Date	Year	Location	State	Date	Year
Horsham	VIC	16 October	2017	Bourke	NSW	29 November	2017
Hamilton	VIC	17 October	2017	Wilcannia	NSW	30 November	2017
Colac	VIC	18 October	2017	Menindee	NSW	30 November	2017
Mildura	VIC	30 October	2017	Maitland	NSW	4 December	2017
Swan Hill	VIC	31 October	2017	Musselbrook	NSW	5 December	2017
Shepparton	VIC	1 November	2017	Tamworth	NSW	6 December	2017
Bendigo	VIC	2 November	2017	Inverell	NSW	7 December	2017
Balranald	NSW	6 November	2017	Berri	SA	11 December	2017
Wangaratta	VIC	8 November	2017	Goolwa	SA	12 December	2017
Albury–Wodonga	VIC	9 November	2017	Goulburn	NSW	18 December	2017
Sale	VIC	13 November	2017	Mannum	SA	5 February	2018
Lakes Entrance	VIC	14 November	2017	Adelaide	SA	6 February	2018
Melbourne	VIC	15 November	2017	Lismore	NSW	8 February	2018
Echuca/Moama	VIC	16 November	2017	Canberra	ACT	19 February	2018
Deniliquin	NSW	20 November	2017	Charleville	QLD	26 February	2018
Griffith	NSW	21 November	2017	St George	QLD	28 February	2018
Wagga Wagga	NSW	22 November	2017	Toowoomba	QLD	2 March	2018
Penrith	NSW	23 November	2017	Beaudesert	QLD	6 March	2018
Bathurst	NSW	27 November	2017	Brisbane	QLD	8 March	2018
Dubbo	NSW	28 November	2017				

ACT: Australian Capital Territory NSW: New South Wales QLD: Queensland SA: South Australia VIC: Victoria

Almost 1500 people participated in the stakeholder and community meetings, including community members, recreational users of waterways, environmental advocates, farmers and irrigators, water authority representatives, commercial fishers, business owners, tourism operators, traditional owners, natural resource management representatives and representatives from other local, state or federal government agencies.

Nationally, the aspects of most interest or concern to participants included the:

- impact the possible virus release might have on water quality,
- economic impact on industry,
- proposed clean-up strategies being considered as part of the plan.

Stakeholders in Queensland and Victoria in particular also noted a need for additional measures to promote recovery of rivers as an important consideration. A summary of the consultation meetings will be detailed in a report to be published on the NCCP website www.carp.gov.au.

Broadening the carp conversation

The level of interest in this national initiative is high, and not everyone can participate in the workshops, surveys and events held. The website www.carp.gov.au was established to provide updates on this important national initiative, including detailed responses to frequently asked questions.

Those working on the NCCP have also been helping community members to share their stories through *Riverside Stories*, a series of perspectives capturing the aspirational vision we all share: healthier rivers, vibrant native fish populations and productive, prosperous communities. These stories are available online at the NCCP website.

An engagement platform has also been developed to provide people with an opportunity to read more about the research underway and ask questions in relation to the NCCP program and particular areas of focus. The https://yoursay.carp.gov.au/ platform is intended to engage a national community of stakeholders digitally, to share relevant information, seek input, and allow deeper engagement on this important national program.

PROGRAM 2: INDUSTRY

Demand for high-quality seafood is predicted to outstrip supply in both domestic and export markets. Similarly, in the recreational and customary sectors the demand for high-quality fishing experiences will outstrip supply. There is a need to increase both the production and the value of the catch, and to take advantage of future opportunities. For the commercial sector, business profitability and international competitiveness are overriding concerns. This program aims to assist all sectors improve their overall performance. The following pages provide examples of the RD&E currently underway. For a full listing of projects visit the FRDC website—www.frdc.com.au.

Principal inputs

During 2017–18, there was $11.24 million or around 43 per cent of the total RD&E investment for this program. This is 1 per cent above the annual operational plan forecast budget.

Performance indicators	Targets 2017–18	Status	Comment
Development of processes and technologies to improve the efficiency of governance and regulatory systems for fishing and aquaculture.	Fisheries management standard developed.		Project 2015-203: Best practice guidelines for Australian fisheries management agencies, nearing completion.
Development of methods to incorporate economic knowledge into fisheries management.	Case study considering economics in fisheries decision making.		Case study being scoped as part of the Human Dimensions Research Subprogram.
Development of processes for efficient, transparent allocation of shares and associated property rights for all aquatic resource users.	Nationally coordinated plan detailing recreational fishing priorities. Map livelihoods of customary fishing.		RD&E Plan 2016–20 being coordinated through the Recfishing Research Subprogram. Draft final report approved of the Indigenous Fishing Subprogram: Mapping livelihood values of Indigenous customary fishing (project 2015-205).

Project activity during the year

Resource sharing in Port Phillip Bay

FRDC project 2014-207

For further information: Ian Knuckey, ian@fishwell.com.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

This project assesses the social and ecological issues associated with both commercial and recreational fishing in Port Phillip Bay, Victoria. Two of Victoria's major commercial shipping ports—Melbourne and Geelong—operate in Port Phillip Bay, and it is also a popular tourist destination.

With less than 50 commercial licences operating in the Bay at the beginning of this project (and much less at the completion), commercial fishers are far outnumbered by recreational fishers. Perceived competition for species such as Snapper and King George Whiting is a source of tension between recreational anglers and commercial fishers.

This project was designed to better understand the sustainability issues relating to both commercial and recreational sectors, but also to investigate the social factors that underpin conflict among commercial and recreational fishers in Port Phillip Bay.

Shared directions on seafood future

FRDC project 2017-090

For further information: Peter Horvat, peter.horvat@frdc.com.au

NATIONAL PRIORITY	INFRASTRUCTURE	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

Confidence in the future of the Australian seafood sector was high at the national Seafood Directions 2017 conference in Sydney in September, although the event also exposed the 'dark side' of the industry, documenting ongoing health and safety issues.

More than 350 delegates, representing all parts of the seafood supply chain, attended the biennial conference, which had the theme 'Sea the Future'.

Assistant Minister for Agriculture and Water Resources Senator Anne Ruston officially opened the event, also launching the Commonwealth Fisheries Policy Statement and the National Aquaculture Strategy. These set out the Australian Government's support and aspirations for the industry.

"Our fisheries are an important resource that must be carefully and sustainably managed for future generations," Senator Ruston said. "Our fisheries are owned by all Australians and shared between numerous stakeholders … We must explore all opportunities to sustainably grow the economic return from our fisheries."

The National Aquaculture Strategy includes provision for ocean aquaculture in Commonwealth waters, with the government projecting a doubling in the value of aquaculture production to $2 billion by 2027.

Benefit cost analysis

An impact assessment of FRDC investment in 2013-051: The Australian Aquatic Animal Health and Vaccine Centre: First phase to establish Atlantic Salmon biosecure fish facility capabilities and develop a strategy for an Australian Centre of Excellence

Rationale

As the Australian salmon industry is expanding, there are significant risks for disease in the Australian Atlantic Salmon industry. Disease outbreaks overseas have caused substantial production losses. Vaccination could provide an effective form of treatment as an alternative management option and answer to antibiotic use.

There are resource limitations to the development of fish vaccines in Australia. The Australian salmon industry did not have a specialised vaccination research centre exclusively for aquaculture disease and priority vaccination research was dependent on available resources.

The FRDC and Tasmanian Salmonid Growers Association (TSGA) planned to invest approximately $30 million in vaccine research and development, so needed the capacity and facilities to carry out the planned research. Under the FRDC/TSGA Research and Development Plan, one of the main pillars was the development of an Aquatic Animal Health and Vaccines Centre of Excellence.

By building a specialised vaccination research centre, the industry planned to respond to disease threats faster and be able to research vaccines to address more than one disease simultaneously.

Results/key findings

The major impact identified and valued was an improved capacity to research salmon vaccines, in turn driving lower mortality rates through an increased number of vaccines developed. The project was funded by FRDC and others in the years ending 30 June 2014, 2015 and 2016.

Funding for the project over the three years totalled $4.43 million (present value terms) and produced estimated total expected benefits of $66.87 million (present value terms). This gave a net present value of $62.44 million, a benefit cost ratio of 15.10 to 1, an internal rate of return of 32.1 per cent and a modified internal rate of return of 14.6 per cent.

TRIPLE BOTTOM LINE CATEGORIES OF PRINCIPAL IMPACTS FROM PROJECT 2013-051

Economic	• Avoided potential future salmon production losses from existing and/or new aquatic diseases because of faster vaccine processing, improved vaccine R&D capacity and capability in Australia.
	• Improved research effectiveness and efficiency due to the Aquatic Animal Health and Vaccines Centre of Excellence being able to research different vaccines simultaneously and having a greater capacity for in-house research.
	• Avoided losses of other Australian aquaculture industries due to vaccines that may be developed in the future when other aquaculture industries increase in size.
	• Export income to Australia from the potential sale of vaccines to foreign markets where there are similar diseases.
Environmental	• N/A
Social	• Increased animal welfare through reduction of severity of fish disease outbreaks due to better and additional vaccines being available.
	• Enhanced reputation for Australia in aquaculture disease research as there is a world-class aquatic disease research centre in Australia.
	• Increase in research and scientific capacity and capability through the establishment of core expertise in the aquatic vaccinations field.

Public versus private impacts

The investment resulted in both private and public impacts. The majority of the impacts are private, but there are significant public impacts resulting from the project. Public impacts include the increased animal welfare impact through fewer disease outbreaks, increased scientific and research capacity, and enhanced reputation of Australia in aquaculture disease research. The private impacts are avoided production losses due to new vaccines being produced faster, and increased research effectiveness and efficiency due to the facilities built.

Conclusions

The investment in this project has resulted in the ability to research vaccines required for the Tasmanian salmon industry faster and so producing lower mortality rates for salmon.

PROGRAM 3: COMMUNITIES

The fishing industry forms an integral part of many rural and regional communities. For the long-term sustainability of the fishing industry, it is important the interactions and co-dependence between the community and industry is understood. For a full listing of projects visit—www.frdc.com.au.

Principal inputs

During 2017–18, there was $1.74 million or around 7 per cent of the total RD&E investment for this program. This is 1 per cent above the annual operational plan forecast budget.

Performance indicators	Targets 2017–18	Status	Comment
Development of knowledge to better inform the community's perceptions of the industry and to increase support for the industry. Development of knowledge that can help the industry to adapt to change.	Understanding the social importance of fisheries to communities.		Project underway in Victoria to assess the social and economic value of Victorian fisheries (project 2017-092: Valuing Victoria's wild-catch fisheries and aquaculture industries). Investment approved to nationally assess fisheries and aquacultures contribution (project 2017-210: National Fisheries and Aquaculture Industry Contributions Study: Phase 1).

Project activity during the year

Community key for small fishers

FRDC project 2015-505

For further information: Jonathan McPhail, Jonathan.McPhail@sa.gov.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

A tour of the South Australian coast examines the potential of a different marketing approach for Australia's small-scale commercial fishers: a community supported fisheries (CSFs).

CSFs have been on the FRDC's radar for some time. In 2015, the FRDC sponsored United States-based Joshua Stoll, founder of Walking Fish CSF and LocalCatch.org, to travel to Australia and speak at the Seafood Directions conference. Last year, several Australian fishers headed over to the United States to learn more.

In June 2017, Primary Industries and Regions SA and the FRDC again sponsored Joshua to meet fishers here to discuss whether CSFs could provide an answer to some of the challenges South Australia's small-scale fisheries face. Joshua says that the combination of low volumes and a diverse array of relatively unknown and undervalued species in South Australia's small fisheries provides a situation ripe for the disruption of traditional supply chains.

In a CSF fishers control what the consumer gets, which provides an opportunity to introduce consumers to species they either did not know or may not have considered eating. With the FRDC's support, Wildcatch Fisheries SA has launched a project to develop South Australia's own CSF.

The project will include the development of a smartphone-based app to connect fishers with their customers—be they chefs, restaurants or individuals. It will allow customers to buy local catch and also help the public learn more about fishers, their catches and commercial fishing in South Australia. From 1 July 2018 the CSF and app are a reality.

Refocusing women's industry network

FRDC project 2016-409

For further information: Leonie Noble, coolimba@bigpond.com

NATIONAL PRIORITY	INFRASTRUCTURE	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

The Women's Industry Network was formed in 1996 by a group of women fishing in South Australia. It later evolved into the Women's Industry Network Seafood Community (WINSC), The objectives of this organisation are to recognise and enhance the skills of seafood women, to develop partnerships with government agencies and industry stakeholders, and to create a supportive environment which ensures that women in the fishing industry reach their full potential.

The purpose of this study was to look at the existing model and offerings for the WINSC, and to determine whether the organisation needed to be revitalised and renewed to better meet the needs of its current members. The study involved two workshops and an online survey.

As a result of this study, the WINSC has the data and a strong basis to refocus the organisation and how it interacts with and provides services to members and stakeholders. What is now needed is support for the WINSC to build the capacity and capability to better connect with women in the seafood industry.

Benefit cost analysis

An impact assessment of FRDC investment in 2014-301: Social and economic evaluation of New South Wales coastal commercial wild-catch fisheries

Rationale

The contributions of commercial fisheries to coastal communities in New South Wales is not well understood. Current methods for estimating the economic contribution of fisheries calculate only the landed value of the catch and numbers of people directly employed in commercial fishing. This gives inadequate information about commercial fisheries' position in economic networks within coastal communities—they require a range of goods and services provided from the local community and from larger centres in New South Wales, all with associated employment.

The project generates knowledge that can be used both to demonstrate the value of commercial industries to improve their position as stakeholders in resource management decisions, and to improve public attitudes about commercial fisheries. Sound evidence about the contributions of commercial fisheries will enable triple bottom line policies for sustainability in coastal New South Wales, by adding social and economic knowledge to the ecological knowledge already developed.

The project also addressed the issue of what communities lose if the New South Wales commercial fishing industry continues to contract, particularly in terms of social wellbeing. Improved understanding of this data could inform policy makers, industry and local communities on how they can capitalise on these benefits by developing strategies that protect or enhance industry contributions in ways that grow overall community wellbeing.

Results/key findings

The major impact identified was the estimation of the value to New South Wales coastal communities of maintaining or increasing the production of wild-catch fisheries. It is expected that commercial fishers operating in the state's wild-catch fisheries, the supply chains of fishers including Australian consumers, and the New South Wales regional coastal communities will be the primary beneficiaries of the investment. The project was funded by the FRDC over the years ending June 2015 to June 2016.

Total funding from all sources for the project was $0.87 million (present value terms). The value of benefits was estimated at $2.52 million (present value terms). This gave an estimated net present value of $1.65 million, and a benefit cost ratio of 2.9 to 1.

TRIPLE BOTTOM LINE CATEGORIES OF PRINCIPAL IMPACTS FROM 2014-301

Economic	• Potential maintenance of, or avoided decline in, the economic value of New South Wales wild-catch fisheries and in the number and income of fishers.
	• Potential maintenance of, or avoided decline in, the income of businesses in the product supply chain including consumers and businesses servicing tourists.
Environmental	• There are unlikely to be any environmental impacts from the project.
Social	• Maintenance and/or improvement of various non-financial wellbeing measures of New South Wales coastal communities through fishing and associated businesses having an improved social licence to operate and a more favourable regulatory environment.

Public versus private impacts

Most impacts identified in this evaluation are related to the improved information available from this project on the interactions between the wild-catch industry and New South Wales coastal communities where most fishers are located. The connections with, and influence on, the coastal communities are highlighted. In that regard, the project has the potential to benefit the public good of regional coastal communities as well as the commercial wild-catch industry.

Conclusions

The investment in this project has resulted in potential strengthening of the case for sustaining the catch from the New South Wales wild-catch fisheries while at the same time maintaining ecological sustainability but offsetting the case for reducing the catch for other reasons such as it 'being an old industry'.

PROGRAM 4: PEOPLE

People are the cornerstone of every industry. For the fishing industry, it is vital that it continues to attract and develop people who will take the industry to a sustainable and profitable future. The FRDC has taken a strong role in supporting people development, from employing and developing young researchers, through to facilitating access to leadership development for all levels of industry. Development of people is also a critical element and pathway to realising the benefits of FRDC's investment in RD&E.

Projects funded under Program 4 primarily address the FRDC's People program. However, this is also addressed, as a secondary but very important element, by projects within programs 1 and 2. For a full listing of projects visit FRDC's website—www.frdc.com.au.

Principal inputs

During 2017–18, there was $2.3 million or around 9 per cent of the total RD&E investment. This is 1 per cent above the annual operational plan forecast budget.

Performance indicators	Targets 2017–18	Status	Comment
Development of knowledge and tools to meet future workforce and skill needs. Collect and analyse data to better understand training needs.	Identify training and education programs desired by industry. Catch the Drift leadership and development training for the next generation.		Programs for knowledge exchange, capacity and capability building being run as part of the partner mechanism such as through the IPAs. Victorian industry have taken part in three leadership sessions as part of Catch the Drift.
Co-invest with partners to capacity building around innovation and commercialisation.	Partner with service providers to develop commercialisation of intellectual property (IP) opportunities (i.e. TechMAC, X-Lab). Identify key areas of research that would benefit from training or mentoring from a commercialisation IP provider.		Opportunities for commercialisation being explored through microhacks (project 2017-058 Fish-X: Shifting fishing and aquaculture to an entrepreneurial culture). Ongoing monitoring occurring, following commercialisation training, to identify areas of commercialisation potential in the assessment of applications.

Project activity during the year

The mark of a leader

FRDC project 2016-408

For further information: www.rural-leaders.org.au

NATIONAL PRIORITY	**INFRASTRUCTURE**	**PARTNER: Jurisdiction**	**PARTNER: Industry**	**COLLABORATION**
ENVIRONMENT	**INDUSTRY**	**COMMUNITIES**	**PEOPLE**	**ADOPTION**

Nathan Adams, vice-chair of the Western Australian Fishing Industry Council and a member of the Abalone Council Australia, is a participant of the 2017–18 Australian Rural Leadership Program (ARLP). Already he describes the program as a "life-changing experience".

Best of all, Nathan says, the program is allowing him to fully capture knowledge he acquired working in the fishing industry and continues to apply working in the Western Australian abalone fishery.

The ARLP is a highly-regarded program established specifically to meet the needs of people in leadership roles in rural, regional and remote Australia, who often have a unique set of challenges, opportunities and aspirations.

The course stretches over 15 months and includes 55 days of travel. Unlike other programs, the ARLP does not teach a pre-set doctrine. Instead, it provides a broad range of experiences and novel opportunities to acquire new skills.

Fishers learn to catch innovation with Fish-X

FRDC project 2017-058

For further information: Norm Jenkins, X-Lab Ventures; norm@x-lab.com.au

NATIONAL PRIORITY	INFRASTRUCTURE	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

Fish-X is an innovation program supported by the FRDC that aims to accelerate growth in the fisheries sector by helping small businesses bring their ideas to life. Fish-X has two core innovation streams:

1. Two-day 'microhacks' are hands-on workshops where innovators are trained in the 'Lean Start-up' approach to better understand their business and test de-risking business models.
2. A three-month business accelerator program where teams are mentored through a disciplined process to explore new growth opportunities.

Several businesses that have been mentored through the Fish-X accelerator program also participated in Seafood Directions and *FISH* magazine articles to provide an update on their business progress and to share their experiences.

For the FRDC, the program is a means to uncover promising ideas. However, even more than that the process can encourage the development of new ways of thinking to foster innovation for new enterprises, but also for the improvement of established ones. In turn, this can benefit the sector as a whole.

Since launching in March 2017, X-Lab has already trained more than 50 participants from across industry, research and government via its Fish-X microhack workshops and accelerated 10 teams via its mentoring program.

Benefit cost analysis

An impact assessment of FRDC investment in project 2016-411: Skills and capability building priorities

Rationale

The FRDC supports people development and capability building to enhance industry and research performance, to build leadership and research capacity, and encourage a skilled workforce and innovation at all levels. As significant FRDC resources are invested via the FRDC RACs, IPAs and FRDC subprogram partners, it was necessary to elicit input from these sources as to their priorities for building skill sets and leadership capacity in their respective domains. Hence, FRDC contracted Food and Agribusiness Solutions to assist with understanding the people development priorities of its partners.

An increasing proportion of FRDC investment is via RACs and IPAs so that jurisdictions and industry sectors have increasing influence in priority formation and advice. The FRDC Annual Report 2016–17 shows that 64 per cent of FRDC funds now flow through jurisdictions and industry sectors. This trend was a motivating factor in funding this capacity building investment to ensure a balanced portfolio that did not neglect people development. There was also a need to understand shared priorities in order to reduce duplication and benefit from scale, as opposed to each small group making small uncoordinated investments.

Results/key findings

The major impact identified and valued was a more cohesive and integrated capability building initiative across FRDC advisory groups. This was expected to deliver both efficiency and effectiveness in future resource allocation investments by FRDC and its advisers.

Total funding from all sources for this project was $0.04 million (present value terms). The value of expected benefits was estimated at $0.16 million (present value terms). This gave an estimated net present value of $0.12 million, and a benefit cost ratio of 3.70 to 1. The project was funded by FRDC in the year ending 30 June 2017.

TRIPLE BOTTOM LINE CATEGORIES OF PRINCIPAL IMPACTS FROM PROJECT 2016-411

Economic	• Improved targeting of capacity building investments leading to increased and more appropriate skill development leading to increased efficiency of future RD&E resource allocation for partner programs.
Environmental	• Nil
Social	• Increased personal and business capacity including leadership skills.
	• Spinoff to increased community wellbeing through the spillover effects of increased RD&E investment efficiency.

Public versus private impacts

Many of the impacts likely to be delivered by this investment are either personal or industry related and therefore impacts are considered largely private benefits. However, there will be some public benefits delivered also via improved efficiency of public fund RD&E allocations and via improved efficiency of RD&E funding that includes general community impacts.

Conclusions

The investment in this small project has identified the need for additional investment in capability building for partnership and advisory personnel. For purposes of this evaluation, it is expected that this additional investment will be made, albeit with a risk parameter applied. The additional investment is strategic in that an increasing proportion of FRDC funding is likely to be influenced by advisory groups in the future.

PROGRAM 5: ADOPTION

Adoption is the use of knowledge arising from RD&E. A core activity in which the FRDC invests is extension—these activities assist, educate, make aware or facilitate end users taking the knowledge and utilising it. This ranges from undertaking communication activities such as, direct communication (*FISH* magazine and websites), conferences and meetings through to transforming RD&E outputs into appropriate mediums to support stakeholder decision making, assist with achieving their objectives, and inform the broader community.

