

## **CONTENTS**

Letter to Minister	iii
Key achievements from FRDC's investments	iv
Snapshot of 2022–23	vi
2022–23 achievements through investment  Five years at a glance  FRDC's balanced research investment approach  Summary of industry contributions	viii viii ix x
Directors' report	2
The Corporation FRDC's role and strategic priorities	5 5
Performance statement	7
Statutory Funding Agreement	8
Progress against performance focus areas	14
Relationships with key stakeholders	16
Consultative structures and priority setting	17
Commonwealth Government priorities  Government research priorities attributed to each R&D program  nvestment strategy  A balanced research investment approach	21 21 24 24
Cost allocation policy	24
Strategic planning	25
Outcome 1: Growth for enduring prosperity Outcome 2: Best practices and production systems Outcome 3: A culture that is inclusive and forward thinking Outcome 4: Fair and secure access to aquatic resources Outcome 5: Community trust, respect and value	30 31 36 41 45 48
Enabling strategies  Enabling strategy I: Drive digitalisation and advanced analytics  Enabling strategy II: Strengthen adoption for transformative change  Enabling strategy III: Promote innovation and entrepreneurship  Enabling strategy IV: Build capability and capacity  Enabling strategy V: Provide foundational information and support services	54 55 57 59 61 63
Ten additional strategic opportunities	66
Benefit cost analysis	72
Corporate operations	73
Collaboration	78
Management and accountability	84
Governance  Board and organisation	94 94

## **CONTENTS**

Auditor-0	General's Report	105
Financial	Statements for the year ended 30 June 2023	109
Appendi	ces	
Apper	dix A: FRDC's principal revenue base	144
Apper	dix B: FRDC's legislative foundation and ministerial powers	145
Apper	dix C Freedom of information statement	147
Apper	dix D: RD&E investments completed in 2022–23	149
Abbrevia	itions and acronyms	152
Complia	nce index	153
Alphabet	tical index	157
About th	is report inside back of	over
FIGURES		
Figure 1:	FRDC income 2022–23	xi
Figure 2:	Overall investment in RD&E managed by FRDC 2022–23	xi
Figure 3:	FRDC's framework for integrating legislation, government and industry priorities	22
Figure 4:	Comparison of current and target maturity states achieved across	
	elements 1–5 for FRDC relative to the community of practice	89
Figure 5:	Proportions of FRDC's principal revenue base	144
TABLES		
Table 1:	Income	viii
Table 2:	Matchable income	viii
Table 3:	Financial indicators of investment against programs	viii
Table 4:	New, active and completed projects	Viii
Table 5:	Investment against R&D Plan 2020–25 outcomes	ix
Table 6:	Project duration	ix
Table 7:	Project investment by risk profile	ix
Table 8:	Applied versus basic research	ix
Table 9:	Industry contributions (non-project) maximum matchable contributions by the Australian Government and return on investment	Х
Table 10:	Impact assessment of six FRDC investments	72
Table 11:	Attendance by directors at Board meetings	100
Table 12:	Finance and Audit Committee membership 2022–23	101
Table 13:	Attendance by directors at the Remuneration Committee meetings	102
Table 14:	Primary Industries Research and Development Act 1989 (PIRD Act)	153
Table 15:	Public Governance, Performance and Accountability Act 2013 (PGPA Act)	154
Table 16:	Section 17B of the PGPA Act: Contents of annual report	154
Table 17:	Government policy and associated reporting requirements	156



23 August 2023 Senator the Hon. Murray Watt Minister for Agriculture, Fisheries and Forestry Parliament House CANBERRA ACT 2600

Dear Minister,

On behalf of the Board of the Fisheries Research and Development Corporation (FRDC), I have pleasure in presenting the Corporation's annual report for the year ended 30 June 2023.

The report has been prepared and approved by the directors 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 priorities and performance indicators in achieving FRDC's planned outcomes (page 5) 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 2022–23 financial year. The annual report starts with our key achievements and a snapshot of 2022–23 (pages iv–vii) followed by our performance statement (page 7), statutory funding agreement (page 8), operational results (page 30), corporate operations (page 73), management accountability (page 84) and governance (page 94). The financial statements and the Australian National Audit Office audit of FRDC's financial statements (pages 106–141) (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, page vii) and outputs from research and development against the performance measures published in the 2022–23 Portfolio Budget Statements Budget Related Paper No. 1.1, Agriculture Portfolio and FRDC Annual Operational Plan (pages 7–8). The report also includes an overview and assessment of the longer-term benefit and cost of a subset of the Corporation's investment utilising the methodology developed by the rural research and development corporations (RDCs) (page 72).

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

Yours faithfully John Williams

#### **KEY ACHIEVEMENTS FROM FRDC'S INVESTMENTS**

- Over \$33 million was invested in 2022–23, comprising 134 new projects responding to Indigenous, commercial, recreational fishing and aquaculture priorities.
- All of FRDC's 2022–23 Portfolio Budget Statement performance measures were met.
- Improved understanding of populationstructure and biological parameters for Black Jewfish resulted in an increase in the total allowable commercial catch from 20 to 54 tonnes and enabled recreational fishers to target the species year-round and provided access to an additional ~\$1.36 million worth of harvestable fish to commercial fishers and commensurate social and economic benefits for recreational fishers.
- Guidance resources to assist fishery managers in the consideration and application of economic productivity as a fishery performance measure, were developed.
- A new Cumulative Effects Assessment framework was developed and applied to 409 species around Australia to better understand the effects of fisheries on Australia's marine systems.
- A system to undertake near real-time bio-geochemical modelling of Storm Bay in Tasmania that 'follows or exceeds best practices' and simulates responses to natural and human-induced changes, including fish farming, was finalised.
- A novel stable isotope chemical tool to assist the Southern Rock Lobster sector determine the provenance of fish was created.
- AQUAPLAN 2022–2027, Australia's fourth national strategic plan for aquatic animal health, was released in December 2022, to help industries and governments prioritise investment to strengthen aquatic