Principal inputs

During 2017–18, there was $2.77 million or around 10 per cent of the total RD&E investment for this program. This is 1 per cent below the annual operational plan forecast budget.

Performance indicators	Targets 2017–18	Status	Comment
Increase in rates of adoption.	FRDC stakeholder survey indicates 50% are using RD&E to improve their business. Benefit cost analysis shows a positive return on investment.		Stakeholder survey showed 52% (above target) use RD&E to improve their business. The benefit cost analysis showed a return of 4.47:1 (20 years) and 5.71:1 (30 years). This is based on the average over 20 projects included as part of the 2016–17 project population.

Project activity during the year

Working solo on the water is risky

FRDC project 2015-401

For further information: Australian Marine Safety Authority Connect: 02 6279 5000

NATIONAL PRIORITY	INFRASTRUCTURE	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

Recognising the importance of safety at sea, the FRDC is assisting commercial and recreational organisations adapt to national maritime safety standards to ensure all vessels are properly equipped for safety and crew know how to implement best practice safety procedures.

The Australian Marine Safety Authority says it is important that fishers identify and address the unique risks of their operation and include these in their safety management system. For a sole operator, this might include mandating the wearing of life jackets at all times and having additional communications equipment and procedures. For an operation involving multiple vessels, a regular communications schedule can improve safety by potentially raising the alarm sooner should a sole operator be unable to call for help.

National laws require all vessels to have a safety management system—a systematic approach to managing safety.

The process of creating a safety management system specific to an operation involves identifying the hazards, assessing the risks associated with each hazard, selecting appropriate control measures to reduce or eliminate those risks, then implementing and reviewing the effectiveness of these control measures. The goal is to prevent accidents from happening.

Research and science information guidelines

FRDC project 2014-009

For further information: Andrew Penney, andrew.penney@pisces-australis.com

NATIONAL PRIORITY	INFRASTRUCTURE	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

Ensuring the quality of scientific information used to manage Australia's fisheries and marine ecosystems is important in earning the trust of stakeholders and the community in the decision-making process.

Government ministers and decision makers, stakeholders and the public need to have confidence and trust in research and scientific information used to inform fisheries management. In response to this need, Australia has become one of a growing number of countries to adopt quality control guidelines for scientific research.

The guidelines developed for the FRDC by Dr Andrew Penny are intended to apply to all stages of the research process, including aspects of research planning processes and the appropriateness of the proposed methodology, to ensure the reliability and objectivity of resulting scientific information.

The guidelines set out principles for research and scientific information quality, identify responsibilities, and describe requirements for getting third-party peer reviews, evaluation of scientific information quality, storage and management of data and documentation and communication of results.

Benefit cost analysis

Impact assessment of FRDC investment in project 2016-501: Seafood escape with ET

Rationale

There is a need for communicating with the general Australian public that wild-caught Australian fish are both sustainably caught, are fresh, and are good to eat. This message does not always get through, as there are some sections of the community who view commercial fisheries as unsustainably harvested or do not know where or how fish are caught, or how to prepare fish for consumption.

As a result there was a need identified to showcase wild-caught species, many of which are deemed under-utilised by the general public. The project brought together chefs, fishers and Andrew Ettingshausen (ET) to highlight the realities of commercial fishing—demonstrating the sustainable practices, communicate a message on the sustainability and show a boat-to-plate process along with advice on food preparation for some under-utilised seafood species.

Using TV as a medium of communication was recognised as a useful tool to inform and access large parts of the general public. Airing six episodes also provided the opportunity to showcase six different commercial seafood species and was part of a broader message to Australians to eat more seafood.

Results/key findings

Several impacts of the investment were identified of which two were valued. The impacts valued were the improved social licence of the wild-catch fishing industry to operate and the short-term increase in demand for species presented in the episodes of Seafood escape with ET.

Total funding from all sources for the project was $0.28 million (present value terms). The value of benefits was estimated at $0.60 million (present value terms). This gave an estimated net present value of $0.32 million, and a benefit cost ratio of 2.15 to 1.

TRIPLE BOTTOM LINE CATEGORIES OF PRINCIPAL IMPACTS FROM THE PRODUCTION OF THE TV SERIES

Economic	• Improved social licence to fish through greater awareness of wild-catch fishing practices.
	• Potential increased profit to fishers of species featured in the TV series via increased demand for the species from viewers watching the show.
	• Increased consumption of some under-utilised seafood species.
Environmental	• Nil
Social	• Maintained regional incomes.

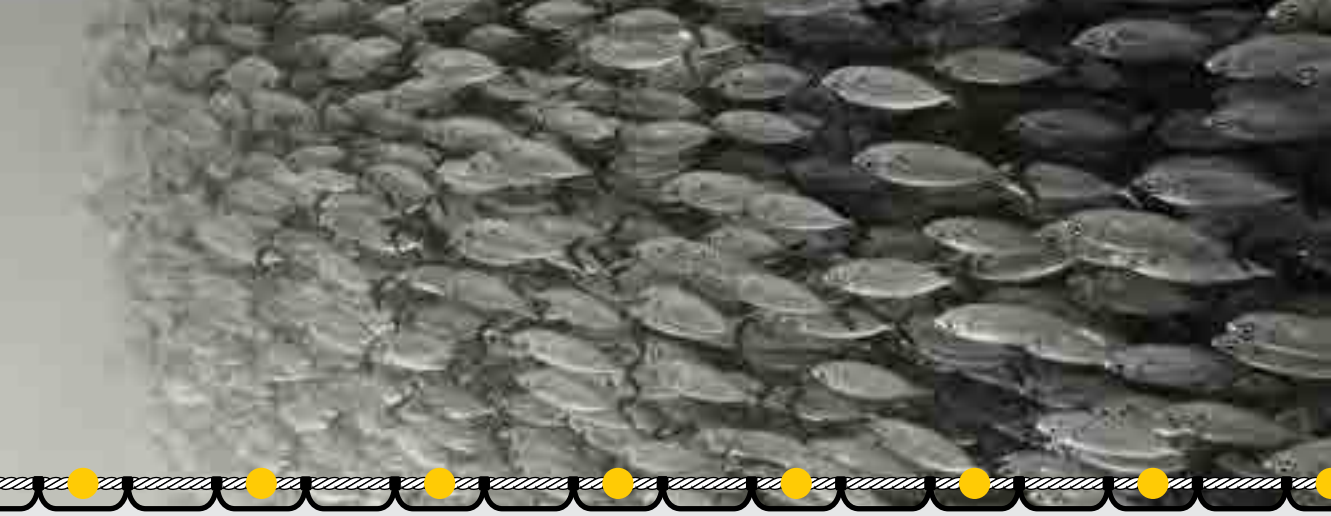
Public versus private impacts

The benefits identified in this analysis are mainly private impacts. There is a small public impact of maintained regional incomes from increased incomes to the wild-catch sector and their spillover spending in the local communities.

Conclusions

Overall, the project achieved its objectives of highlighting under-utilised seafood species to the Australian public and raising awareness and educating the community on sustainable commercial fishing practices.

The valuation of the two impacts are based on uncertain assumptions. However, the assumptions made in the valuation are conservative, and there may be long-term benefits of the project that are not valued. The impacts not valued along with these conservative assumptions, make it likely that the investment criteria are under-estimated.



IMPACT AND OUTCOMES

Evaluating the results of RD&E investment

Impact assessment and evaluation is about understanding and articulating performance of the RDCs and the investments being made, and it provides an evidence base which may help inform future investment decisions as well as underpin the communication program.

Investment in rural R&D is linked strongly and directly to growth in productivity in agriculture, fishing, and forestry industries. The relationships between R&D, productivity and the flow of benefits from rural R&D to the wider community are not always readily apparent. Partly, because the time scale for each project varies depending on the activity undertaken. While there can be an instant impact from a project—change of practices or management arrangements can take time to filter through and be adopted—the total outcome may take time to accrue and that can only be measured when looking back, sometimes over decades.

The need for consistency

In 2011, the Council of Rural Research and Development Corporations (CRRDC) initiated a project to develop a standardised Cross-RDC Impact Assessment Program that included guidelines and management procedures. The motivation for a standardised and more comprehensive approach, was not only to deliver consistent evidence on impact of rural R&D but strengthen and improve how impact assessments were undertaken by the RDCs collectively. The approach also enabled the CRRDC to combine the results (qualitative and quantitative) from individual RDCs into a meaningful meta-picture of the returns to the portfolio as a whole.

It is worth noting that the CRRDC impact assessments guidelines are now well entrenched across the Australian primary industry research sector and extend well beyond the RDCs to include cooperative research centres, state departments of agriculture, and some universities.

At a practical level, each RDC separately administers its own R&D portfolio of projects, responding to the priorities of stakeholders (respective industries—in FRDC's case fishing and aquaculture—or government) to which it is responsible. The RDC is then responsible for the monitoring and reporting to stakeholders on their performance, administrative processes, and governance. This includes undertaking impact assessments, which are completed according to the prescribed methodology described in the Council's guidelines.

From the individual level, the Cross-RDC Impact Assessment Program aggregates the results of regular and rigorous assessment of completed RD&E investments by each RDC. These assessments provide accountability to stakeholders, including government, levy payers, researchers and the community. The aggregation also generates estimates of the performance of the RDC portfolio as a whole and over time.

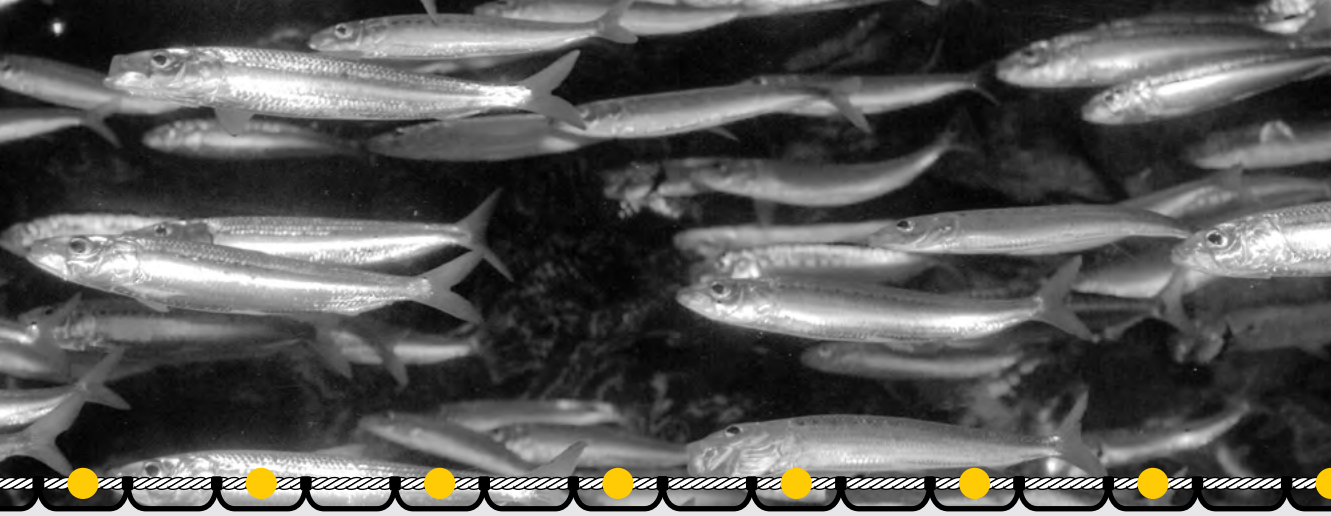
Assessment results

The value of the stable RDC investment platform over 25 years has assisted our food and fibre sector to double productivity, while improving environmental performance and responding to changing social expectations.

The estimated return on investment over the long term (30 years) is $4.50 for every $1 invested through the RDCs. In addition, the RDCs successfully leverage the contributions of our research partners, achieving an average co-investment of $1.27 for every $1 of RDC funding.

Collaboration among the RDCs is a key success factor and an April 2017 study by the CRRDC found that there were around 100 active collaborative research projects (two or more RDCs) in progress, leveraging skills and resources to increase the effectiveness of research activities.

The 15 rural RDCs are: AgriFutures Australia, Australian Eggs Limited, Australian Meat Processor Corporation, Australian Pork Limited, Australian Wool Innovation, Cotton RDC, Dairy Australia, FRDC, Forest and Wood Products Australia, Grains RDC, Horticulture Innovation Australia, LiveCorp, Meat & Livestock Australia, Sugar Research Australia, and Wine Australia.



Benefit cost assessment program—evaluations (Year 2)

The second series of impact assessments, carried out in calendar year 2018, also included 20 randomly selected FRDC investments. The investments were worth a total of approximately $5.62 million (nominal FRDC investment) and were selected from an overall population of 96 FRDC investments worth an estimated $21.32 million (nominal FRDC investment) where a final deliverable had been submitted in the 2016–17 financial year.

The 20 investments were selected through a stratified, random sampling process so they spanned all five FRDC programs (Environment, Industry, Communities, People and Adoption), represented approximately 26 per cent of the total FRDC RD&E investment in the overall population (in nominal terms) and included a selection of small, medium and large FRDC investments.

Background

In 2016–17, FRDC started a five-year program of impact assessments that would be carried out annually on a number of investments [projects] across their RD&E portfolio.

These assessments help the FRDC evaluate the impact and outcome value of investment, in relation to:

- reporting against the FRDC RD&E Plan 2015–20,
- FRDC's statutory funding agreement with the Commonwealth Government,
- annual reporting to FRDC stakeholders,
- reporting to the CRRDC.

The first series of impact assessments, that included 20 randomly selected FRDC investments, was completed in August 2017 by Agtrans Research. The published reports are available at http://frdc.com.au/Research/Benefits-of-research/.

General evaluation method

The economic impact assessments followed general evaluation guidelines that are now well entrenched within the Australian primary industry research sector including RDCs, CRCs, state departments of agriculture, and some universities. The approach includes both qualitative and quantitative descriptions that are in accord with the impact assessment guidelines developed by the CRRDC in 2014.

The evaluation process involved identifying and briefly describing project objectives, activities and outputs, outcomes, and impacts. The principal economic, environmental and social impacts were then summarised in a triple bottom line framework.

Some, but not all, of the impacts identified were then valued in monetary terms. Where an impact valuation was exercised, the impact assessment uses benefit cost analysis as its principal tool. The decision not to value certain impacts was due either to a shortage of necessary evidence/data, a high degree of uncertainty surrounding the potential impact, or the likely low relative significance of the impact compared to those that were valued. The impacts valued are therefore deemed to represent the principal benefits delivered by the project. However, as not all impacts were valued, the investment criteria reported for individual investments potentially represent an underestimate of the performance of that investment.

Overview aggregate results

The following section presents estimated investment criteria for each of the 20 FRDC RD&E investments evaluated, for all 20 investments in aggregate, and for the aggregate investment by program.

For the purposes of these analyses, the investment costs of all parties were expressed in 2017/18 dollar terms using the implicit price deflator for gross domestic product (as defined by the Australian Bureau of Statistics in 2018). All benefits after 2017/18 were also expressed in 2017/18 dollar terms. All costs and benefits were discounted to 2017/18 using a discount rate of 5 per cent and using a reinvestment rate of 5 per cent for calculating the modified internal rate of return (MIRR). The base analyses used the best available estimates for each variable, notwithstanding a level of uncertainty for many of the estimates. All individual analyses ran for the length of the project investment period plus 30 years from the last year of investment.

Results presented include the present value of costs (PVC), estimated present value of benefits (PVB), net present value (NPV), benefit cost ratio (BCR), internal rate of return (IRR) and MIRR.

For some projects, impacts identified were not able to be quantified. Detailed reasoning behind the decision not to value the impacts can be found in the individual project impact assessment reports submitted to FRDC. For projects where no impacts were valued, only the PVC was explicitly reported, all other investment criteria appear as NR (not reported). However, the benefit and cost cash flows for projects with no impacts valued were still taken into account for the calculation of the aggregate investment criteria for all 20 project investments.

Investment criteria: Aggregate (all 20 projects)

2016–17 evaluation sample

From an initial population of 96 projects [within time frame] 20 were randomly selected for evaluation. Table 11 shows the estimated aggregate investment criteria for the 20 project investments evaluated.

TABLE 11: INVESTMENT CRITERIA BY PROJECT. (TOTAL INVESTMENT, 30 YEARS, 5% DISCOUNT RATE)

NR: NOT REPORTED

Project number and investment percentage by program	Project title	PVB ($m)	PVC ($m)	NPV ($m)	BCR	IRR (%)	FRDC investment (nominal $)
2011-042 Environment (80%) Industry (10%) Communities (10%)	Tasmanian Salmonid Growers Association (TSGA) IPA: Clarifying the relationship between salmon farm nutrient loads and changes in macroalgal community structure/ distribution (existing student support).	2.28	0.69	1.60	3.32	23.9	44,930
2011-070 Industry (100%)	TSGA IPA: Comparative susceptibility and host responses of endemic fishes and salmonids affected by amoebic gill disease in Tasmania.	NR	0.66	NR	NR	NR	227,357
2012-015 Industry (60%) Environment (40%)	WA-RAC: Improving confidence in the management of the Blue Swimmer Crab (*Portunus armatus*) in Shark Bay.	7.28	2.20	5.08	3.31	15.9	675,282
2012-024 Environment (80%) Industry (20%)	INFORMD [Inshore Network for Observation and Regional Management Derwent-Huon] Stage 2: Risk-based tools supporting consultation, planning and adaptive management for aquaculture and other multiple-uses of the coastal waters of southern Tasmania.	8.26	2.12	6.14	3.90	20.6	750,000
2012-403 People (80%) Communities (20%)	Development of the East Arnhem Fisheries Network Training Framework.	NR	0.15	NR	NR	NR	113,096

Project number and investment percentage by program	Project title	PVB ($m)	PVC ($m)	NPV ($m)	BCR	IRR (%)	FRDC investment (nominal $)
2013-051 Industry (100%)	TSGA IPA: The Australian aquatic animal health and vaccine centre: First phase to establish Atlantic Salmon biosecure fish facility capabilities and develop strategy for an Australian centre of excellence.	67.13	4.45	62.68	15.09	32.1	1,694,600
2013-056 Environment (100%)	Tactical Research Fund: Revision of the Australian Shellfish Quality Assurance Program manual (in light of the FRDC-funded PST [paralytic shellfish toxins] review report).	0.28	0.05	0.23	5.59	16.7	39,000
2014-001 Environment (100%)	Aquatic Animal Health Subprogram: Strategic approaches to identifying pathogens of quarantine concern associated with the importation of ornamental fish.	NR	1.44	NR	NR	NR	249,836
2014-012 Environment (100%)	Tasmania's coastal reefs: Deep reef habitats and significance for finfish production and biodiversity.	NR	0.63	NR	NR	NR	227,904
2014-036 Environment (100%)	First implementation of an independent observer program for the charter boat industry of New South Wales: Data for industry-driven resource sustainability.	2.02	0.46	1.56	4.37	16.8	209,300
2014-204 Environment (100%)	Implications of current spatial management measures on Australian Fisheries Management Authority's ecological risk management for habitats.	0.70	0.41	0.29	1.72	19.6	191,289
2014-301 Communities (100%)	Social and economic evaluation of New South Wales coastal commercial wild-catch fisheries.	2.52	0.95	1.57	2.66	11.1	436,368

Project number and investment percentage by program	Project title	PVB ($m)	PVC ($m)	NPV ($m)	BCR	IRR (%)	FRDC investment (nominal $)
2014-729 Industry (100%)	Seafood CRC: Improving the taste, bioavailability and efficacy of orally administered praziquantel for Yellowtail Kingfish with lipid nanoparticles and hybrid lipid carrier systems.	NR	0.37	NR	NR	NR	171,000
2015-044 Industry (60%) Environment (40%)	The development of a mobile application for the 'Aquatic animal diseases significant to Australia: Identification field guide'.	0.13	0.05	0.08	2.81	16.7	37,020
2015-232 Industry (100%)	Oysters Australia IPA: Australian Seafood Industries (ASI) Pacific Oyster Mortality Syndrome investigation into the 2016 disease outbreak in Tasmania. ASI emergency response.	0.56	0.06	0.49	8.63	236.6	49,700
2016-057 Industry (70%) Environment (30%)	Workshop to identify research needs and a future project to reduce bycatch and improve fuel efficiency via low impact fuel efficient prawn trawls.	0.13	0.08	0.05	1.60	13.0	35,000
2016-228 Industry (80%) Environment (20%)	Southern Rocklobster Limited IPA: Traceability systems for wild-caught lobster, via Sense-T and pathways to market.	NR	0.94	NR	NR	NR	135,000
2016-266 Adoption (50%) Industry (50%)	Prawn White Spot Disease Response Plan.	0.11	0.09	0.01	1.16	9.3	70,388
2016-411 People (85%) Adoption (15%)	Create a matrix of skills and capability building priorities across FRDC partners and advisory groups.	0.16	0.05	0.11	3.30	8.8	38,000
2016-501 Adoption (50%) Industry (50%)	Seafood escape with ET.	0.60	0.28	0.32	2.15	34.9	220,000
Total		**92.17**	**16.15**	**76.02**	**5.71**	**21.7**	**5,615,070**

Investment criteria by program

Table 12 shows the estimated investment criteria by FRDC program area for the 2016–17 FRDC sample.

TABLE 12: INVESTMENT CRITERIA BY FRDC PROGRAM. (TOTAL INVESTMENT, 30 YEARS)

Program	PVB ($m)	PVC ($m)	NPV ($m)	BCR	IRR (%)	MIRR (%)
Environment	14.45	6.35	8.09	2.27	13.6	7.8
Industry	74.46	8.39	66.07	8.87	26.2	12.2
Communities	2.75	1.05	1.70	2.62	11.5	8.2
People	0.14	0.16	–0.03	0.84	4.3	4.7
Adoption	0.38	0.20	0.19	1.95	26.2	7.9
Aggregate total	**92.17**	**16.15**	**76.02**	**5.71**	**21.7**	**10.8**

Discussion

At the individual project level, six of the 20 project investments subjected to impact assessment were not valued in monetary terms. The total investment across all of the 20 RD&E projects ranged from $0.05 million to $4.45 million (present value terms), while the estimated benefits ranged from zero to $67.13 million. The weighted average BCR for all 20 projects was approximately 5.7 to 1 and the simple average BCR was approximately 4.3 to 1. The BCR for only the 14 projects valued was estimated at 7.7 to 1.

At the program level, four of the five FRDC's program areas reported a positive BCR (greater than, or equal to, 1 to 1). Based on the investment criteria presented, the Industry program reported the best performance with an estimated BCR of 8.9 to 1. This positive result was influenced strongly by the high BCR estimated for project 2013-051 (The Australian aquatic animal health and vaccine centre).

On the other hand, based on the results estimated and the FRDC program allocations, the People program reported the lowest performance with a BCR of 0.8 to 1. In part, this was because, of the two projects partially allocated to the People program (2012-403 and 2016-411), only 2016-411 was valued in monetary terms and the non-valued project (2012-403) had relatively higher investment costs. It is anticipated that, as further project investments from the People program are evaluated as part of the ongoing, annual FRDC evaluation process, future aggregate results reported over time may lead to positive results for the People program. However, it should be noted that, in general, proportionally less impacts for the Communities, People and Adoptions programs are able to be valued in monetary terms, and this likely will affect the program level investment criteria over time.

Conclusion

Total funding from all sources across all 20 RD&E project investments totalled $16.15 million (present value terms) and produced estimated total expected benefits of $92.17 million (present value terms). This gave an aggregate NPV of $76.02 million, a weighted average BCR of approximately 5.7 to 1, an IRR of 21.7 per cent and an MIRR of 10.8 per cent.

The overall result should be viewed positively by FRDC, the various fisheries and aquaculture industries, and policy personnel responsible for allocation of public funds.

REPORT OF OPERATIONS PART 3

SERVICES

MARKETING

During the year the FRDC did not undertake any marketing activities.

Promotional possibilities for fishing and seafood

The *Rural Research and Development Legislation Amendment Act 2013* received Royal Assent on 13 December 2013. It extends the scope and range of activities the FRDC and other RDCs can undertake by amending their enabling legislation, the PIRD Act. The legislative changes now allow the FRDC to link RD&E to marketing, as part of a natural progression to improve outcomes for the industry.

A number of activities have progressed the FRDC towards redressing this. These are outlined below.

Voluntary marketing funds

On Wednesday 29 March 2017, the Hon. Luke Hartsuyker MP, Assistant Minister to the Deputy Prime Minister, introduced the *Primary Industries Research and Development Amendment Bill 2017* into the House of Representatives. The bill is designed to allow PIRD Act RDCs to conduct marketing activities with voluntary contributions.

On 24 August 2018, the *Primary Industries Research and Development Amendment Bill 2017* received Royal Assent. This change allows FRDC to undertake marketing activities with voluntary funds.

Marketing levies development

As part of developing the appropriate systems and knowledge, the FRDC has continued to meet with the levies area of DAWR as part of assisting APFA and the Abalone Council Australia to move to implement a marketing levy. These meetings have helped establish a clear picture of the processes, steps and time frames required to put in place a statutory levy, if industry decides to go down this path.

Prawn farmers path to market

The APFA consultation process was completed in early February 2017. Due to the continuing concerns and issues associated with the outbreak of White Spot Disease, the APFA postponed the vote to put in place a marketing levy. Consultation recommenced in early 2018, with a vote expected later in the year.

Australian Wild Abalone™

The Abalone Council Australia (ACA) has continued discussions with fishers on establishing an abalone marketing levy with a view to funding the continuation and expansion of the Australian Wild Abalone™ program. Development of a business case and marketing plan was completed during the year.

Extensive consultation continued, undertaken by the ACA, to ensure it spoke with as many industry people as possible. The ACA continued to refine documentation following consultation and expects to progress to a vote later in 2018.

TRADE

Trade statistics

International trade and exporting plays an important role for many in the Australian seafood industry. The FRDC is now providing access to the latest Australian Bureau of Statistics trade data that covers import and exports to and from Australia.

The data is updated monthly and can be filtered and will allow in-depth analysis of import and export trends based on key attributes—country, state, product type. Export codes have been grouped together in logical blocks for ease of use. Visit the trade portal at www.frdc.com.au/Services/Trade-data.

FRDC to manage technical barriers to trade on behalf of DAWR

The FRDC is assisting DAWR to undertake a review of commercially significant non-tariff barriers affecting Australia's highly-traded or trade-ambitious agricultural commodities across key markets.

The project will work with other rural RDCs and will focus on developing a methodology for assessing and collating non-tariff barriers of significance. This will be done via using a small number of internationally-traded primary industry commodities as case studies.

Seafood trading, European style

FRDC project 2011-412

For further information: Peter Horvat, 02 6285 0400, peter.horvat@frdc.com.au

NATIONAL PRIORITY	INFRASTRUCTURE	PARTNER: Jurisdiction	PARTNER: Industry	COLLABORATION
ENVIRONMENT	INDUSTRY	COMMUNITIES	PEOPLE	ADOPTION

It can be difficult to grasp the global experience that is seafood from the deck of an individual vessel struggling to make headway in domestic regulatory squalls and fluctuating market currents.

But two fishers from Queensland and one from Western Australia took up FRDC-sponsored bursaries this year to attend a trade tour to the United Kingdom followed by the Seafood Expo Global in Belgium in April, which has given them new insight and direction for their own businesses.

Tom and Kath Long, from TomKat Line Fish in Queensland, and Morgan Hand from Chaceon in Western Australia, joined an eight-day tour that included visiting retailers, markets, fishers, restaurants, with a side trip to the Belgian port of Ostend, and finally the Seafood Expo Global in Brussels.

The FRDC's trade tour program aims to help companies and individuals better understand the seafood market globally. It is designed to give participants an opportunity to expand their horizons in whichever market they operate.

STANDARDS

The FRDC is accredited by Standards Australia as a Standards Development Organisation. On 13 October 2017, FRDC undertook a surveillance audit to maintain its accreditation and was successful.

The FRDC has continued to work with industry partners throughout the year looking at a number of potential options to create future fisheries-related standards. The FRDC Board approved the development of a new standard 'Aquatic Plant Names' which is scheduled to be published in late 2018. During the year, a decision was made not to proceed with republishing AS4470-1997 *Fishing line—Determination of breaking load* due to lack of stakeholder and industry support.

For further information: www.seafoodstandards.com.au

Australian Fish Names Standard

The Australian Fish Names Standard is a searchable online database (www.fishnames.com.au) that includes all species listed in the standard. Users can find a fish by name and check its previous or non-standard names, as well as seeing an image in some cases.

This increases consumer confidence in the seafood they buy because standard names allow for more effective fisheries monitoring and management, which in turn results in greater sustainability of fisheries resources. Traceability and food-safety management can also be improved with more efficient seafood marketing campaigns, which should lead to increased industry profitability.

Having a standard in place also allows for more efficient and effective management of food safety and reduces the potential for misleading and deceptive conduct as more accurate trade descriptors can be used.

FISH NAMES COMMITTEE MEMBERSHIP

Independent Chair	Gus Dannoun
Australian seafood industry representative	Simon Boag
Fisheries management agencies representative	Jason Gibson as nominee and coordinated attendance with Heather Brayford
Recreational fishing representative	Russell Conway
Seafood importers representative	Norm Grant/Mark Boulter
Major supermarkets representative	Hamish Allen
Seafood processors representative	Anthony Mercer
Hospitality industry representative	Glenn Austin
Department of Agriculture and Water Resources representative	Lisa McKenzie
Expert member (seafood marketing, fish and invertebrates taxonomy)	Don Tuma
Expert member (fish taxonomy)	Gordon Yearsley
Expert member (seafood marketing)	Anni Conn
Expert member (Master Fish Merchants' Association of Australia representatives)	Kerry Strangas
CSIRO fish taxonomy representative	Karen Gowlett-Holmes

OBSERVERS AND NON-VOTING MEMBERS

Standards Development Organisation representative	Patrick Hone
Standards Development Organisation representative	John Wilson
Standards Development Organisation representative	Peter Horvat

PROJECT MANAGER AND ADMINISTRATION

Fish Names Committee Project Manager	Alan Snow

Fish Names update

During the year the Fish Names Committee approved the following fish names for inclusion in the Australian Fish Names Standard.

Application number	CAAB* code	Action to Australian Fish Names Standard	Scientific name (and authority)
275	28 916001	Added standard fish name (SFN) Champagne Crab	*Hypothalassia acerba* (Koh & Ng, 2000)
276	28 916002	Added SFN Eastern Champagne Crab	*Hypothalassia armata* (De Haan, 1835)
278	25 416014	Added SFN Blackspotted Sea Cucumber	*Pearsonothuria graeffei* (Semper, 1868)
279	25 416017	Added SFN Snakefish (Sea Cucumber)	*Holothuria coluber* (Semper, 1868)
280	25 416055	Added SFN Brownspotted Sea Cucumber	*Holothuria impatiens* (Forskal, 1775)
277	25 416070	Added SFN Deepwater Blackfish (Sea Cucumber)	*Actinopyga palauensis* (Panning, 1944)
281	25 417007	Added SFN Selenka's Sea Cucumber	*Stichopus horrens* (Selenka, 1868)
282	25 417009	Added SFN Brown Mottled Sea Cucumber	*Australostichopus mollis* (Hutton, 1872)
283	25 417012	Added SFN Curryfish Vastus (Sea Cucumber)	*Stichopus vastus* (Sluiter, 1887)
284	25 417014	Added SFN Ocellated Sea Cucumber	*Stichopus ocellatus* (Massin, Uthicke, Purcell, Rowe & Samyn, 2009)
285	25 416013	Changed SFN to Leopardfish (Sea Cucumber) from Tigerfish (Sea Cucumber)	*Bohadschia argus* (Jaeger, 1833)
286	25 416015	Amend SFN to Chalkfish (Sea Cucumber) from Brown Sandfish (Sea Cucumber)	*Bohadschia marmorata* (Jaeger, 1833)
287	25 416065	Changed SFN to Brown Sandfish (Sea Cucumber) from Chalkfish (Sea Cucumber)	*Bohadschia vitiensis* (Semper, 1868)
288	28 911122	Added SFN Keeled Mud Crab	*Scylla paramamosain* (Estampador, 1949)
256	28 911007	Added SFN Orange Mud Crab	*Scylla olivacea* (Herbst, 1796)
257	28 911008	Added SFN Giant Mud Crab	*Scylla serrata* (Forsskål, 1775)
289	24 045004	Added SFN Wavy Periwinkle	*Lunella undulata* (Lightfoot, 1786)
290	24 045904	Added SFN Turban Shells	*Turbinidae* spp.
291	37 226797	Added SFN Arctic Molva	*Molva molva* (Linnaeus, 1758)

* The Codes for Australian Aquatic Biota (CAAB) is an expanding eight-digit coding system for aquatic organisms in the Australian region maintained by the CSIRO Division of Marine and Atmospheric Research.

INFORMATION AND COMMUNICATIONS TECHNOLOGY

Aligning information management systems for the future

During 2017–18, the information and communications technology (ICT) team worked on adding features to the current ICT systems to increase efficiencies and productivity. The features added include business process management extensions, dynamic document generation, interactive dashboards and reports.

Work was also done to improve integration between cloud services and on-premise services through network integration to allow for greater efficiency and more seamless system operation. Identity management with external research providers was also a focus during the year to facilitate more effective collaboration.

A pilot project was undertaken with Queensland Department of Agriculture and Fisheries to develop smart forms-based stock status authoring and dynamic generation of reports. The underlying cloud-based database architecture could allow for automated reporting to the national SAFS Reports.

Web services

FRDC continues to host a suite of websites that support its RD&E activities. FRDC has started to play a bigger role in the development and hosting of the websites funded through specific projects. This innovation will allow for the websites to continue to function or be archived after the duration of the projects.

The new Whichfish website (www.whichfish.com.au) was launched. It is designed to assist businesses who trade or sell wild-caught seafood to determine the stock, environmental and management risks associated with the seafood they buy and sell. The platform makes comprehensive risk assessments of 20 Australian fish species and is now available to the public. In addition it provides access to third-party assessments of fisheries such as those made by the Marine Stewardship Council.

Websites hosted by the FRDC:

- frdc.com.au,
- fishfiles.com.au (updated) (information for all seafood consumers),
- fish.gov.au (SAFS Reports),
- fishnames.com.au (Australian Fish Names database),
- fishandchipsawards.com.au (voting for Australia's best fish and chips),
- carp.gov.au (information on the National Carp Control Plan),
- seafoodstandards.com.au (information on seafood standards and their development),
- safefish.com.au (technical advice to support Australia's seafood trade),
- sesafe.com.au (new) (raise awareness and improve safety in the fishing and aquaculture industry),
- fish-X.com.au (new) (pathway to take innovative ideas to solve big industry challenges),
- whichfish.com.au (helps businesses find out more about Australian seafood).

CORPORATE COMMUNICATIONS

The FRDC aims to disseminate accurate information and research, but also to engage industry in order to gauge the value of its activities and ensure that it is investing appropriately. Over the past year, a greater emphasis was placed on platforms that allowed for authentic engagement, such as face-to-face or via social media. Several new web platforms were launched and older ones consolidated and improved. The FRDC attended and presented at industry events across the country to ensure stakeholders had the opportunity to have their say. This was supported by the dispersal of in-depth information through *FISH* magazine and the FRDC's digital platforms.

FISH magazine

FISH magazine is a substantial tool for FRDC to communicate with industry and its broader stakeholders. It provides a way to deliver information on RD&E projects that are underway or have been finalised. The publication is the leading fisheries research magazine in Australia and has gained widespread recognition for its quality and accuracy, built up over many years of production. *FISH* provides the FRDC with a platform for extending knowledge generated from research as well to discuss key policy, practice and management issues that are relevant to fishing and aquaculture stakeholders. The data-driven approach continues to receive positive feedback and underpins that *FISH* (and the FRDC) is well respected and trusted by its stakeholders.

The FRDC has increased its digital *FISH* magazine coverage over the year with more stakeholders opting to receive electronic copies. Better availability of the magazine on the renewed digital platforms has seen increased user engagement. The magazine is also available for download via the Apple and android bookstores. Each edition of *FISH* goes to more than 17,000 stakeholders and has a readership (based on reader surveys) of around 50,000–60,000 per edition.

For further information: Peter Horvat, peter.horvat@frdc.com.au

Food service e-newsletter

Over 2017–18, the FRDC continued to deliver a fortnightly e-newsletter to the food service sector. The newsletter aimed to provide a stakeholder group who have considerable influence with consumers with up-to-date pieces of seafood news and information to better inform their decision making. The FRDC used a combination of research-based stories from FRDC projects and factually correct news to highlight an issue or topic as well as provide links back to the source for more detail.

In response to a perception of bias towards urban centres such as Melbourne and Sydney, the newsletter made an effort to highlight producers and restaurants in regional areas during the year. Each edition went out to around 2500 subscribers or approximately 50,000 over the year.

While feedback from the stakeholders was positive, the number of stories that were followed up (around 10,000–15,000) compared to the cost of development, collation and delivery did not warrant ongoing continuation of the newsletter. Alternate vehicles to engage with the food service sector will be explored in the future.

Video production

The FRDC continues to see video as an effective manner to gain greater awareness of its activities and the research it undertakes. In the past year, it funded a number of videos on the result of research being undertaken in Macquarie Harbour relevant to salmon aquaculture, about which there has been a lot of media attention and misinformation. Other stories produced include the value of fishing in local communities, innovation in fishing and aquaculture, and current research underway in Tasmania. The videos can be accessed via the Fishfiles website—www.youtube.com/user/FRDCFishfiles/.

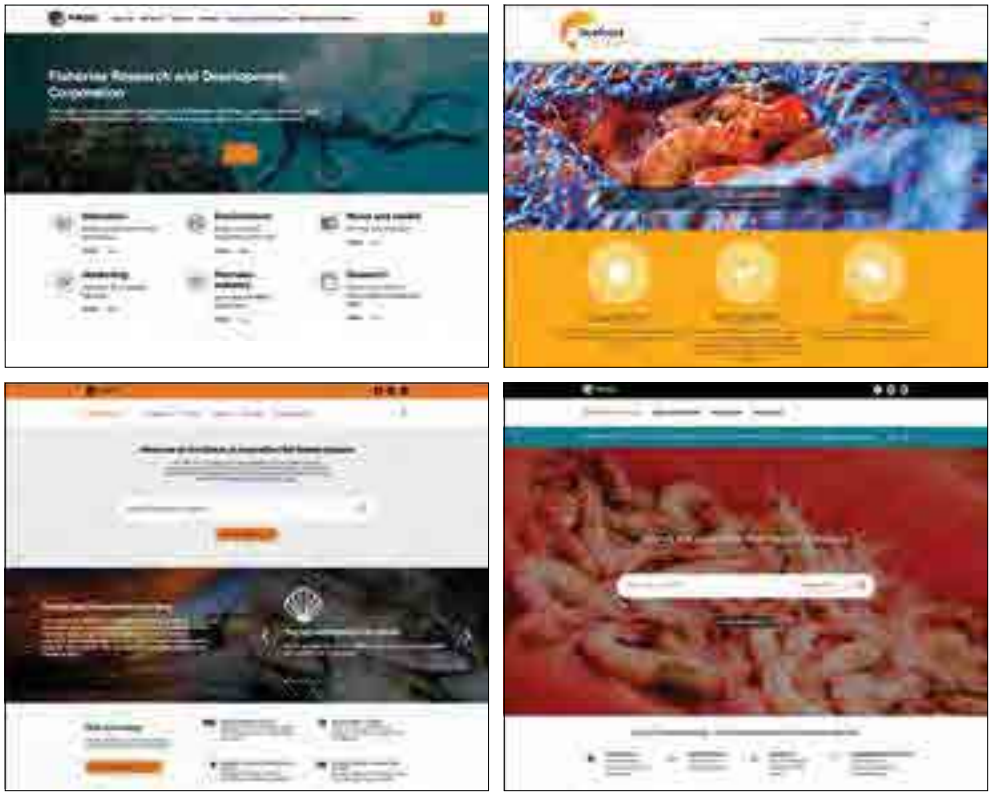
The FRDC communications team undertook training in digital content creation in order to create relevant content for dispersal on social media. This aim is to raise awareness of FRDC activities and engagement with the sector.

Digital communications

In recent years, the FRDC has undertaken a plan to renew its online presence. This has involved a number of changes to both hardware and software infrastructure that underpin the FRDC's websites. In 2017–18, the process of consolidation continued with the launch of an updated Fishfiles website (fishfiles.com.au), which now draws information from a database in common with four other website platforms—frdc.com.au, fish.gov.au, fishnames.com.au and seafoodstandards.com.au. Key to the renewed platforms is the use of data stored in a cloud-based system for improved management, greater security and minimised system downtime for both internal and external end users. This is the first upgrade to the FRDC's web infrastructure since 2012.

A new website—whichfish.com.au—was launched. The site is designed to assist businesses who trade or sell wild-caught seafood to determine the stock, environmental and management risks associated with the seafood they buy and sell.

Additional project-specific websites have also been launched. Fishandchipsawards.com.au provides information on species, links to other FRDC platforms and provides registration and voting services for the 2018 national fish and chips awards. The awards were launched and run by the FRDC in 2017.



Social media

Social media gives FRDC the chance to interact and engage with consumers and address questions and respond to their concerns. Embracing social media opens up the way FRDC can communicate with consumers and the community more broadly.

In addition to its expanded web presence, the FRDC has further cemented its online presence with an expansion of the number of social media platforms on which it operates. These platforms are used to drive users to FRDC research and information housed on its websites. The FRDC can be found on Facebook, Twitter, Instagram, LinkedIn and YouTube.

The FRDC has just over 22,000 followers on Facebook, and 1000 on Twitter. As a whole, across all social media platforms the FRDC now has in excess of 40,000 followers. A library of YouTube videos has also been created to cover topics from cooking seafood to fishing and aquaculture practices.

REPORT OF OPERATIONS PART 4

MANAGEMENT AND ACCOUNTABILITY

Management and accountability activities focus on continually improving how the FRDC operates and manages its organisation. A large part of the activities undertaken align and respond to legislative and financial requirements. These also align with the corporate governance section starting on page 114.

FRDC strategic planning and reporting documents (comprising RD&E plan, annual operational plan and annual report) were completed and presented within their duly legislated time frames to the Minister for Agriculture and Water Resources and his department. These documents aim to identify the key issues that face the FRDC, and outline strategies to take advantage of opportunities, and to minimise or mitigate against negative risks.

Principal inputs

During 2017–18, management and accountability was $5.39 million or around 17.2 per cent of total FRDC expenditure.

Performance indicators

Since the management and accountability outputs contribute to the planned outcome of the FRDC's RD&E programs, they are crucial to the FRDC's effectiveness and efficiency. These outputs are outlined on the following pages.

Performance indicators	Target	Achievement
Projects focus on the FRDC Board's assessment of priority research and development issues.	95%	Achieved. All projects assessed were identified as a priority via the funding process.
Projects are assessed as meeting high standards/ peer review requirements for improvements in performance and likely adoption.	95%	Achieved. Because all projects assessed were identified as a priority via the funding process the likelihood of adoption is high.
Maintain ISO 9001:2008 accreditation.	100%	Accreditation achieved. See page 108.
Submit planning and reporting documents in accordance with legislative and Australian Government requirements and time frames.	100%	Achieved. All documents submitted on time.
Implement best practice governance arrangements to promote transparency, good business performance and unqualified audits.	100%	Achieved. FRDC audit met best practice standards, see pages 115–122 and 126–127.
Demonstrate the benefits of RD&E investments by positive benefit cost analysis results.	100%	Achieved. FRDC undertook benefit cost analysis against each program area, see pages 62, 74, 78, 82 and 86.

Quality system

The FRDC is a certified AS/NZS ISO 9001:2015 organisation for quality, and undertakes internal and external audits annually with a recertification audit of its quality system each three years. The FRDC carried out one internal audit in 2017 and undertook a surveillance audit to maintain its accreditation and was successful.

Risk management

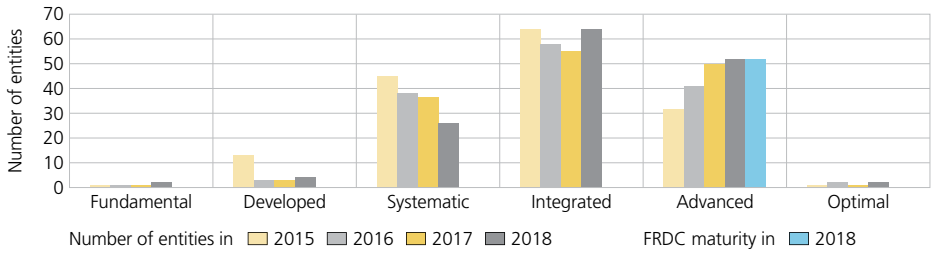
There was no incidence of fraud detected at the FRDC during 2017–18.

Risk management is incorporated into FRDC's activities in accordance with its risk management policy, which is integrated into its quality management system and internal audit program. FRDC also has a fraud control plan in accordance with the Commonwealth Fraud Control Framework produced by the Attorney-General's Department which seeks to minimise the likelihood and impact of fraud. During the year, FRDC undertook an internal audit of its fraud control plan.

All employees and the Finance, Audit and Risk Management Committee participated in an internal risk workshop on 11 April 2018 which was used to review and update the FRDC's risk management framework. Additionally, the Board reviews the highest-ranked strategic risks at every meeting.

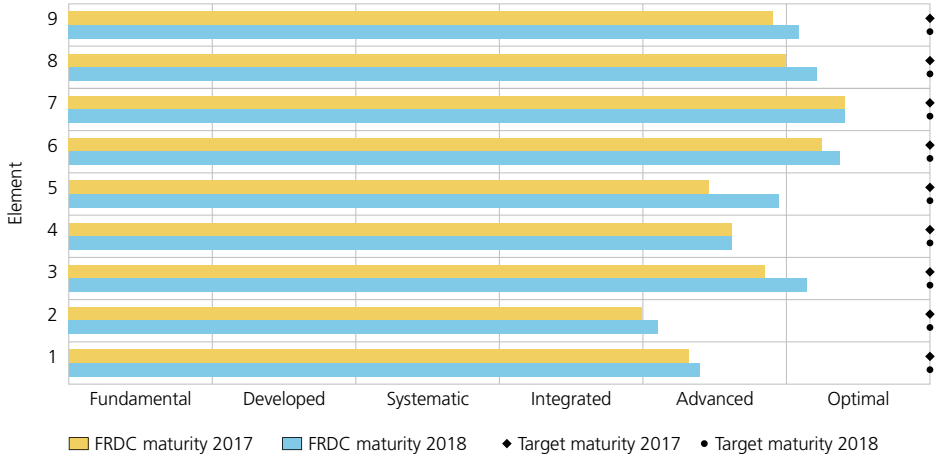
In 2017, the FRDC participated in Comcover's Risk Management and Benchmarking Survey which is conducted annually. The program measures FRDC's risk management maturity across the nine elements of the Commonwealth Risk Management Policy. FRDC achieved a maturity level of 'advanced' after the average maturity level of all survey participants in 2017 was integrated.

FRDC RESULT AGAINST TOTAL POPULATION PERFORMANCE



This year, your entity (FRDC) recorded an overall risk maturity of 'advanced'. The average maturity state of all participants in 2018 is 'integrated'. Last year, FRDC recorded an overall risk maturity of 'advanced'.

FRDC CURRENT MATURITY AGAINST TARGET MATURITY BY ELEMENT



Element
1. Establishing a risk management policy
2. Establishing a risk management framework
3. Defining responsibility for managing risk
4. Embedding systemic risk management into business processes
5. Developing a positive risk culture
6. Communicating and consulting about risk
7. Understanding and managing shared risk
8. Maintaining risk management capability
9. Reviewing and continuously improving the management of risk

Element 3 is where the FRDC has the strongest risk management capability.
Element 8 is where the FRDC can most improve.
Element 8 is where the FRDC's target risk maturity exceeds their actual maturity by the greatest amount.

Industry contributions

At the core of FRDC's finances is maintaining solid partnerships with those contributing stakeholders, namely the state and territory fisheries agencies and individual industry sectors. The FRDC currently has 12 IPAs and has signed a new agreement with the Austral Fisheries and Australian Longline for a new Antarctic and Subantarctic IPA.

These partnerships offer both parties a number of advantages. For industry they provide more involvement in determining and undertaking RD&E. For the FRDC they provide a more certain flow of industry funds and ultimately a greater understanding of the fishing industry.

An overview of state and territory contributions against the maximum matchable contribution is shown in Table 6: Contributions, maximum matchable contributions by the Australian Government and returns on investment, 2017–18 (page ii).

FRDC also holds a share in Australian Seafood Co-products (ASCo) which is a company developed to look at alternate uses for fish processing waste.

Agreements and contracts

Each year the FRDC engages companies, research institutions and government agencies to undertake RD&E activities. The process for applying for funding is outlined on the FRDC's website. Each organisation selected is directly engaged under contract for that project. The FRDC engages each organisation using a contract or consultancy agreement that outlines the requirements and responsibilities associated with undertaking work for the FRDC. This includes obligations around government policy and standards such as privacy, fraud, and work health and safety. A list of all active projects, including projects approved by the FRDC Board is available on the website—www.frdc.com.au.

Consultancy services and selection of suppliers

During the year, the FRDC paid 17 consultancies which were valued at $10,000 or more (see tables on following page).

When selecting suppliers of goods and services, the FRDC follows its procurement policy procedure which seeks to achieve value for money and to deal fairly and impartially with its suppliers. Obtaining value for money does not necessarily require the cheapest supplier to be selected. Other factors considered are urgency, quality, ethical conduct of the supplier, and whole-of-life costs.

The FRDC's policies and procedures align with principles contained in the Commonwealth Procurement Rules and are available from the FRDC website.

CONSULTANCY SERVICES

Consultancy	Description	Amount exclusive of GST
Forest Hill Consulting	Board performance review	$31,852
UBranding Pty Ltd	Communications and media services	$81,402
Randstad	Communications and media services	$45,821
Christine Quick	Corporate consulting	$23,100
Ashurst Australia	Legal advisory services	$54,985
IT Payroll Solutions	Quality management consulting	$101,445
Mercer Human Resource Consulting	Workforce management/planning	$82,819
Feldmanis & Associates Pty Ltd	Independent Member of the Finance, Audit and Risk Management Committee	$10,124
PricewaterhouseCoopers	Internal auditors	$28,841
Myriad Technologies	Information management consulting	$51,846
Wayk Consulting Pty Ltd	Information technology services	$187,580
George X IT solutions	Information technology services	$112,386
Isentrix Pty Ltd	Information technology services	$86,765
Spyda Web Group Pty Ltd	Information technology services	$62,000

CONSULTANCY SERVICES AS REQUIRED UNDER SECTION 311A OF THE *COMMONWEALTH ELECTORAL ACT 1918*

Consultancy	Description	Amount exclusive of GST
Making Data Easy	Customer relationship management maintenance of mailing list for *FISH* magazine	$80,363
Intuitive Solutions	Stakeholder research	$43,100

The FRDC has met Office of Legal Services Coordination obligations and submitted the signed Annual Compliance Certificate and Legal Services Directions Expenditure report for 2017–18.

Ministerial directions

The PIRD Act provides that the portfolio Minister may give direction to the Corporation with respect to the performance of its functions and the exercise of its powers. In addition, the Finance Minister, under the PGPA Act, may notify the Board of any general Australian Government policies that apply to the FRDC. In 2017–18, no ministerial directions and notifications were received.

Government policy

The FRDC complied with all relevant Australian Government policy requirements:

- Australian Government Cost Recovery Policy,
- Australian Government Commonwealth Procurement Rules,
- Australian Government Commonwealth Property Management Framework,
- Commonwealth Fraud Control Guidelines 2011,
- Foreign Exchange (Forex) Risk Management,
- National Code of Practice for the Construction Industry and the Commonwealth's Implementation Guidelines.

See the compliance index starting on page 180.

Protective Security Policy Framework

The FRDC wrote to the Minister on 4 August 2017 to report that the FRDC was compliant with the framework. There have been no changes since that time.

The FRDC has worked consistently during the year to align its practices with the Protective Security Policy Framework. The FRDC has implemented a number of physical and system changes to meet the requirements of the framework, which include installing both physical security and information technology improvements. The FRDC continues to work on improving its security policies and procedures with regards to security risk management.

Judicial reviews and administrative tribunals

There were no judicial or administrative tribunal decisions that had a significant effect on the operations of the FRDC in 2017–18.

Freedom of information

In 2017–18, the FRDC received two requests pursuant to the FOI Act. The FRDC makes documents available to the public under the *Freedom of Information Act 1982* (FOI Act), either in response to requests for access to information, or through its websites, in accordance with the Information Publication Scheme (IPS).

Agencies subject to the FOI Act are required to publish information to the public as part of the IPS, in accordance with Part II of the Act. Each agency must display on its website a plan showing what information it publishes in accordance with the IPS requirements. The FRDC's IPS plan is available on the website under 'about us/freedom of information'.

In many cases it may not be necessary to request the information under the FOI Act—the FRDC may simply provide it when asked. At all times, however, individuals have the option of applying under the FOI Act.

Energy efficiency

The Commonwealth Government has established energy efficiency targets in its document *Energy Efficiency in Government Operations Policy* which seek to improve energy efficiency in relation to vehicles, equipment and building design.

The FRDC adheres to this policy. It is a minority tenant occupying part of an office building and does not own motor vehicles or large equipment. Prudent management of power consumption is followed within the FRDC's premises. For example, energy efficient lighting has been installed and timer switches have been placed in offices to reduce the time lights are left on.

Work health and safety

The FRDC is committed to providing a safe and healthy environment for all staff, contractors and visitors to its workplace. The Corporation recognises that its people are its greatest asset and its most valuable resource. The FRDC's ultimate goal is that its workplace is free of injury, illness and disease. The FRDC complies with its legislative obligations under the *Work Health and Safety Act 2011* (WHS Act) and takes all reasonably practicable steps to ensure a safe working environment. Regular maintenance of equipment and testing of electrical cables is also undertaken.

The FRDC's Workplace Health and Safety Policy and procedure has been developed in accordance with the requirements under the WHS Act in consultation with FRDC's employees. The FRDC also recognises that continued reviewing and improvement of its health and safety management system makes good sense legally, morally and from a business perspective.

In recognition of the issue of safety in the sector as a whole, and as duty of care to its staff, the FRDC now requires all staff to wear life jackets when engaged in any FRDC activities on board a vessel.

PART 4 OF THE *WORK HEALTH AND SAFETY ACT 2011*

Statistics of any notifiable incidents of which the entity becomes aware during the year that arose out of the conduct of businesses or undertakings by the entity.	• No injuries occurred on FRDC premises during 2017–18.
Initiatives taken during the year to ensure the health, safety and welfare of workers who carry out work for the entity.	• Consultation of WHS issues includes all staff. • Agreed health and safety management arrangements policy and procedures.
Health and safety outcomes (including the impact on injury rates of workers) achieved as a result of initiatives mentioned under paragraph (a) or previous initiatives.	• Health and safety awareness and incidents are brought to the attention of all staff at staff meetings. • Occupational rehabilitation physiotherapist provides ergonomic assessments to all new staff in their immediate working environment, and when requested. • Staff are provided with access to influenza vaccinations. • Workplace safety training. • Annual fire safety and warden training, and six-monthly checks of fire safety equipment. • Annual testing and tagging of electrical appliances. • Qualified first aid officer and fire warden. • Assessment of risks in line with the risk framework annual review.
Investigations conducted during the year that relate to businesses or undertakings conducted by the entity, including details of notices given to the entity during the year under part 10 of the Act.	• Increased awareness of roles and responsibilities in WHS including responsibilities of managers. • No requests were received from staff and no undertakings were given by the FRDC. • No directions or notices were given to the FRDC.

Notifiable incidents	2013–14	2014–15	2015–16	2016–17	2017–18
Deaths	0	0	0	0	0
Dangerous occurrences	0	0	0	0	0
Serious personal injury	0	0	0	0	0
Incapacity	0	0	0	0	0
Total	0	0	0	0	0

Comcare Australia is responsible for worker's compensation insurance coverage within the FRDC. The insurance premiums are levied each year based on the level of salaries and wages costs and experience in claims made by employees.

REPORT OF OPERATIONS PART 5

CORPORATE GOVERNANCE

CORPORATE GOVERNANCE

Governance refers to processes by which organisations are directed and controlled—including, characteristics such as authority, accountability, stewardship and leadership. Corporate governance is concerned with structures and processes for decision making, and with controls and behaviour within organisations that support effective accountability for performance outcomes.

The FRDC's general governance arrangements are established by legislation and government policies and reporting requirements. In addition to the requirements of the PIRD Act, which includes an annual operational plan, a research and development plan and an annual report, the Corporation also operates under the provisions of the PGPA Act which applies high standards of accountability for statutory authorities.

The Board and staff are strongly committed to ensuring good corporate governance. In doing so, the focus is on policies, structures, processes, controls, behaviours and transparency. To support the FRDC's high level of commitment to these principles, a full list of FRDC policies and copies of the financial statements are available from the FRDC website—www.frdc.com.au

Cost allocation policy

The Board, as the accountable authority, is required by the PGPA Act to establish and maintain systems of risk and control to create an operating environment that promotes the proper use and management of public resources, in pursuit of both the public good and the purposes of the entity for which it is responsible.

The Board

The Board comprises eight directors who are appointed in accordance with sections 17 and 77 of the PIRD Act. Directors are selected on the basis of their expertise in a variety of fields including commodity production and processing, conservation, science, economics, and business and financial management. All directors, except the managing director, are appointed for three years on a part-time basis.

At the commencement of a term all directors undergo a formal induction including a workshop run by the Australian Institute of Company Directors. In addition, to ensure the Board has a strong understanding and connection to the fishing industry and its stakeholders, it meets outside Canberra three times a year in regions key to the fishing industry. This provides directors with the opportunity to discuss issues with relevant industry stakeholders, as well as see first-hand, the fishing industry in action.

The Board plays a fundamental role in guiding the FRDC and provides management with strong leadership. It oversees the FRDC's corporate governance, ensuring the FRDC has a good framework of policies and procedures, playing a strong role in the approval and oversight of financial matters including the approval of new projects.

Details of the directors who held office during the year are shown on the following pages.

Directors' biographies

The Hon. Ron Boswell: Chair

Appointed as Chair 1 September 2016.

Ron Boswell represented the National Party in the Australian Senate for Queensland from 1983 to 2014 and led the party in the Senate from 1990 to 2007. In 2008 he became Father of the Senate.

Over the course of his political career Ron was the leader of the Nationals in the Senate from 10 April 1990 to 3 December 2007, holding many positions in the Coalition shadow ministry including Shadow Minister for Regional Development and External Territories (from September 1988 to April 1990), Shadow Minister for Northern Australia and External Territories (April 1993 to May 1994) and Shadow Minister for Consumer Affairs (May 1994 to December 1994). He was appointed Parliamentary Secretary to the Minister for Transport and Regional Services in July 1999 but left the position in October 2003.

Ron is a strong advocate for Australia's primary producers and improving their productivity and profitability based on the best knowledge available.

Renata Brooks: Deputy Chair

Director from 1 September 2009 (with a short break in appointment from 1–11 September 2012). Deputy Chair from 4 November 2015.

Renata Brooks is an Australian Fisheries Management Authority Commissioner, independent director and consultant. Previously she was Deputy Director General, Land and Natural Resources in the NSW Department of Primary Industries, with responsibility for the New South Wales crown land estate, natural resource policy and programs, and coordination of primary industry policy. She has held senior executive positions within the NSW Department of Primary Industries in the areas of science and research, agriculture, fisheries, biosecurity, compliance and mine safety. She holds a Bachelor of Veterinary Science from the University of Sydney with first class honours, a Graduate Certificate in Bioethics from the University of Technology Sydney, and is a Fellow of the Australian Institute of Company Directors.

Colin Buxton: Director

Director from 1 September 2015.

Colin Buxton is an independent director and principal consultant at Colin Buxton & Associates. Previously he was director of the Fisheries, Aquaculture and Coasts Centre at the Institute for Marine and Antarctic Studies (IMAS) at the University of Tasmania (UTAS). He has held senior management positions at the Port Elizabeth Museum, Rhodes University and the Australian Maritime College, as well as being the inaugural director of the Tasmanian Aquaculture and Fisheries Institute at UTAS. Colin is currently an adjunct professor at IMAS, and holds board positions at the Seafood CRC, Southern Rocklobster Limited, Tasmanian Environment Protection Authority and the Royal Hobart Golf Club to name a few. He has been a frequent consultant to government and industry in both South Africa and Australia, and is a graduate of the University of Cape Town and Rhodes University where he obtained a PhD for his work on the life histories and effects of exploitation on reef fishes. Much of his research has been focused on understanding the role of Marine Protected Areas as a conservation and fisheries management tool.

John Harrison: Director

Director from 1 September 2015.

John Harrison was appointed as Chief Executive Officer (CEO) of the Western Australian Fishing Industry Council in November 2013. In August 2017 he was appointed to the Board of the WA Marine Science Institution. Previously he was CEO of the Western Rock Lobster Council and executive officer of the Professional Fishermen's Association in New South Wales. He has been a member of many committees including estuary floodplain management, NSW Seafood Industry Advisory Council, and NSW, Northern Territory, Commonwealth and Western Australian Fisheries Research Advisory Bodies. He was CEO of Recfish Australia, participating in the National Oceans Advisory Group, National Shark Recovery Group, Co-management of Fisheries Task Force, and the Aquatic Animal Working Group under the Australian Animal Welfare Strategy. He was also executive director of the Amateur Fishermen's Association of the Northern Territory from 1998 to April 2005.

Lesley MacLeod: Director

Director from 1 September 2015.

Lesley MacLeod is the former CEO of Dairy Innovation Australia and a former board member of Murray Dairy, Barley Australia and MBQIP Ltd. She was educated in Edinburgh, Scotland and has a first class honours degree in marine biology and PhD from Heriot-Watt University. Following a 12-year research career in Edinburgh and Adelaide focusing on grains research Lesley moved into industry in Victoria where she gained over 20 years' experience in senior agribusiness management for Australian and multinational companies. Lesley has a focus on research management, innovation and commercialisation and has established a number of national RD&E programs and not-for-profit companies. She has a Diploma in Business Management and is a graduate of the Australian Institute of Company Directors.

Daryl McPhee: Director

Director from 1 September 2015.

Daryl McPhee is Head of Higher Degree Research at Bond University. His core expertise is in fisheries and marine ecology. He has published over 90 reports and publications include *Fisheries Management in Australia* (Federation Press) and the *Environmental History and Ecology of Moreton Bay* (CSIRO Publishing). Daryl has undertaken consulting projects on a range of projects including the impacts of dredging and spoil disposal, liquefied natural gas plants and pipelines, sand extraction, bauxite mining, port developments, desalination, thermal discharge from power generation, and fisheries and marine aquaculture. He is internationally recognised as a leader in fisheries management research and in terms of recreational fishing, is one of the most well-published researchers in Australia. Much of his recent work has focused on understanding and mitigating the risk of unprovoked shark bites on people, and the environmental history of Australian coastal areas.

John Susman: Director

Director from 1 September 2015.

John Susman is Managing Director and owner of FISHTALES, a seafood industry marketing consultancy. While completing a Bachelor of Arts (commerce) and his postgraduate studies, John ventured into restaurants at a crucial stage in the evolution of the Australian hospitality industry. Cutting his teeth alongside a cadre of legendary chefs provided him with a thorough knowledge and passion for what it takes to prepare, cook and present great food. He set up the legendary Flying Squid Bothers, an integrated scallop fishing business which became Australia's first water-to-plate operation. He is consistently regarded as a foremost authority on seafood, not only in Australia, but globally. John is a regular judge in consumer and industry awards and regularly appears on television, radio and print media to lend his expertise and views on sustainability and seafood. In 2004, John was admitted into the Fairfax Australian Food Industry Hall of Fame, for his services to the Australian food industry and in 2012 *Delicious* magazine also awarded him Outstanding Provedore of the Year.

Dr Patrick Hone: Managing Director

Appointed Managing Director from 21 April 2005.

Patrick Hone is Managing Director of the FRDC and a member of the National Marine Science Committee. Patrick has extensive knowledge of all sectors of the fishing and aquaculture industries. He has more than 20 years working for the FRDC and has played a key role in the planning, management and funding of fishing and aquaculture related research, development and extension in Australia. In recent years Patrick has become one of Australia's leading spokespeople on the role of marine science.

Patrick has a PhD from Adelaide University, and previously worked for the South Australian Research and Development Institute (SARDI) on a wide range of aquaculture research for Southern Bluefin Tuna, Pacific Oysters, mussels, Yellowtail Kingfish and abalone.

Independent committee member

Christine Feldmanis: Non-executive director

Appointed as an independent member of the Finance, Audit and Risk Committee September 2014.

Christine formerly held senior executive and C-suite positions with firms including Deloitte, Elders Finance, Bankers Trust, NSW TCorp and Treasury Group Ltd. She currently works as a professional non-executive director and is a director and chair of the Audit and Risk Committees of Perpetual Equity Investment Company Ltd, Hunter Water and FIIG Securities Ltd.

She is also a director of Uniting Financial Service and Bell Asset Management Ltd and an independent member of the Audit and Risk Committees for a number of New South Wales government agencies.

Attendance at Board meetings held during 2017–18

The tables below and on the following page show attendance at Board and committee meetings held during the year. The Chair approved all absences from Board meetings in accordance with section 71(2) of the PIRD Act.

TABLE 13: ATTENDANCE BY DIRECTORS AT BOARD MEETINGS INCLUDING TELECONFERENCES (t/c)

Date	05/07/2017	17/08/2017	20/09/2017 t/c	22/11/2017
The Hon. Ron Boswell (Chair)	Yes	Yes	Yes	Yes
Ms Renata Brooks (Deputy Chair)	Yes	Yes	No	Yes
Professor Colin Buxton	Yes	Yes	Yes	Yes
Mr John Harrison	Yes	Yes	Yes	Yes
Dr Lesley MacLeod	Yes	Yes	Yes	Yes
Associate Professor Daryl McPhee	Yes	Yes	Yes	Yes
Mr John Susman	No	Yes	Yes	Yes
Dr Patrick Hone (Managing Director)	Yes	Yes	Yes	Yes
Mr John Wilson (Company Secretary)	Yes	Yes	No	Yes

Date	28/02/2018	19/04/2018	14/06/2018	20/06/2018 t/c	28/06/2018 t/c
The Hon. Ron Boswell (Chair)	Yes	Yes	Yes	Yes	Yes
Ms Renata Brooks (Deputy Chair)	Yes	Yes	Yes	No	Yes
Professor Colin Buxton	Yes	Yes	No	Yes	Yes
Mr John Harrison	Yes	Yes	Yes	Yes	Yes
Dr Lesley MacLeod	Yes	Yes	Yes	Yes	Yes
Associate Professor Daryl McPhee	Yes	Yes	Yes	Yes	No
Mr John Susman	Yes	Yes	Yes	Yes	No
Dr Patrick Hone (Managing Director)	Yes	Yes	Yes	Yes	Yes
Mr John Wilson (Company Secretary)	Yes	Yes	Yes	No	Yes

Board committee

The Board had one committee operating during the year. The Finance, Audit and Risk Management Committee comprises at least two non-executive directors. It provides a forum for the effective communication between the Board and the external and internal auditors. It also oversees the FRDC Risk Management Framework.

TABLE 14: ATTENDANCE BY DIRECTORS, INDEPENDENT MEMBER, OBSERVER AND BUSINESS DEVELOPMENT MANAGER AT FINANCE, AUDIT AND RISK MANAGEMENT COMMITTEE MEETINGS

Date	14/08/2017	21/11/2017	30/01/2018	10/04/2018
Ms Renata Brooks (Committee Chair)	Yes	Yes	Yes	Yes
Professor Colin Buxton (Member)	No	Yes	Yes	Yes
Dr Lesley MacLeod (Member)	Yes	Yes	Yes	Yes
Ms Christine Feldmanis (Independent Member)	Yes	Yes	Yes	Yes
Dr Patrick Hone (Managing Director)	Yes	Yes	Yes	Yes
Mr John Wilson (Company Secretary)	Yes	Yes	Yes	Yes
The Hon. Ron Boswell (Chair)	No	Yes	Yes	No

Record of meetings

Minutes of each meeting are kept and agreed to by the Board. The managing director prepares a letter to the Minister on behalf of the Chair after Board meetings, highlighting significant events and items. The same occurs if a significant event occurs between Board meetings.

Directors' interests and related entity transactions

The FRDC's policy on directors' interests, complies with section 27 and 29 and Rule 13–16B of the PGPA Act. The policy centres on the principle that a director must disclose an interest whenever he/she considers there is a potential conflict of interests.

A standing notice (register) about directors' interests is updated at each Board meeting. All declarations of interests, and their consideration by the Board, are recorded in the minutes.

Importantly, where the director has declared a 'material personal interest' in a matter that relates to the affairs of the FRDC, in addition to the duty of disclosing that interest, the director must not be present while the Board is discussing that matter and, importantly, must not vote on the matter unless one of a number of specific exceptions applies.

Indemnities and insurance premiums for officers

The Corporation holds directors' and officers' liability insurance cover through Comcover. During the year, no indemnity-related claims were made.

When appropriate, the FRDC may take out insurance policies to mitigate insurable risk.

Remuneration policy

Remuneration of non-executive directors is determined by the Remuneration Tribunal.

Remuneration of the managing director and staff is determined by an FRDC policy set by the Board. The amount of individual remuneration of the managing director and staff is based on advice by Mercer Human Resources Consulting Pty Ltd. The amount is also influenced by performance measured against individual performance agreements and by the size of the program support component within the total FRDC budget, from which salaries are paid.

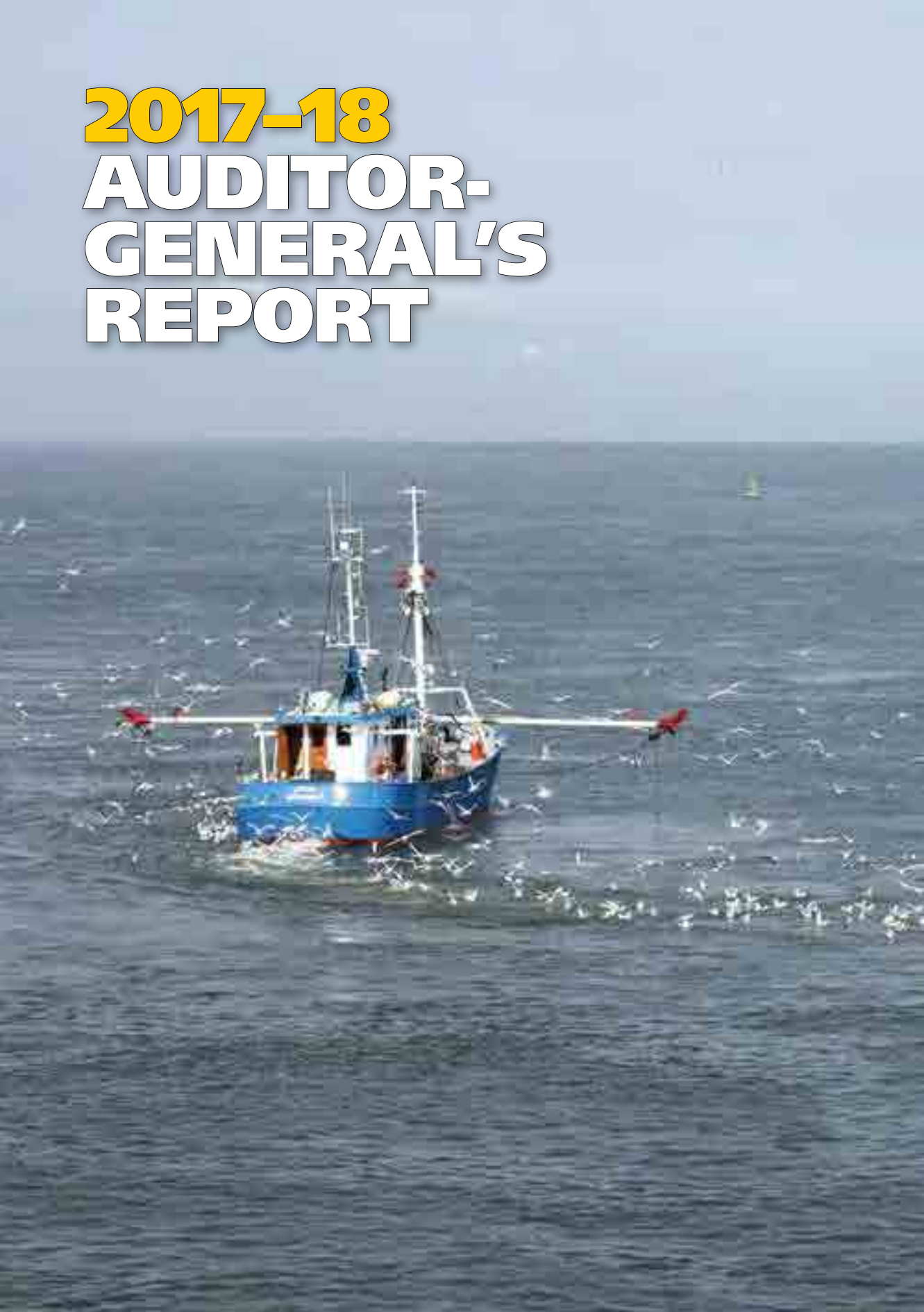
PIRD ACT REQUIREMENTS

Year	2017–18 actual	2018–19 estimate	2019–20 estimate	2020–21 estimate
Remuneration to non-executive directors and independent committee member	$306,254	$409,000	$422,000	$435,000
Selection committee expenses and liabilities	$37,488	$10,000	–	$60,000

Liabilities to staff

The FRDC provides for liabilities to its staff by ensuring its financial assets (cash, receivables and investments) are always greater than its employee provisions. Compliance with this policy is evidenced in the Statement of Financial Position in the Corporation's monthly financial statements.

2017–18 AUDITOR-GENERAL'S REPORT



Australian National Audit Office

INDEPENDENT AUDITOR'S REPORT

To the Minister for Agriculture and Water Resources

Opinion

In my opinion, the financial statements of the Fisheries Research and Development Corporation for the year ended 30 June 2018:

(a) comply with Australian Accounting Standards – Reduced Disclosure Requirements and the *Public Governance, Performance and Accountability (Financial Reporting) Rule 2015*; and

(b) present fairly the financial position of the Fisheries Research and Development Corporation as at 30 June 2018 and its financial performance and cash flows for the year then ended.

The financial statements of the Fisheries Research and Development Corporation, which I have audited, comprise the following statements as at 30 June 2018 and for the year then ended:

- Statement by the Accountable Authority (Chair and Deputy Chair), Managing Director and Chief Financial Officer;
- Statement of Comprehensive Income;
- Statement of Financial Position;
- Statement of Changes in Equity;
- Cash Flow Statement; and
- Notes to and forming part of the financial statements.

Basis for Opinion

I conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. My responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of my report. I am independent of the Fisheries Research and Development Corporation in accordance with the relevant ethical requirements for financial statement audits conducted by the Auditor-General and his delegates. These include the relevant independence requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) to the extent that they are not in conflict with the *Auditor-General Act 1997*. I have also fulfilled my other responsibilities in accordance with the Code. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Accountable Authority's Responsibility for the Financial Statements

As the Accountable Authority of the Fisheries Research and Development Corporation the Directors are responsible under the *Public Governance, Performance and Accountability Act 2013* for the preparation and fair presentation of annual financial statements that comply with Australian Accounting Standards – Reduced Disclosure Requirements and the rules made under that Act. The Directors are also responsible for such internal control as they determine is necessary to enable the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Directors are responsible for assessing the Fisheries Research and Development Corporation's ability to continue as a going concern, taking into account whether the entity's operations will cease as a result of an administrative restructure or for any other reason. The Directors are also responsible for disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the assessment indicates that it is not appropriate.

GPO Box 707 CANBERRA ACT 2601
19 National Circuit BARTON ACT
Phone (02) 6203 7300 Fax (02) 6203 7777

Auditor's Responsibilities for the Audit of the Financial Statements

My objective is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian National Audit Office Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with the Australian National Audit Office Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control;
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Accountable Authority;
- conclude on the appropriateness of the Accountable Authority's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the entity to cease to continue as a going concern; and
- evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

Australian National Audit Office

Rebecca Reilly
Executive Director

Delegate of the Auditor-General

Canberra
14 August 2018

FINANCIAL STATEMENTS

FOR THE YEAR ENDED 30 JUNE 2018

CONTENTS

STATEMENT BY THE ACCOUNTABLE AUTHORITY (CHAIR AND DEPUTY CHAIR), MANAGING DIRECTOR AND CHIEF FINANCIAL OFFICER

In our opinion, the attached financial statements for the period ended 30 June 2018 comply with subsection 42(2) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act), and are based on properly maintained financial records as per subsection 41(2) of the PGPA Act.

In our opinion, at the date of this statement, there are reasonable grounds to believe that the FRDC will be able to pay its debts as and when they fall due.

This statement is made in accordance with a resolution of the directors.

Signed .....
The Hon. Ronald Boswell
Chair
Accountable Authority

14.8.2018
Date

Signed .....
Renata Brooks
Deputy Chair
and Chair Finance, Audit and Risk Management Committee
Accountable Authority

14.8.2018
Date

Signed .....
Dr Patrick Hone
Managing Director

14/8/2018
Date

Signed .....
John Wilson
Chief Financial Officer

14 AUG 2018
Date

Statement of Comprehensive Income

FOR THE PERIOD ENDED 30 JUNE 2018

	Notes	2017–18 $	2016–17 $
NET COST OF SERVICES			
Expenses			
Employee benefits	1.1A	**3,300,256**	2,978,541
Suppliers	1.1B	**1,917,886**	1,693,807
Projects	1.1C	**25,999,419**	24,413,514
Depreciation and amortisation	2.2A	**174,655**	175,962
Losses from assets disposals	1.1D	**–**	1,921
Other expenses	1.1E	**–**	682
Total expenses		**31,392,216**	29,264,427
Own-source income			
Own-source revenue			
Sale of goods and rendering of services	1.2A	**345**	2,896
Interest	1.2B	**393,904**	330,233
Grants	1.2C	**2,019,497**	5,631,106
Contributions	1.2D	**9,037,070**	8,178,652
Other revenue	1.2E	**1,838,425**	1,423,092
Total own-source revenue		**13,289,241**	15,565,979
Total own-source income		**13,289,241**	15,565,979
Net cost of services		**18,102,975**	13,698,448
Revenue from the Australian Government	1.2F	**22,710,840**	21,755,390
Surplus on continuing operations		**4,607,865**	8,056,942
OTHER COMPREHENSIVE INCOME			
Items not subject to subsequent reclassification to net cost of services			
Changes in asset revaluation surplus	2.2A	**2,126**	134,327
Total other comprehensive income		**2,126**	134,327
Total comprehensive income		**4,609,991**	8,191,269

The above statement should be read in conjunction with the accompanying notes.

Statement of Financial Position

AS AT 30 JUNE 2018

	Notes	2017–18 $	2016–17 $
ASSETS			
Financial assets			
Cash and cash equivalents	2.1A	22,293,822	12,613,592
Trade and other receivables	2.1B	2,706,322	7,559,515
Other investments	2.1C	5,001	5,001
Total financial assets		25,005,145	20,178,108
Non-financial assets			
Property, plant and equipment	2.2A	116,650	154,700
Intangibles	2.2A	779,889	812,464
Other non-financial assets	2.2B	11,038	33,129
Total non-financial assets		907,577	1,000,293
Total assets		25,912,722	21,178,401
LIABILITIES			
Payables			
Suppliers and other payables	2.3A	257,103	180,572
Projects	2.3B	308,446	138,162
Other payables	2.3C	–	153,722
Total payables		565,549	472,456
Provisions			
Employee provisions	3.1A	1,012,664	981,427
Total provisions		1,012,664	981,427
Total liabilities		1,578,213	1,453,883
Net assets		24,334,509	19,724,518
EQUITY			
Asset revaluation reserves		412,900	410,774
Retained earnings		23,921,609	19,313,744
Total equity		24,334,509	19,724,518

The above statement should be read in conjunction with the accompanying notes.

Statement of Changes in Equity

FOR THE PERIOD ENDED 30 JUNE 2018

	2017–18	2016–17
	$	$
RETAINED EARNINGS		
Opening balance		
Balance carried forward from previous period	19,313,744	11,256,802
Adjusted opening balance as at 1 July 2017	19,313,744	11,256,802
Comprehensive income		
Surplus for the period	4,607,865	8,056,942
Total comprehensive income	4,607,865	8,056,942
Closing balance as at 30 June 2018	23,921,609	19,313,744
ASSET REVALUATION RESERVE		
Opening balance		
Balance carried forward from previous period	410,774	276,447
Adjusted opening balance as at 1 July 2017	410,774	276,447
Comprehensive income		
Other comprehensive income	2,126	134,327
Total comprehensive income	2,126	134,327
Closing balance as at 30 June 2018	412,900	410,774
TOTAL EQUITY		
Opening balance		
Balance carried forward from previous period	19,724,518	11,533,249
Adjusted opening balance as at 1 July 2017	19,724,518	11,533,249
Comprehensive income		
Surplus for the period	4,607,865	8,056,942
Other comprehensive income	2,126	134,327
Total comprehensive income	4,609,991	8,191,269
Closing balance as at 30 June 2018	24,334,509	19,724,518

The above statement should be read in conjunction with the accompanying notes.

Cash Flow Statement

FOR THE PERIOD ENDED 30 JUNE 2018

	Notes	2017–18 $	2016–17 $
OPERATING ACTIVITIES			
Cash received			
Receipts from the Australian Government		26,987,372	19,537,372
Contributions		10,587,269	8,918,230
Grants		2,019,497	5,631,106
Interest		330,623	320,457
Net GST received		1,601,195	2,312,791
Other		2,022,613	1,568,297
Total cash received		43,548,569	38,288,253
Cash used			
Employees		(3,213,576)	(2,988,064)
Suppliers		(1,970,060)	(1,817,634)
Projects expenditure		(28,429,077)	(26,892,454)
Total cash used		(33,612,713)	(31,698,152)
Net cash from operating activities		9,935,856	6,590,101
INVESTING ACTIVITIES			
Cash used			
Purchase of property, plant and equipment		(14,031)	(36,867)
Purchase of intangibles		(87,873)	(49,060)
Total cash used		(101,904)	(85,927)
Net cash used by investing activities		(101,904)	(85,927)
FINANCING ACTIVITIES			
Cash received			
Other[1]		–	153,722
Total cash received		–	153,722
Cash used			
Other[1]		(153,722)	–
Total cash used		(153,722)	–
Net cash (used by)/from financing activities		(153,722)	153,722
Net increase in cash held		9,680,230	6,657,896
Cash and cash equivalents at the beginning of the reporting period		12,613,592	5,955,696
Cash and cash equivalents at the end of the reporting period	2.1A	22,293,822	12,613,592

1 This amount was Love Australian Prawn campaign funds received on 29 June 2017 and held in trust by FRDC on behalf of the Seafood Cooperative Research Centre (CRC), then paid to Australian Council of Prawn Fisheries on 8 August 2017. Refer Note 2.3C page 149.

The above statement should be read in conjunction with the accompanying notes.

Overview

Objectives of the FRDC

The FRDC is an Australian Government controlled entity. It is a not-for-profit entity established as a statutory corporation on 2 July 1991 under the provisions of the *Primary Industries Research and Development Act 1989* (PIRD Act). The objectives of the FRDC are to plan and invest in fisheries research, development and extension (RD&E) activities and in related marketing activities.

As a national organisation with strong linkages to industry, managers, and researchers the FRDC has a fundamental role in providing leadership and coordination. The FRDC achieves this through establishing strong relationships, and putting in place mechanisms to identify and address priorities with industry and government stakeholders. In addition, the FRDC monitors and evaluates the adoption of RD&E and marketing outputs to better inform future decisions.

The FRDC is structured to meet the following outcome:

> *Increased economic, social and environmental benefits for Australian fishing and aquaculture, and the wider community, by investing in knowledge, innovation, and marketing.*

The continued existence of the FRDC in its present form, and with its present outcome, is dependent on Australian Government policy, and on continuing funding from the Australian Government for the FRDC's outcome.

The basis of preparation

The financial statements are general purpose financial statements, and are required by section 42 of the *Public Governance, Performance and Accountability Act 2013*.

The financial statements have been prepared in accordance with:

a) Public Governance, Performance and Accountability (Financial Reporting) Rule 2015 (FRR) for reporting periods ending on or after 1 July 2017, and

b) Australian Accounting Standards and Interpretations – Reduced Disclosure Requirements issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial statements have been prepared on an accrual basis, and in accordance with the historical cost convention, except for certain assets and liabilities at fair value. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position. The financial statements are presented in Australian dollars.

New Australian Accounting Standards

Adoption of new and future Australian Accounting Standard requirements

No accounting standard has been adopted earlier than the application date as stated in the standard.

The new standards, revised standards, interpretations and amending standards that were issued prior to the signing of the statements by the: Board Chair; Finance, Audit and Risk Management Committee Chair; Managing Director; and Chief Financial Officer; and are applicable to the current reporting period, did not have a material impact, and are not expected to have a future material impact, on the FRDC's financial statements.

Taxation

The FRDC is exempt from all forms of taxation except fringe benefits tax (FBT), payroll tax and the goods and services tax (GST).

Events after the reporting period

No reportable events have occurred after the Statement of Financial Position date.

Financial performance

Note 1.1: Expenses

Note 1.1A: Employee benefits

	2017–18	2016–17
	$	$
Wages and salaries	2,443,282	2,167,909
Superannuation		
Defined contribution plans	178,393	217,615
Defined benefit plans	389,762	326,673
Leave and other entitlements	288,819	266,344
Total employee benefits	3,300,256	2,978,541

Accounting policy

Accounting policies for employee related expenses are contained at Note 3.1A.

Note 1.1B: Suppliers

	2017–18	2016–17
	$	$
Goods and services supplied or rendered		
Agency staff	**8,860**	10,956
Annual report	**20,080**	22,586
Asset purchases less than $5,000	**57,315**	92,056
Audit fees	**32,000**	32,000
Cost of goods sold	**–**	1,319
External service providers	**499,880**	444,622
Insurance	**37,223**	31,075
Information technology	**483,237**	383,334
Joint research and development corporation (RDC) activities	**28,553**	39,239
Legal	**40,212**	19,696
Loss on inventory write off	**–**	10,614
Media monitoring and releases	**28,116**	25,723
Office supplies	**27,069**	30,713
Photographs	**2,747**	11,072
Postage and couriers	**2,856**	3,759
Property	**30,309**	47,185
RD&E plan	**4,000**	–
Recruitment/director selection costs	**37,488**	14,430
Representation	**46,370**	19,459
Representative organisations consultation	**28,095**	18,792
Telecommunications	**36,468**	34,719
Training	**149,743**	77,490
Travel	**110,039**	135,632
Other	**40,677**	26,431
Total goods and services supplied or rendered	**1,751,337**	1,532,902
Other suppliers		
Operating lease rental in connection with		
External parties		
Operating lease rentals[1]	**150,657**	142,356
Workers compensation expenses	**15,892**	18,549
Total other suppliers	**166,549**	160,905
Total suppliers	**1,917,886**	1,693,807

Footnotes are on following page.

NOTE 1.1B: SUPPLIERS (CONTINUED)

1 Operating lease commitments

Canberra office

Operating leases included were effectively non-cancellable. The lease for the office accommodation at 25 Geils Court, Deakin, Australian Capital Territory has been renegotiated for a further three years and expires 31 July 2020. Lease payments are subject to a 3 percent annual increase in accordance with the lease agreement.

Adelaide office

The lease for the office accommodation at Wine Australia, corner Botanic and Hackney Roads, Adelaide, South Australia commenced 31 March 2016 with an annual right of renewal until 30 March 2021. The current lease term expires 30 March 2019. Lease payments are subject to the annual increase in accordance with movements in the consumer price index.

Port Stephens office

Resources received free of charge

The Department of Industry New South Wales provides FRDC with office space at the Port Stephens Fisheries Institute, Nelson Bay, free of charge for three FRDC staff members working on the National Carp Control Plan. The monetary value cannot be reliably determined and is therefore not included in the operating lease commitment schedule.

	2017–18	2016–17
	$	$
Commitments for minimum lease payments in relation to non-cancellable operating leases are payable as follows:		
Within 1 year	**171,456**	150,023
Between 1 to 5 years	**145,847**	280,464
Total operating lease commitments	**317,303**	430,487

Note: Leasing commitments are GST inclusive.

Accounting policy

Operating lease payments are expensed on a straight-line basis, which is representative of the pattern of benefits derived from the leased assets.

Note 1.1C: Projects

	2017–18	2016–17
	$	$
Australian Government entities (related parties)	**3,041,726**	2,871,397
State and territory governments	**5,586,487**	6,662,560
Universities and educational bodies	**5,800,078**	5,378,032
Cooperative research centres	**–**	289,273
Research and development corporations	**6,733**	6,823
Industry (commercial, recreational and Indigenous)	**5,991,155**	6,086,941
Overseas research entities	**150,003**	14,165
Private providers	**5,423,237**	3,104,323
Total projects	**25,999,419**	24,413,514

Accounting policy

The FRDC recognises project liabilities through project agreements that require research partners to perform services or provide facilities, or to meet eligibility criteria. In these cases, liabilities are recognised only to the extent that the services required have been performed, an invoice issued consistent with the contractual requirements, and the eligibility criteria have been satisfied by the research partner to the FRDC's satisfaction.

Project commitments

Project commitments comprise the future funding of approved projects that are contingent on the achievement of agreed deliverables over the life of those projects (project agreements are exchanged prior to release of the first payment on a project). Projects, where amounts were payable but were unpaid at the end of the period, have been brought to account as project payables. The FRDC contracts to fund projects in future years in advance of receipt of the income needed to fund them. FRDC manages this risk by having the project agreement allow for termination at its sole discretion for any reason. If the FRDC were to terminate a project agreement, it would only be liable to compensate the research partner for any reasonable costs in respect of unavoidable loss incurred by the research provider and directly attributable to the termination of the agreement, provided that the costs are fully substantiated to the FRDC.

	2017–18	2016–17
	$	$
Project commitments are payable as follows:		
Within 1 year (unpaid deliverables up to 30 June 2019)	**36,771,967**	30,563,129
Between 1 to 5 years (1 July 2019 to 30 June 2023)	**14,722,921**	14,670,917
Over 5 years (from 1 July 2023)	**146,674**	110,000
Total project commitments	**51,641,562**	45,344,046

Note: Project commitments are GST inclusive.

Note 1.1D: Losses from asset disposals

	2017–18	2016–17
	$	$
Property, plant and equipment:		
Carrying value of assets disposed of	–	1,921
Total losses from assets disposals	–	1,921

Note 1.1E: Other expenses

	2017–18	2016–17
	$	$
Bad debts written off	–	682
Total other expenses	–	682

Note 1.2: Own-source income

Own-source revenue

Note 1.2A: Sale of goods and rendering of services

	2017–18	2016–17
	$	$
Sale of goods	345	2,896
Total sale of goods and rendering of services	345	2,896

Accounting policy

Revenue from the sale of goods is recognised when:

a) the risks and rewards of ownership have been transferred to the buyer, and

b) the entity retains no managerial involvement or effective control over the goods.

The stage of completion of contracts at the reporting date is determined by reference to the proportion that costs incurred to date bear to the estimated total costs of the transaction.

Receivables for goods, which have 30 day terms, are recognised at the nominal amounts due less any impairment allowance account. Collectability of debts is reviewed at the end of the reporting period. Allowances are made when collectability of the debt is no longer probable.

Note 1.2B: Interest

	2017–18	2016–17
	$	$
Deposits	393,904	330,233
Total interest	393,904	330,233

Accounting policy

Interest revenue is recognised using the effective interest method.

Note 1.2C: Grants

	2017–18	2016–17
	$	$
Australian Government		
Department of Agriculture and Water Resources[1]	**2,019,497**	5,631,106
Total grants	**2,019,497**	5,631,106

1 RD&E funding from Department of Agriculture and Water Resources. The FRDC has a Research & Development Funding Head Agreement with the Department of Agriculture and Water Resources under which it manages a suite of research activities. The activities are listed at Note 3.4B, page 156.

Accounting policy

Australian Government grants income is revenue paid to FRDC for the purpose of funding specific research and development projects, and is recognised when:

a) the FRDC obtains control of the grant or the right to receive the grant,

b) it is probable that the economic benefits comprising the grant will flow to the FRDC, and

c) the amount of the grant can be reliably measured.

Note 1.2D: Contributions

	2017–18	2016–17
	$	$
Fisheries		
Australian Prawn Farmers Association	**151,738**	177,197
Australian Fisheries Management Authority	**1,163,251**	1,020,511
Australian Capital Territory	**–**	11,273
New South Wales	**623,409**	587,307
Northern Territory	**195,767**	178,541
Queensland	**805,000**	648,682
South Australia	**1,209,200**	1,359,264
Tasmania	**2,904,469**	2,420,251
Victoria	**231,646**	333,726
Western Australia	**1,752,590**	1,441,900
Total contributions	**9,037,070**	8,178,652

Accounting policy

Contributions are recognised when:

a) the FRDC obtains control of the contribution or the right to receive the contribution,

b) it is probable that the economic benefits comprising the contribution will flow to the FRDC, and

c) the amount of the contribution can be reliably measured.

Note 1.2E: Other revenue

	2017–18	2016–17
	$	$
Project funds received	1,527,337	1,140,100
Project refunds of prior years expenditure	302,201	142,714
Other[1]	8,887	140,278
Total other revenue	1,838,425	1,423,092

1 On 1 June 2017 the Seafood CRC Board, as part of its wind up process, resolved, in accordance with its constitution, to transfer its remaining funds to the FRDC. Note 1.2E: Other, includes an amount of $3,924 that was transferred by Seafood CRC to FRDC on 4 July 2017. Refer Note 2.3C page 149.

Accounting policy

Project funds received are recognised when they are entitled to be received by the FRDC.

Project refunds from research partners are brought to account when received.

Note 1.2F: Revenue from the Australian Government

	2017–18	2016–17
	$	$
Department of Agriculture and Water Resources		
Corporate Commonwealth entity payment item of 0.50% of AGVP[1]	15,140,560	14,503,595
Matching of industry contributions[2]	7,570,280	7,251,795
Total revenue from the Australian Government	22,710,840	21,755,390

1 AGVP is the average gross value of fisheries production for the current year and the two preceding financial years. The Australian Government's contribution of 0.50% of AGVP is made on the grounds that the FRDC exercises a stewardship role in relation to fisheries resources on behalf of the Australian community.
2 Matching of industry contributions (up to 0.25% of AGVP) by the Australian Government.

Accounting policy

Revenue from the Australian Government

Funding received or receivable from non-corporate Commonwealth entities (appropriated to the non-corporate Commonwealth entity as a corporate Commonwealth entity payment item for payment to this entity paid by special appropriation) is recognised as revenue from the Australian Government by the corporate Commonwealth entity unless the funding is in the nature of an equity injection or a loan.

Financial position

Note 2.1: Financial assets

Note 2.1A: Cash and cash equivalents

	2017–18	2016–17
	$	$
Cash on hand or at call	2,293,822	4,613,592
Cash on deposit		
Fixed term deposit—original term 6 months	16,000,000	–
Fixed term deposit—original term 2 months	4,000,000	4,000,000
Fixed term deposit—original term 1 month	–	4,000,000
Total cash and cash equivalents	22,293,822	12,613,592

Accounting policy

Cash is recognised at its nominal amount. Cash and cash equivalents includes:

a) cash on hand, and

b) demand deposits in bank accounts with an original maturity of six months or less that are readily convertible to known amounts of cash and subject to insignificant risk of changes in value.

Note 2.1B: Trade and other receivables

	2017–18	2016–17
	$	$
Goods and services receivables in connection with		
Goods and services	**1,025,302**	1,725,371
Total goods and services receivables	**1,025,302**	1,725,371
Department of Agriculture and Water Resources		
Receivables	**1,513,225**	5,789,758
Total receivables from Department of Agriculture and Water Resources	**1,513,225**	5,789,758
Other receivables		
GST receivable from the Australian Taxation Office	**167,795**	44,386
Total other receivables	**167,795**	44,386
Total trade and other receivables	**2,706,322**	7,559,515
Trade and other receivables are expected to be recovered		
No more than 12 months	**2,706,322**	7,559,515
Total trade and other receivables	**2,706,322**	7,559,515
Trade and other receivables aged as follows		
Not overdue[1]	**2,612,822**	7,352,975
Overdue by		
0 to 30 days	**–**	142,475
31 to 60 days	**93,500**	–
61 to 90 days	**–**	–
More than 90 days	**–**	64,065
Total trade and other receivables	**2,706,322**	7,559,515

1 Credit terms for goods and services are within 30 days (2016–17: 30 days).

Accounting policy

Trade receivables, loans and other receivables that have fixed or determinable payments and that are not quoted in an active market are classified as 'loans and receivables'. Loans and receivables are measured at amortised cost using the effective interest method less impairment.

Note 2.1C: Other investments

	2017–18	2016–17
	$	$
One-eighteenth share in Australian Seafood Co-Products Pty Ltd (ASCo), an unlisted company converting fish waste and fish nutrient into agriculture fertiliser products	**5,001**	5,001
Total other investments	**5,001**	5,001

Note 2.2: Non-financial assets

Note 2.2A: Reconciliation of the opening and closing balances of property, plant and equipment and intangibles

Reconciliation of the opening and closing balances of property, plant and equipment and intangibles			
	Property, plant and equipment	Intangibles (computer software)	Total
	$	$	$
As at 1 July 2017			
Gross book value	154,700	1,165,023	1,319,723
Accumulated depreciation and amortisation	–	(352,559)	(352,559)
Total as at 1 July 2017	**154,700**	**812,464**	**967,164**
Additions			
Purchase	**14,031**	–	**14,031**
Internally developed	–	**87,873**	**87,873**
Revaluations recognised in other comprehensive income	**2,126**	–	**2,126**
Depreciation and amortisation	**(54,207)**	**(120,448)**	**(174,655)**
Disposals	–	–	–
Total as at 30 June 2018	**116,650**	**779,889**	**896,539**
Total as at 30 June 2018 represented by			
Gross book value	**116,650**	**1,252,896**	**1,369,546**
Accumulated depreciation and amortisation	–	**(473,007)**	**(473,007)**
Total as at 30 June 2018	**116,650**	**779,889**	**896,539**

Revaluations of non-financial assets

As at 30 June 2018, Jones Lang LaSalle Public Sector Valuations conducted a revaluation of property, plant and equipment. A revaluation increment of $2,126 for 2017–18 (2016–17: $134,327) was credited to the asset revaluation reserve by asset class and included in the equity section of the Statement of Financial Position.

No indicators of impairment were found for property, plant and equipment or intangibles.

No property, plant and equipment is expected to be sold or disposed of within the next 12 months.

Accounting policy

Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken. Financial assets are initially measured at their fair value plus transaction costs where appropriate.

Assets acquired at no cost, or for nominal consideration, are initially recognised as assets and income at their fair value at the date of acquisition, unless acquired as a consequence of restructuring of administrative arrangements. In the latter case, assets are initially recognised as contributions by owners at the amounts at which they were recognised in the transferor's accounts immediately prior to the restructuring.

Asset recognition threshold

Purchases of property, plant and equipment are recognised initially at cost in the Statement of Financial Position, except for purchases costing less than $5,000 that are expensed in the year of acquisition (other than where they form part of a group of similar items where the value is greater than $5,000).

Revaluations

Following initial recognition at cost, property, plant and equipment are carried at fair value less subsequent accumulated depreciation and accumulated impairment losses. Valuations are conducted with sufficient frequency to ensure that the carrying amounts of assets do not differ materially from the assets' fair values as at the reporting date. The regularity of independent valuations depend on the volatility of movements in market values for the relevant assets.

Revaluation adjustments are made on a class basis. Any revaluation increment is credited to equity under the heading of asset revaluation reserve except to the extent that it reverses a previous revaluation decrement of the same asset class that was previously recognised in the surplus/deficit. Revaluation decrements for a class of assets are recognised directly in the surplus/deficit except to the extent that they reversed a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date is eliminated against the gross carrying amount of the asset, and the asset restated to the revalued amount.

Depreciation

Depreciable property, plant and equipment assets are written off to their estimated residual values over their estimated useful lives to the FRDC using, in all cases, the straight-line method of depreciation.

Depreciation rates (useful lives), residual values and methods are reviewed at each reporting date and necessary adjustments are recognised in the current, or current and future reporting periods, as appropriate.

Depreciation rates applying to each class of depreciable asset are based on the following useful lives:

	2017–18	2016–17
Property, plant and equipment	**up to 4 years**	3 to 5 years
Leasehold improvements	**Lease term**	Lease term

Impairment

All assets were assessed for impairment at 30 June 2018. Where indications of impairment exist, the asset's recoverable amount is estimated and an impairment adjustment made if the asset's recoverable amount is less than its carrying amount.

The recoverable amount of an asset is the higher of its fair value less costs of disposal and its value in use. Value in use is the present value of the future cash flows expected to be derived from the asset. Where the future economic benefit of an asset is not primarily dependent on the asset's ability to generate future cash flows, and the asset would be replaced if the entity were deprived of the asset, its value in use is taken to be its depreciated replacement cost.

Derecognition

An item of property, plant and equipment is derecognised upon disposal, or when no further future economic benefits are expected from its use or disposal.

Intangibles

The FRDC's intangibles comprise internally developed software and purchased software for internal use. These assets are carried at cost less accumulated amortisation and accumulated impairment losses.

Software is amortised on a straight-line basis over its anticipated useful life. The useful lives of the FRDC's software is 10 years (2016–17: 10 years).

All software assets were assessed for indications of impairment as at 30 June 2018.

Note 2.2B: Other non-financial assets

	2017–18	2016–17
	$	$
Prepayments	**11,038**	33,129
Total other non-financial assets	**11,038**	33,129

No indicators of impairment were found for other non-financial assets.

Note 2.3: Payables

Note 2.3A: Suppliers and other payables

	2017–18	2016–17
	$	$
Trade creditors and accruals	132,284	108,001
FBT payable	1,079	1,568
PAYG payable	68,297	71,003
Other	55,443	–
Total suppliers and other payables	257,103	180,572
Suppliers and other payables expected to be settled		
No more than 12 months	257,103	180,572
Total suppliers	257,103	180,572

Settlement is usually made within 30 days.

Note 2.3B: Projects

	2017–18	2016–17
	$	$
Australian Government entities (related parties)	10,000	–
State and territory governments	78,000	127,452
Other	220,446	10,710
Total projects	308,446	138,162

Accounting policy

Project payables are recognised at their nominal amounts, being the amounts at which the liabilities will be settled. They relate to payments approved on achievement of agreed deliverables, but which were unpaid at the end of the reporting period. Settlement is usually made within 30 days.

Note 2.3C: Other payables

	2017–18	2016–17
	$	$
Other[1]	–	153,722
Total other payables	–	153,722

1 On 1 June 2017 the Seafood CRC Board, as part of its wind up process, resolved, in accordance with its constitution, to transfer to the FRDC the 'Love Australian Prawn' campaign funds it held in trust on behalf of the Australian Council of Prawn Fisheries (ACPF) and the Australian Prawn Farmers Association (APFA). An amount of $153,722 was transferred from the Seafood CRC to FRDC on 29 June 2017 and this amount was held on behalf of ACPF and APFA by the FRDC. FRDC returned this amount in full and any other similar amounts received after 1 July 2017 to ACPF on 8 August 2017.

People and relationships

Note 3.1: Employee provisions

Note 3.1A: Employee provisions

	2017–18	2016–17
	$	$
Leave	1,012,664	981,427
Total employee provisions	**1,012,664**	981,427
Employee provisions that could be settled		
No more than 12 months	967,019	961,525
More than 12 months	45,645	19,902
Total employee provisions	**1,012,664**	981,427

Accounting policy

Liabilities for short-term employee benefits and termination benefits expected within 12 months of the end of reporting period are measured at their nominal amounts. Other long-term employee benefits are measured as net total of the present value of the defined benefit obligation at the end of the reporting period minus the fair value at the end of the reporting period of plan assets (if any) out of which the obligations are to be settled directly.

Leave

The liability for employee benefits includes provision for annual leave and long service leave. The leave liabilities are calculated on the basis of employees' remuneration at the estimated salary rates that will be applied at the time the leave is taken, including the entity's employer superannuation contribution rates to the extent that the leave is likely to be taken during service rather than paid out on termination. The estimate of the present value of the liability takes into account attrition rates and pay increases through promotion and inflation.

Superannuation

The FRDC's staff are members of the Public Sector Superannuation Scheme (PSS), or the PSS accumulation plan (PSSap), or other superannuation funds held outside the Australian Government.

The PSS is a defined benefit scheme for the Australian Government. The PSSap and any other superannuation funds are defined contribution schemes.

The liability for defined benefits is recognised in the financial statements of the Australian Government and is settled by the Australian Government in due course. This liability is reported in the Department of Finance's administered schedules and notes.

The FRDC makes employer contributions to the employee's defined benefit superannuation scheme at rates determined by an actuary to be sufficient to meet the current cost to the Australian Government. The entity accounts for the contributions as if they were contributions to defined contribution plans.

Note 3.2: Key management personnel remuneration

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the FRDC, directly or indirectly, including any director of the board (whether executive or otherwise) of the FRDC. The FRDC has determined the key management personnel to be the non-executive directors, the Managing Director and three senior managers. Key management personnel remuneration is reported in the table below:

	2017–18	2016–17
	$	$
Short-term employee benefits (salary)	**1,145,604**	1,111,700
Post-employment benefits (superannuation)	**222,913**	241,234
Other long-term employee benefits (annual leave and long service leave)	**121,021**	118,398
Total key management personnel remuneration expenses	**1,489,538**	1,471,332

The total number of key management personnel that are included in the above table is 11 (2016–17: 12), made up of:

- six non-executive directors
- one non-executive director (Chair)
- one Managing Director
- three senior managers.

Note 3.3: Annual total remuneration ranges (including superannuation) paid to key management personnel and the independent Finance, Audit and Risk Management Committee member[1]

	2017–18	2016–17
Nil to $39,999[1]	7	8
$40,000 to $69,999	1	1
$180,000 to $239,999	2	2
$270,000 to $299,999	1	1
$330,000 to $359,999	1	1
Total number of key management personnel	12	13

Note 3.4: Related party disclosures

Related party relationships

The FRDC is an Australian Government controlled entity. Related parties to this entity are non-executive directors, the Managing Director, and three senior managers and other Australian Government entities.

The non-executive directors and the Managing Director of the FRDC during the year were:	
The Hon. Ronald Boswell	Chair (Appointed 1 September 2016)
Ms Renata Brooks	Director (Deputy Chair) (Chair Finance, Audit and Risk Management Committee) (Re-appointed 1 September 2015)
Professor Colin D. Buxton	Director (Member Finance, Audit and Risk Management Committee) (Appointed 1 September 2015)
Mr John Harrison	Director (Appointed 1 September 2015)
Dr Patrick Hone	Managing Director
Dr Lesley MacLeod	Director (Member Finance, Audit and Risk Management Committee) (Appointed 1 September 2015)
Associate Professor Daryl McPhee	Director (Appointed 1 September 2015)
Mr John Susman	Director (Appointed 1 September 2015)
Ms Christine Feldmanis[1]	Independent Member Finance, Audit and Risk Management Committee (Appointed 1 September 2014)

1 Independent Member Finance, Audit and Risk Management Committee
Ms Feldmanis is paid under a consultancy agreement; and is included in Note 3.3 Annual remuneration ranges, but is not included in Note 3.2 Key management personnel remuneration.

Note 3.4A: Transactions with director-related entities

The FRDC's practice is to disclose all transactions with an entity with whom a director has an association. This means that directors who have disclosed a material personal interest have attributed to them all the transactions of that entity with the FRDC. Typically, the FRDC will not transact with all the entities for which a director has made such a declaration. The transactions that are not with related parties as defined by AASB 124 Related Party Disclosures, are identified on the following pages with an asterisk (*).

The FRDC's 'Board governance policy' provides guidance to directors on how the FRDC deals with material personal interests. Where a director has an association with an entity where a conflict has the potential to arise, in addition to the duty to disclose that association, the director absents him/herself from both the discussion and the decision-making process.

Given the breadth of Australian Government activities, related parties may transact with the government sector in the same capacity as ordinary citizens. Such transactions include the payment or refund of taxes, receipt of a Medicare rebate or higher education loans. These transactions have not been separately disclosed in this note.

The following transactions occurred during the financial year.

Director	Organisation and position held	Nature of interest	2017–18		2016–17	
			Expenditure	Income	Expenditure	Income
			$	$		
Ms R. Brooks	Australian Fisheries Management Authority *Commissioner* November 2016 to current	Research projects or work undertaken by the organisation	**119,900**	**275,178**	138,600	229,985
	South Australian Research and Development Institute* *Consultant* July 2017 to current	Research projects or work undertaken by the organisation	**2,153,965**	**265,100**	n/a[1]	n/a[1]
	Department of Industry New South Wales* *Consultant* January 2017 to April 2017	Research projects or work undertaken by the organisation	**n/a[1]**	**n/a[1]**	–	64,350
	Department of Fisheries Western Australia* *Consultant* January 2017 to February 2017	Research projects or work undertaken by the organisation	**n/a[1]**	**n/a[1]**	177,299	–
Professor C.D. Buxton	Southern Rock Lobster Ltd *Chair* 2015 to current	Research projects or work undertaken by the organisation	**201,529**	–	306,774	229
	Institute for Marine and Antarctic Studies University of Tasmania* *Adjunct Professor* 2014 to current	Research projects or work undertaken by the organisation	**3,175,222**	**300**	2,790,761	–
	Colin Buxton & Associates *Director* 2015 to current	Research projects or work undertaken by the organisation	–	–	26,500	–
	Seafood CRC Company Ltd* *Director* 2008 to June 2017	Research projects or work undertaken by the organisation	**n/a[1]**	**n/a[1]**	318,529	539,878

Director	Organisation and position held	Nature of interest	2017–18		2016–17	
			Expenditure	Income	Expenditure	Income
			$	$		
Mr J. Harrison	Western Australian Fishing Industry Council *Chief Executive Officer* 2013 to current	Research projects or work undertaken by the organisation	**474,248**	–	115,493	225
Mr D. McPhee	Department of Primary Industries New South Wales* *Consultant* November 2017 to current	Research projects or work undertaken by the organisation	**608,261**	**633,500**	n/a[1]	n/a[1]
	Department of Agriculture and Fisheries Queensland* *Client* February 2018 to current	Research projects or work undertaken by the organisation	**568,990**	**225,500**	n/a[1]	n/a[1]
Dr P. Hone	Seafood CRC Company Ltd *Director* 2007 to June 2017	Research projects or work undertaken by the organisation	**n/a[1]**	**n/a[1]**	318,529	539,878
Mr J. Wilson	Australian Rural Leadership Foundation *Governor member* 2012 to current	Research projects or work undertaken by the organisation	–	–	5,500	–

All transactions were conducted under normal terms and conditions and include GST.

1 n/a: The director had not engaged in research projects or other work with the director-related entity in the financial year.

Note 3.4B: Other related party disclosures

Department of Agriculture and Water Resources

The FRDC has a Research & Development Funding Head Agreement with the Department of Agriculture and Water Resources under which it manages the suite of activities detailed below:

- National Carp Control Plan
- Pacific Oyster Mortality Syndrome—resistant oyster breeding for a sustainable Pacific Oyster Industry in Australia
- Rural R&D for Profit: Growing a profitable, innovative and collaborative Australian Yellowtail Kingfish aquaculture industry: bringing white fish to the market
- Rural R&D for Profit: Boosting farm profits through rural R&D activity: East Open Oyster automation
- Non-tariff measures projects
- Facilitating the development of a central Australian fishing vessel database
- Improve access to industry priority uses of Agvet chemicals
- National Social and Economic Survey of Recreational Fishers
- Variation to Aquaplan 2014–2019
- Aquatic Deed activities
- Aquavetplan manuals
- An assessment of the non-market value of recreational fishing of Southern Bluefin Tuna fishery
- The role of the recreational fisher in the stewardship of the Southern Bluefin Tuna fishery.

The FRDC provided grants in 2017–18 totalling: $2,019,497 (2016–17: $5,631,106) (refer Note 1.2C: Grants).

Financial instrument and fair value measurements

Note 4.1: Financial instruments

Note 4.1A: Categories of financial instruments

	2017–18	2016–17
	$	$
Financial assets		
Loans and receivables		
Cash and cash equivalents	**22,293,822**	12,613,592
Trade and other receivables	**1,025,302**	1,725,371
Other investments	**5,001**	5,001
Total loans and receivables	**23,324,125**	14,343,964
Total financial assets	**23,324,125**	14,343,964
Financial liabilities		
Other financial liabilities		
Suppliers and other payables	**187,727**	108,001
Projects	**308,446**	138,162
Other payables	**–**	153,722
Total other financial liabilities	**496,173**	399,885
Total financial liabilities	**496,173**	399,885

Accounting policy

Financial assets

The FRDC classifies its financial assets in the following category:

a) loans and receivables.

Loans and receivables

Trade receivables, loans and other receivables are classified as 'loans and receivables' and recorded at face value less any impairment. Trade and other receivables are recognised where the FRDC becomes party to a contract and has a legal right to receive cash. Loans and receivables are assessed for impairment at the end of each reporting period. Allowances are made when collectability of the debt is no longer probable. Trade receivables are derecognised on payment.

Financial liabilities

Financial liabilities are classified as either financial liabilities 'at fair value through profit or loss' or other financial liabilities.

Financial liabilities are recognised and derecognised upon 'trade date'.

Note 4.1B: Net gain or loss from financial assets

	2017–18	2016–17
	$	$
Loans and receivables		
Interest revenue (Note 1.2B)	393,904	330,233
Net gain from loans and receivables	393,904	330,233

Note 4.2: Fair value measurement

Accounting policy

FRDC engaged Jones Lang LaSalle Public Sector Valuations (JLL) to conduct an asset revaluation of all non-financial assets as at 30 June 2018. An annual assessment is undertaken to determine whether the carrying amount of the assets is materially different from the fair value. Comprehensive valuations are carried out at least once every three years. JLL has provided written assurance to the FRDC that the models developed are in compliance with AASB 13.

The methods utilised to determine and substantiate the unobservable inputs are derived and evaluated as follows.

Physical depreciation and obsolescence — assets that do not transact with enough frequency or transparency to develop objective opinions of value from observable market evidence that have been measured using the depreciated replacement cost approach. Under the depreciated replacement cost approach, the estimated cost to replace the asset is calculated and then adjusted to take into account physical depreciation and obsolescence. Physical depreciation and obsolescence has been determined based on professional judgement regarding physical, economic and external obsolescence factors relevant to the asset under consideration. For all leasehold improvement assets, the consumed economic benefit / asset obsolescence deduction is determined based on the term of the associated lease.

FRDC's policy is to recognise transfers into, and transfers out of, fair value hierarchy levels as at the end of the reporting period.

Note 4.2A: Fair value measurement

	Fair value measurements at the end of the reporting period	
	2017–18	2016–17
	$	$
Non-financial assets		
Leasehold improvements	**91,900**	136,950
Plant and equipment	**24,750**	17,750
Total non-financial assets	**116,650**	154,700

The FRDC did not measure any non-financial assets at fair value on a non-recurring basis as at 30 June 2018.

As at 30 June 2018, Jones Lang LaSalle Public Sector Valuations conducted a revaluation of plant and equipment. The table above summarises the results of the valuation at fair value. A revaluation increment was credited to the asset revaluation reserve by asset class and included in the equity section of the Statement of Financial Position. Refer Note: 2.2A.

Budgetary reports and explanations of major variances

Note 5.1: FRDC budgetary reports

The following tables provide a comparison of the original budget as presented in the 2017–18 Portfolio Budget Statements (PBS) to the 2017–18 final outcome as presented in accordance with Australian Accounting Standards for the FRDC. The budget is not audited.

Note 5.1A: FRDC budgetary reports

Statement of Comprehensive Income

FOR THE PERIOD ENDED 30 JUNE 2018

	Actual	Portfolio Budget Statements 2017–18 estimate	
	(A)	(B)	(C)= A–B
		Original[1]	Variance[2]
	2017–18	2017–18	2017–18
	$	$	$
NET COST OF SERVICES			
Expenses			
Employee benefits	3,300,256	3,566,000	(265,744)
Suppliers	1,917,886	1,496,000	421,886
Projects	25,999,419	30,200,000	(4,200,581)
Depreciation and amortisation	174,655	200,000	(25,345)
Other expenses	–	410,000	(410,000)
Total expenses	31,392,216	35,872,000	(4,479,784)
Own-source income			
Own-source revenue			
Sale of goods and rendering of services	345	3,000	(2,655)
Interest	393,904	250,000	143,904
Grants	2,019,497	–	2,019,497
Contributions	9,037,070	5,871,000	3,166,070
Other revenue	1,838,425	2,697,000	(858,575)
Total own-source revenue	13,289,241	8,821,000	4,468,241
Total own-source income	13,289,241	8,821,000	4,468,241
Net cost of services	18,102,975	27,051,000	8,948,025
Revenue from the Australian Government	22,710,840	27,406,000	(4,695,160)
Surplus on continuing operations	4,607,865	355,000	4,252,865
OTHER COMPREHENSIVE INCOME			
Items not subject to subsequent reclassification to net cost of services			
Changes in asset revaluation surplus	2,126	–	2,126
Total other comprehensive income	2,126	–	2,126
Total comprehensive income	4,609,991	355,000	4,254,991

1 The FRDC's original budgeted financial statement presented to Parliament in respect of the reporting period in the 2017–18 Portfolio Budget Statements.

2 Between the actual and original budgeted amounts for 2017–18. Explanations of major variances are provided in Note 5.1B.

Statement of Financial Position

AS AT 30 JUNE 2018

	Actual	Portfolio Budget Statements 2017–18 estimate	
	(A)	(B)	(C)= A–B
		Original[1]	Variance[2]
	2017–18	2017–18	2017–18
	$	$	$
ASSETS			
Financial assets			
Cash and cash equivalents	22,293,822	13,224,000	9,069,822
Trade and other receivables	2,706,322	4,286,000	(1,579,678)
Other investments	5,001	5,000	1
Total financial assets	25,005,145	17,515,000	7,490,145
Non-financial assets			
Property, plant and equipment	116,650	27,000	89,650
Intangibles	779,889	767,000	12,889
Inventories	–	7,000	(7,000)
Other non-financial assets	11,038	–	11,038
Total non-financial assets	907,577	801,000	106,577
Total assets	25,912,722	18,316,000	7,596,722
LIABILITIES			
Payables			
Suppliers and other payables	257,103	164,000	93,103
Projects	308,446	210,000	98,446
Other payables	–	85,000	(85,000)
Total payables	565,549	459,000	106,549
Provisions			
Employee provisions	1,012,664	892,000	120,664
Total provisions	1,012,664	892,000	120,664
Total liabilities	1,578,213	1,351,000	227,213
Net assets	24,334,509	16,965,000	7,369,509
EQUITY			
Asset revaluation reserves	412,900	275,000	137,900
Retained earnings	23,921,609	16,690,000	7,231,609
Total equity	24,334,509	16,965,000	7,369,509

1 The FRDC's original budgeted financial statement presented to Parliament in respect of the reporting period in the 2017–18 Portfolio Budget Statements.

2 Between the actual and original budgeted amounts for 2017–18. Explanations of major variances are provided in Note 5.1B.

Statement of Changes in Equity

FOR THE PERIOD ENDED 30 JUNE 2018

	Actual	Portfolio Budget Statements 2017–18 estimate	
	(A)	(B)	(C)= A–B
		Original[1]	Variance[2]
	2017–18	2017–18	2017–18
	$	$	$
RETAINED EARNINGS			
Opening balance			
Balance carried forward from previous period	19,313,744	16,335,000	2,978,744
Adjusted opening balance	19,313,744	16,335,000	2,978,744
Comprehensive income			
Surplus/(deficit) for the period	4,607,865	355,000	4,252,865
Total comprehensive income	4,607,865	355,000	4,252,865
Closing balance as at 30 June 2018	23,921,609	16,690,000	7,231,609
ASSET REVALUATION RESERVE			
Opening balance			
Balance carried forward from previous period	410,774	275,000	135,774
Adjusted opening balance	410,774	275,000	135,774
Comprehensive income			
Other comprehensive income	2,126	–	2,126
Total comprehensive income	2,126	–	2,126
Closing balance as at 30 June 2018	412,900	275,000	137,900
TOTAL EQUITY			
Opening balance			
Balance carried forward from previous period	19,724,518	16,610,000	3,114,518
Adjusted opening balance	19,724,518	16,610,000	3,114,518
Comprehensive income			
Surplus/(deficit) for the period	4,607,865	355,000	4,252,865
Other comprehensive income	2,126	–	2,126
Total comprehensive income	4,609,991	355,000	4,254,991
Closing balance as at 30 June 2018	24,334,509	16,965,000	7,369,509

1 The FRDC's original budgeted financial statement presented to Parliament in respect of the reporting period in the 2017–18 Portfolio Budget Statements.

2 Between the actual and original budgeted amounts for 2017–18. Explanations of major variances are provided in Note 5.1B.

Cash Flow Statement

FOR THE PERIOD ENDED 30 JUNE 2018

	Actual	Portfolio Budget Statements 2017–18 estimate	
	(A)	(B)	(C)= A–B
		Original[1]	Variance[2]
	2017–18	2017–18	2017–18
	$	$	$
OPERATING ACTIVITIES			
Cash received			
Goods and services	–	3,000	(3,000)
Receipts from the Australian Government	26,987,372	27,876,000	(888,628)
Contributions	10,587,269	9,210,000	1,377,269
Grants	2,019,497	–	2,019,497
Interest	330,623	250,000	80,623
Net GST received	1,601,195	–	1,601,195
Other	2,022,613	–	2,022,613
Total cash received	43,548,569	37,339,000	6,209,569
Cash used			
Employees	(3,213,576)	(3,566,000)	352,424
Suppliers	(1,970,060)	(1,486,000)	(484,060)
Projects expenditure	(28,429,077)	(30,209,000)	1,779,923
Total cash used	(33,612,713)	(35,261,000)	1,648,287
Net cash from operating activities	9,935,856	2,078,000	7,857,856
INVESTING ACTIVITIES			
Cash used			
Purchase of property, plant and equipment	(14,031)	(50,000)	35,969
Purchase of intangibles	(87,873)	(300,000)	212,127
Total cash used	(101,904)	(350,000)	248,096
Net cash used by investing activities	(101,904)	(350,000)	248,096
FINANCING ACTIVITIES			
Cash used			
Other	(153,722)	–	(153,722)
Total cash used	(153,722)	–	(153,722)
Net cash (used by)/from financing activities	(153,722)	–	(153,722)
Net increase in cash held	9,680,230	1,728,000	7,952,230
Cash and cash equivalents at the beginning of the reporting period	12,613,592	11,496,000	1,117,592
Cash and cash equivalents at the end of the reporting period	22,293,822	13,224,000	9,069,822

1 The FRDC's original budgeted financial statement presented to Parliament in respect of the reporting period in the 2017–18 Portfolio Budget Statements.

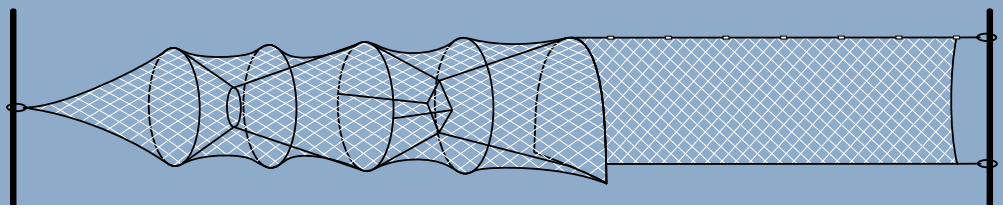
2 Between the actual and original budgeted amounts for 2017–18. Explanations of major variances are provided in Note 5.1B.

Note 5.1B: Explanation of major variances

The explanation for major variances in 2017–18 is detailed below.

Affected statement (and line items)	Variances against all affected statements
• Statement of Comprehensive Income (Expenses) • Cash Flow Statement (Cash used)	• Employee benefits budget provided for additional staffing for new activities and were lower than expected due to engaging these services as external service providers.
	• Suppliers expenses were higher than originally forecast due to the increased consultancy fees for external service providers, employee development and increased costs of cloud related technology and licencing.
	• Project contractual commitments originally forecast can vary due to the timing of completion of project deliverables. Project deliverables are subject to significant variation due to research delays.
• Statement of Comprehensive Income (Own-source revenue) • Statement of Financial Position (Financial assets—Cash and cash equivalents) • Cash Flow Statement (Cash received)	• Revenue from Australian Government budget includes funding for Average Gross Value Production (AGVP), grants, Australian Prawn Farmers Association levies, and Australian Fisheries Management Authority levies. These items are required to be represented in the PBS together, however the FRDC Financial Statements discloses them separately.
	• Commonwealth Government Grant that was due and budgeted for, in 2017–18 for the National Carp Control Plan of $3,905,000 is included in 'Revenue from the Australian Government'. The grants received were lower than the forecast due to a delay in receipt, and late achievement of the deliverable.
	• Contributions forecast varied due to new research projects during the year that include additional third-party contributions. Increases to contributions also occurred where the jurisdictions AGVP increased.
	• Other revenue originally forecast allowed for additional increased contributions that were not realised.
• Statement of Financial Position (Financial assets) • Statement of Financial Position (Asset revaluation reserves) • Cash Flow Statement (Cash received/used)	• Cash and cash equivalents budget varied due to the timing of special appropriation payments, grant payments and project contributions received; and the timing of project expenditure.
	• Trade and other receivables varied due to the timing of the Department of Agriculture and Water Resources Gross Value Production determination, resulting in earlier special appropriation payments.
	• Property, plant and equipment was greater than planned due to the purchase of new equipment, and the revaluation under a new property leasing agreement extending the lease for a further three years.

APPENDICES



APPENDIX A: THE FRDC'S PRINCIPAL REVENUE BASE

As stipulated in the PIRD Act, and shown in Figure 5, the FRDC's primary revenue source is based on:

A. Australian Government providing unmatched funds equivalent to 0.50 per cent of the average gross value of Australian fisheries production (AGVP) for the current year plus the two preceding years.

B. Fishers and aquaculturists providing contributions via government.

C. Australian Government matching this amount up to a maximum of 0.25 per cent of AGVP.

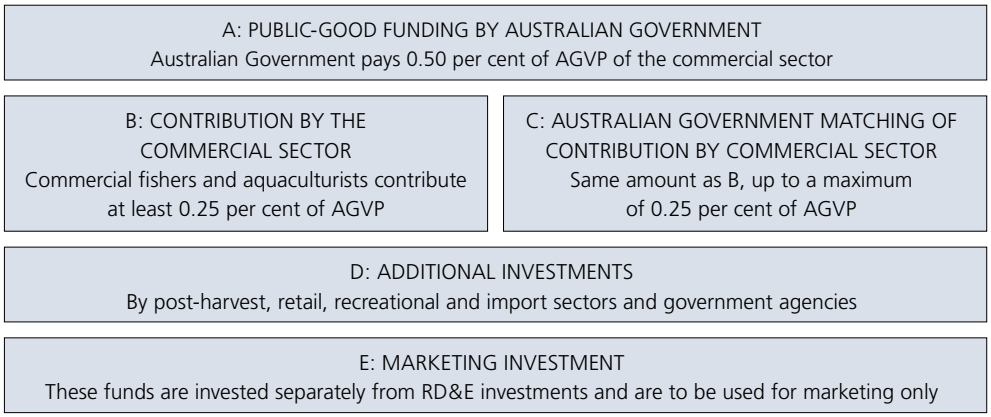
D. Funds received from RD&E providers, both as cash and in-kind contributions through projects that have been successful for funding.

E. Marketing funds collected from the sectors through a statutory levy (or if approved voluntary contributions). Marketing funds are not eligible to be matched by the Commonwealth.

There is no legislative impediment to fishers and aquaculturists contributing to the FRDC above the maximum level at which the Australian Government will provide a matching contribution. Industry contributions for the past financial year and trends for the past five years are shown on page ii.

Details of all FRDC revenue (including investments, royalties, and sales of products, information and services) are in the financial statements starting on page 128.

FIGURE 5: PROPORTIONS OF THE FRDC'S PRINCIPAL REVENUE BASE



Rationale for the FRDC's revenue base

The high component of public good in the operating environment of the fishing industry, has significance for the FRDC's revenue base. The Australian Government's contribution of 0.50 per cent of AGVP is made on the grounds that the Australian Government exercises a stewardship role in relation to fisheries resources on behalf of the Australian community.

Fishing and aquaculture contributes to the FRDC on the basis that RD&E will be targeted to its needs and will deliver economic and social benefits. The Australian Government matches industry contributions on the basis that the beneficiaries of research should pay approximately in proportion to the benefits received, but the government should contribute to spillover benefits to the wider community.

APPENDIX B: THE FRDC'S LEGISLATIVE FOUNDATION AND THE EXERCISE OF MINISTERIAL POWERS

The FRDC was formed as a statutory corporation on 2 July 1991 under the provisions of the PIRD Act. It also operates under the provisions of the PGPA Act, which applies high standards of accountability while providing for the independence required by the Corporation's role as a statutory authority.

The FRDC's objects, deriving from section 3 of the PIRD Act and shown in Appendix C, are incorporated in the FRDC's vision and planned outcomes. As reflected in Figure 3 on pages 30–31, the FRDC's five RD&E programs mirror the industry development, natural resources sustainability and people development themes of, respectively, sub-sections 3(a), (b) and (c) of the Act. This alignment has brought simplicity and robustness to the FRDC's RD&E planning, implementation and reporting, and to many of the organisations with which it does business. Importantly, the alignment ensures the RD&E outputs resulting from the FRDC's investments fully address the legislative objects.

Further information about the FRDC's legislative foundations can be found in Appendix C.

Enabling legislation

The FRDC's enabling legislation is the *Primary Industries Research and Development Act 1989* (PIRD Act).

The FRDC Board is responsible to the Minister for Agriculture and Water Resources and, through him, to the Parliament of Australia.

The objects, functions and statutory powers of RD&E corporations are specified in the PIRD Act, the text of which is available via the FRDC website.

In the interests of clarity, the following statements of the FRDC's objects, functions and statutory powers mirror the wording of the PIRD Act but are specific to the FRDC and its business environment. Similarly, the statements of the FRDC's functions and statutory powers have been made shorter and simpler than the wording of the Act.

Objects

The objects of the FRDC, deriving from section 3 of the PIRD Act, are to:

(a) make provision for the funding and administration of research and development relating to primary industries with a view to:

  (i) increasing the economic, environmental and social benefits to members of primary industries and to the community in general by improving the production, processing, storage, transport or marketing of the products of primary industries, and

  (ii) achieving the sustainable use and sustainable management of natural resources, and

  (iii) making more effective use of the resources and skills of the community in general and the scientific community in particular, and

  (iv) supporting the development of scientific and technical capacity, and

  (v) developing the adoptive capacity of primary producers, and

  (vi) improving accountability for expenditure on research and development activities in relation to primary industries, and

(b) make provision for the funding and administration of marketing relating to products of primary industries.

Functions

The functions of the FRDC, deriving from section 11 of the PIRD Act, are to:

- investigate and evaluate the requirements for fisheries research and development and, on that basis, prepare a five-year RD&E plan, review it annually and revise it if required,
- prepare an annual operational plan for each financial year,
- coordinate or fund the carrying out of RD&E activities that are consistent with the annual operational plan,
- monitor and evaluate fisheries RD&E activities that are funded and report on them to the Parliament; the Minister for Agriculture and Water Resources, statutory levy payers and the FRDC representative organisations, and
- facilitate the dissemination, adoption and commercialisation of the results of fisheries RD&E.

Statutory powers

Subject to the PIRD Act, the FRDC is empowered under section 12 of the Act to do all things necessary or convenient to be done for, or in connection with, the performance of its functions, which may include:

- entering into agreements for the carrying out of RD&E activities by other persons,
- entering into agreements for the carrying out of RD&E activities by the FRDC and other persons,
- making applications, including joint applications for patents,
- dealing with patents vested in the FRDC and other persons,
- making charges for work done, services rendered, and goods and information supplied by it,
- accepting gifts, grants, bequests and devices made to it, and acting as trustee of money and other property vested in it on trust,
- acquiring, holding and disposing of real and personal property,
- joining in the formation of a company, and
- doing anything incidental to any of its powers.

The description of ministerial powers that follows has been drawn from several sections of the PIRD Act and has been condensed from the original in the interests of clarity.

Ministerial powers

Ministerial powers under the enabling legislation may be exercised by the Minister for Agriculture and Water Resources. They relate to:

- directing the FRDC in writing as to the performance of its functions and the exercise of its powers,
- approving the RD&E plan and the annual operational plan,
- requesting and approving variation to the RD&E plan and the annual operational plan,
- requesting the establishment of a selection committee and determining certain conditions relating to the selection committee,
- appointing the presiding member and members of a committee for the selection of directors,
- determining the number of directors,
- determining the terms and conditions of appointment of directors (other than the Executive Director) in relation to matters not provided for by the PIRD Act,
- appointing the Chairperson,
- appointing directors, other than the Chairperson and Executive Director, from persons nominated by a selection committee,
- declaring one or more specified organisations to be representative organisations in relation to the FRDC,
- determining the gross value of production of the fishing industry for the purposes of establishing the maximum payments by the Australian Government to the FRDC,
- establishing written guidelines covering the payment by the FRDC to an eligible industry body, or member of an eligible industry body, for expenses reasonably incurred in connection with consultation with the FRDC,
- causing, at least once in each financial year, a coordination meeting to be held of all RD&E corporations,
- granting leave of absence to the Chairperson, and
- terminating the appointment of the Chairperson or a director other than the Executive Director.

Additional powers under the PGPA Act relating to corporate governance and reporting are available from the Minister for Agriculture and Water Resources.

Exercise of ministerial powers during 2017–18 is described on page 111.

APPENDIX C: PRINCIPAL LEGISLATIVE REQUIREMENTS FOR REPORTING

This annual report complies with the requirements of Commonwealth legislation. The principal reporting requirements, and some of their consequences for the FRDC, are outlined in this appendix. The Acts are:

- *Primary Industries Research and Development Act 1989* (PIRD Act),
- *Public Governance, Performance and Accountability Act 2013* (PGPA Act),
- *Environment Protection and Biodiversity Conservation Act 1999* (Section 16A).

PGPA Act requirements

The PGPA Act is one of the principal legislation that specifies the content and standards of presentation of statutory authorities' annual reports for parliamentary scrutiny.

Part 2–3: Planning, Performance and Accountability consolidates government policy for planning and performance reporting with budgets and actuals for both financial and non-financial measures. Section 46 of the PGPA Act requires the FRDC's directors to prepare an annual report in accordance with PGPA Rules, and to give it to the responsible minister by 15 October.

PIRD Act requirements

The PIRD Act also specifies matters that must be reported. In particular, section 28 states:

(1) The annual report prepared by the directors of an RD&E Corporation and given to the Minister under section 46 of the PGPA Act for a period must include:

(a) particulars of:

(i) the RD&E activities that it coordinated or funded, wholly or partly, during the period, and

(ia) if a levy attached to the Corporation had a marketing component during the period—the marketing activities that it coordinated or funded, wholly or partly, during the period, and

(ii) the amount that it spent during the period in relation to each of those activities, and

(iib) the impact of those activities on the primary industry or class of primary industries in respect of which the Corporation was established, and

(iii) revisions of its RD&E plan approved by the Minister during the period, and

(iv) the entering into of agreements under sections 13 and 14 during the period and its activities during the period in relation to agreements entered into under that section during or prior to the period, and

(v) its activities during the period in relation to applying for patents for inventions, commercially exploiting patented inventions and granting licences under patented inventions, and

(vi) the activities of any companies in which the Corporation has an interest, and

(vii) any activities relating to the formation of a company, and

(viii) significant acquisitions and dispositions of real property by it during the period, and

(b) an assessment of the extent to which its operations during the period have:

(i) achieved its objectives as stated in its RD&E plan, and

(ii) implemented the annual operational plan applicable to the period, and

(c) an assessment of the extent to which the Corporation has, during the period, contributed to the attainment of the objects of this Act as set out in section 3, and

(d) in respect of the grain industry or such other primary industry or class of primary industries as is prescribed in the regulations, particulars of sources and expenditure of funds, including:

(i) commodity, cross commodity and regional classifications, and

(ii) funds derived from transfer of assets, debts, liabilities and obligations under section 144.

EPBC Act requirements

Section 516A requires annual reports for Commonwealth entities to report against the criteria set out in that section of the Act.

Part 21—Reporting—Division 1—Annual reports

Section 516A: Annual reports to deal with environmental matters

(6) A report described in subsection (1), (4) or (5) relating to a body or person (the reporter) for a period must:

(a) include a report on how the activities of, and the administration (if any) of legislation by, the reporter during the period accorded with the principles of ecologically sustainable development, and

(b) identify how the outcomes (if any) specified for the reporter in an Appropriations Act relating to the period contribute to ecologically sustainable development, and

(c) document the effect of the reporter's activities on the environment, and

(d) identify any measures the reporter is taking to minimise the impact of activities by the reporter on the environment, and

(e) identify the mechanisms (if any) for reviewing and increasing the effectiveness of those measures.

APPENDIX D: GOVERNMENT PRIORITIES

The FRDC will work closely with the Minister for Agriculture and Water Resources, the Assistant Minister to the Minister and the Department of Agriculture and Water Resources to ensure it delivers results that in line with the Australian Government's Science and Rural RD&E priorities—see *Australian Government Science and Research Priorities* section at Attachment 1. The FRDC invests in targeted projects that will assist in the delivery of Australian Government priorities. Government priorities are consistent with the FRDC's four legislated objects (section 3 of the PIRD Act) as shown in Figure 3: FRDC's framework for integrating legislative, government and industry priorities (pages 30–31).

The following tables summarise the total expenditure allocated against each set of priorities within the 2017–18 financial year. The allocation of funds is shown in both dollar and percentage terms for each investment theme—noting that totals may not equal 100 per cent as not all projects fit Government priorities.

Government research priorities attributed to each RD&E program ($ and %)

RURAL RESEARCH PRIORITIES (http://www.agriculture.gov.au/ag-farm-food/innovation/priorities)

RD&E Priorities	Total expenditure	
	$	%
Adoption of RD&E	4,946,867	21.92
Advanced technology	4,903,266	21.72
Biosecurity	2,208,187	9.78
Soil, water and managing natural resources	10,514,573	46.58
Total	22,572,894	100.00

SCIENCE AND RESEARCH PRIORITIES (http://science.gov.au/scienceGov/ScienceAndResearchPriorities/Pages/default.aspx)

	Total expenditure	
	$	%
Advanced manufacturing	2,079,370	8.68
Cybersecurity	73,149	0.31
Energy	15,856	0.07
Environmental change	3,932,912	16.42
Food	7,837,087	32.73
Health	1,333,113	5.57
Resources	2,474,569	10.33
Soil and water	6,184,972	25.83
Transport	15,992	0.07
Total	23,947,024	100.00

Not all projects align to the priorities. Figures in these tables have been rounded, hence totals may not agree with component figures.

APPENDIX E: FREEDOM OF INFORMATION STATEMENT

Australian Government agencies subject to the *Freedom of Information Act 1982* (FOI Act) are required to publish information to the public as part of the Information Publication Scheme (IPS). This requirement is in Part II of the FOI Act and each agency must display on its website a plan showing what information it publishes in accordance with the IPS requirements.

Further information on the FRDC's agency plan is available from the FRDC website—www.frdc.com.au/About-us/Freedom-of-information.

Role, structure and functions

The FRDC's role is described on page 19 of this annual report; its structure and functions and legislation under which it is established are described in Appendices A to C.

DOCUMENTS AVAILABLE FOR INSPECTION

RD&E Plan (the FRDC's strategic plan)	File, publication and website*
FRDC policies	Unpublished documents, list on website*
Annual operational plan	File, publication and website*
Project details	Database, files and website*
Project agreements	Files and generic copy on website*
Final reports and non-technical summaries	Publications and website*
RD&E funding applications	Files
Annual report	File, publications and FRDC website*
FISH magazine	File, publications, iPad and FRDC website*
Administration	Files, unpublished documents
Mailing lists	Database

* The FRDC's website address is www.frdc.com.au

Some other information may be subject to assessment of access for such matters as commercial confidentiality or personal privacy in accordance with the FOI Act.

Access to documents

To seek access to FRDC documents, please contact the FRDC's FOI Officer: address, telephone and e-mail details are shown inside the back cover of this report. It may not be necessary to request the information under the FOI Act—the FRDC may simply provide it to you when you ask for it. At all times, however, you have the option of applying under the FOI Act.

Fees and charges for FOI

Request	Charge
Application	No fee
Search and retrieval	$15 per hour (GST inclusive)
Decision making and consultation	First five hours free, after that $20 per hour (GST inclusive)
When a FOI request is not responded to within the statutory time limit	No fee
Internal review	No fee
Request for personal information	No fee

The standard FOI application fee is nil when making your application, however processing charges will apply.

Documents are usually made available for direct access at the FRDC's office in Canberra. They may also be provided, depending on your preference:

- by post (photocopies) to an address specified in your request, or
- at the Information Access Office (established by the Attorney-General) nearest where you live.

APPENDIX F: BOARD SELECTION COMMITTEE REPORT

Establishment of the selection committee

The FRDC selection committee was established under the PIRD Act to select and nominate six qualified and suitable persons for appointment as non-executive directors of FRDC.

On 26 February 2018, Dr Michelle Allan was appointed as the FRDC selection committee presiding member by the Minister for Agriculture and Water Resources, the Hon. David Littleproud MP. The term of appointment is until 30 November 2020.

In addition to Dr Allan, as presiding member, the selection committee comprised four members, who were nominated by Dr Allan in consultation with FRDC's representative organisations—Seafood Industry Australia, Commonwealth Fisheries Association, Recfish Australia and the National Aquaculture Committee. On 6 April 2018 2018, the Minister for Agriculture and Water Resources appointed the selection committee members:

- Mr James Fogarty,
- Ms Jane Lovell,
- Mr Aaron Irving,
- Ms Helen Jenkins.

Selection process to 30 June 2018

The selection committee conducted a thorough process to identify the widest possible field of available candidates.

At the commencement of this process, Dr Allan undertook relevant consultations with FRDC Managing Director, Dr Patrick Hone, about the process and the major issues under consideration by the FRDC.

The FRDC Chair, the Hon. Ron Boswell was also consulted about the mix of skills on the current Board and insights that he had into the Board's performance and the skills the new Board would require to successfully guide the Corporation into the future.

Applications were called through advertisements placed in the national press—*Australian Financial Review* and *The Australian* on Wednesday 14 March 2018. The advertisement was also e-mailed to all representative organisations, posted on the FRDC website and social media channels. Applications closed Friday 13 April 2018.

A total of 98 applications were received, of which 33 (33.7 per cent) were from female applicants.

Secretariat services were provided by Ms Victoria Taylor.

In developing a shortlist of candidates, the selection committee took into account the core selection criteria listed in subsection 131(1) of the PIRD Act, along with additional criteria considered important by the Chair—agri-business and marketing—due to the FRDC's potential role in marketing. The selection committee gave due consideration to the diversity, skills and experience of the candidates, individually and as a nominated group.

Nominations for appointment

The selection committee agreed on the final list of nominations considered suitable for appointment. The final nominations and list of other suitable candidates were provided to the Minister for Agriculture and Water Resources, the Hon. David Littleproud MP on 22 May 2018.

Expenses

The following table includes the selection committee's expenses for 2017–18.

Description	Net	GST	Total
Advertising	$14,936.26	$1,493.63	$16,429.89
Travel and accommodation	$9,190.37	$858.28	$10,048.65
Presiding member's fee	$6,019.00	$0	$6,019.00
Venue hire	$1,590.91	$159.09	$1,750.00
Secretarial/administrative support	$5,751.48	$575.14	$6,326.62
Total	**$37,488.02**	**$3,086.14**	**$40,574.16**

2018–19

Description	Net	GST	Total
Advertising	$3,627.24	$362.72	$3,989.96
Secretarial/administrative support	$900.00	$90.00	$990.00
Total	**$4,527.24**	**$452.72**	**$4,979.96**

ABBREVIATIONS AND ACRONYMS

AASB	Australian Accounting Standards Board
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ACPF	Australian Council of Prawn Fisheries
AGVP	average gross value of production
AOP	annual operational plan
APFA	Australian Prawn Farmers Association
CRC	cooperative research centre
CRRDC	Council of Rural Research and Development Corporations
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAWR	Australian Government Department of Agriculture and Water Resources
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
FBT	fringe benefits tax
FOI Act	*Freedom of Information Act 1982*
FRDC	Fisheries Research and Development Corporation
GVP	gross value of production
GST	goods and services tax
IPA	Industry Partnership Agreement
ISO	International Organization for Standardisation
ICT	information and communications technology
KPI	key performance indicator
m	million
MP	member of parliament
NCCP	National Carp Control Plan
NSW	New South Wales
PAYG	pay as you go
PGPA Act	*Public Governance, Performance and Accountability Act 2013*
PhD	Doctor of Philosophy
PIRD Act	*Primary Industries Research and Development Act 1989*
PBS	Portfolio Budget Statements
Pty Ltd	proprietary limited
RD&E	research and development
RAC	Research Advisory Committee
RD&E	research, development and extension
RDC	research and development corporation
SAFS	Status of Australian Fish Stocks Reports
WHS Act	*Work Health and Safety Act 2011*

INDICES

COMPLIANCE INDEX

This index shows the page numbers on which the FRDC has reported on matters specified in Australian Government legislation and policies.

The requirements for annual reports acknowledges that agencies vary in role and size and there is discretion as to the extent of information to include in annual reports and the sequence in which it is presented. The Joint Committee on Publications has also observed that a departmental report will necessarily be different from that of a statutory authority; and a statutory authority, while accountable for its activities, has a degree of independence not shared by departments and its annual reports will thus have a greater freedom of expression and comment. The FRDC's reporting is, accordingly, appropriate to its legislative basis, functions and size.

TABLE 15: *PRIMARY INDUSTRIES RESEARCH AND DEVELOPMENT ACT 1989* (PIRD ACT)

Section	Title	Comply	Page
Section 10	RD&E corporation is a body corporate etc.	Yes	166–168
Section 11	Functions	Yes	168
Section 12	Powers	Yes	167–169
Section 19	RD&E plans	Yes	15–16, 20, 27, 34
Section 20	Approval of RD&E plans	Yes	27
Section 21	Variation of RD&E plans	Yes	27
Section 24	Consultation	Yes	23–27, 69–71
Section 25	Annual operational plans	Yes	v, 27, 108, 116
Section 27	Compliance with RD&E plans and annual operational plans	Yes	108
Section 28	Annual report	Yes	108
Section 29	Accountability to representative organisations	Yes	8, 20
Section 33	Expenditure of money of RD&E corporations	Yes	i–iv, 17, 124–163
	Spending must be in accordance with funding agreement	Yes	21, 116
Section 33A	RD&E money must not be spent on marketing	Yes	98
Section 34	Commonwealth to be paid levy expenses from RD&E corporation	Yes	24, 124–163
Section 35	Commonwealth to be reimbursed for refunds of levy	Yes	124–163
Section 40	Separate accounting records	n/a	—
Section 47	Times and places of meetings	Yes	121–122
Section 53	Minutes	Yes	122
Section 76	Duties	Yes	116
Section 87	Employees	Yes	21, 117–121
Section 143	Minister may give directions	Yes	111

The annual report for a corporate Commonwealth entity for a reporting period must include the following.

TABLE 16: SECTION 17BE: CONTENTS OF ANNUAL REPORT

		Comply	Page
(a)	details of the legislation establishing the body,	Yes	166–168
(b)	both of the following:		
	(i) a summary of the objects and functions of the entity as set out in the legislation,	Yes	30–31, 166–168
	(ii) the purposes of the entity as included in the entity's corporate plan for the period,	Yes	v, 19, 166–168
(c)	the names of the persons holding the position of responsible Minister or responsible Ministers during the period, and the titles of those responsible Ministers,	Yes	19
(d)	any directions given to the entity by a Minister under an Act or instrument during the period,	Yes	111
(e)	any government policy orders that applied in relation to the entity during the period under section 22 of the Act,	Yes	111
(f)	if, during the period, the entity has not complied with a direction or order referred to in paragraph (d) or (e)—particulars of the non-compliance,	n/a	—
(g)	the annual performance statements for the entity for the period in accordance with paragraph 39(1)(b) of the Act and section 16F of this rule,	Yes	v–viii, throughout
(h)	a statement of any significant issue reported to the responsible Minister under paragraph 19(1)(e) of the Act that relates to non-compliance with the finance law in relation to the entity,	n/a	—
(i)	if a statement is included under paragraph (h) of this section —an outline of the action that has been taken to remedy the non-compliance,	n/a	—
(j)	information on the accountable authority, or each member of the accountable authority, of the entity during the period, including:	Yes	116–122
	(i) the name of the accountable authority or member, and	Yes	116–122
	(ii) the qualifications of the accountable authority or member, and	Yes	116–122
	(iii) the experience of the accountable authority or member, and	Yes	116–122
	(iv) for a member—the number of meetings of the accountable authority attended by the member during the period, and	Yes	116–122
	(v) for a member—whether the member is an executive member or non-executive member,	Yes	116–122
(k)	an outline of the organisational structure of the entity (including any subsidiaries of the entity),	Yes	21
(l)	an outline of the location (whether or not in Australia) of major activities or facilities of the entity,	Yes	inside back cover

		Comply	Page
(m)	information in relation to the main corporate governance practices used by the entity during the period,	Yes	106–113 , 116–122
(n)	the decision-making process undertaken by the accountable authority for making a decision if:		
	(i) the decision is to approve the FRDC paying for a good or service from another Commonwealth entity or a company, or providing a grant to another Commonwealth entity or a company, and	Yes	20–21, 110–111
	(ii) the entity, and the other Commonwealth entity or the company, are related entities, and	Yes	20–21, 110–111
	(iii) the value of the transaction, or if there is more than one transaction, the aggregate value of those transactions, is more than $10,000 (inclusive of GST),	Yes	110–111
(o)	if the annual report includes information under paragraph (n):		
	(i) if there is only one transaction—the value of the transaction, and	n/a	—
	(ii) if there is more than one transaction—the number of transactions and the aggregate of value of the transactions,	Yes	110–111
(p)	any significant activities and changes that affected the operations or structure of the entity during the period,	Yes	v–viii, 7–10
(q)	particulars of judicial decisions or decisions of administrative tribunals made during the period that have had, or may have, a significant effect on the operations of the entity,	Yes	112
(r)	particulars of any report on the entity given during the period by:		
	(i) the Auditor-General, other than a report under section 43 of the Act (which deals with the Auditor-General's audit of the annual financial statements for Commonwealth entities), or	Yes	126–127
	(ii) a Committee of either House, or of both Houses, of the Parliament, or	n/a	—
	(iii) the Commonwealth Ombudsman, or	n/a	—
	(iv) the Office of the Australian Information Commissioner,	n/a	—
(s)	if the accountable authority has been unable to obtain information from a subsidiary of the entity that is required to be included in the annual report—an explanation of the information that was not obtained and the effect of not having the information on the annual report,	n/a	—
(t)	details of any indemnity that applied during the period to the accountable authority, any member of the accountable authority or officer of the entity against a liability (including premiums paid, or agreed to be paid, for insurance against the authority, member or officer's liability for legal costs),	Yes	122
(u)	an index identifying where the requirements of this section and section 17BF (if applicable) are to be found.	Yes	180–183

TABLE 17: GOVERNMENT POLICY AND ASSOCIATED REPORTING REQUIREMENTS

Section	Comply	Page
Australian Government Cost Recovery Policy	Yes	17, 24, 111
Australian Government Foreign Exchange Risk Management Guidelines	Yes	111
Australian Government priorities • Rural Research Priorities • Strategic Research Priorities	Yes	172
Australian Government Commonwealth Procurement Rules	Yes	110–111
Australian Government Commonwealth Property Management Framework	Yes	111
Australian Government Protective Security Policy Framework (PSPF)	Yes	112
Australian Government Public Sector Workplace Bargaining Policy	Yes	111
Comcover Risk Benchmarking Survey	Yes	108–109
Commonwealth Disability Discrimination Act 1992 (National Disability Strategy 2010–2020)	Yes	21
Commonwealth Fraud Framework 2014	Yes	111
Environment Protection and Biodiversity Conservation Act 1999 (Section 16A)	Yes	59–63
Freedom of Information Act 1982, quarterly and annual lodgements	Yes	112, 173–174
National Code of Practice for the Construction Industry and the Commonwealth's Implementation Guidelines	Yes	111
OLSC [Office of Legal Services Coordination] Legal Expenditure annual return	Yes	111
Work Health and Safety Act 2011	Yes	112–113

ALPHABETICAL INDEX

D

E

F

G

H

PUBLICATIONS AND OTHER INFORMATION

The following information is available from the FRDC	Printed	Website
The RD&E plan (*Knowledge for fishing and aquaculture into the future: The FRDC's research, development and extension plan 2015–20*), which provides comprehensive information on the FRDC; its business environment; the outlook for the fishing industry and the natural resources on which it depends; and the way in which the FRDC plans, invests in and manages fisheries RD&E.	Yes	Yes
This and the previous annual report.	Yes	Yes
RD&E plans for Commonwealth, states, Northern Territory, regions and industry sectors.	Yes	Yes
FISH (published in March, June, September and December, and on other occasions for special themes), which provides information on FRDC activities, summarises final reports on completed RD&E projects released during the previous quarter, and lists projects that have been newly funded.	Yes	Yes
Information on completed projects (final reports and other related products).	—	Yes
Non-technical summaries of all final reports of FRDC projects.	—	Yes
Hyperlinks to other websites containing full final reports and fisheries RD&E strategies, and to other important websites.	—	Yes
RD&E funding application details.	—	Yes
Coming events of significance for the industry.	—	Yes
Research databases.	—	Yes

frdc.com.au

The FRDC's website (www.frdc.com.au) provides easy access to information and publications, including the items on this page.

… and FRDC is on Facebook www.facebook.com/FRDCAustralia

ABOUT THIS REPORT

This report describes the extent to which the FRDC implemented its approved annual operational plan during the previous financial year. It meets the requirements for reporting legislated by the Australian Government and informs the FRDC's other stakeholders—especially those in the commercial, recreational and Indigenous sectors of the fishing industry and in the research and development community.

Fisheries Research and Development Corporation Annual Report, 2017–18

An electronic version is at the FRDC website—www.frdc.com.au

Published by: Fisheries Research and Development Corporation

Postal address: Locked Bag 222, Deakin West ACT 2600

Office: Fisheries Research House, 25 Geils Court, Deakin, Australian Capital Territory

Telephone: 02 6285 0400; from overseas + 61 2 6285 0400

Facsimile: 02 6285 0499; from overseas + 61 2 6285 0499

E-mail: frdc@frdc.com.au

Internet: www.frdc.com.au
www.fishfiles.com.au
www.fish.gov.au

Design: Angel Ink
Print: Bytes 'n Colours

www.frdc.com.au

The FRDC is co-funded by our stakeholders, the Australian Government, and the commercial fishing and aquaculture industries.

The FRDC invests strategically across all of Australia in research, development and extension activities that benefit all sectors of the fishing industry. Our goal is for Australia's fisheries to be sustainably managed.

After 'bringing in the catch', time to eat some fish.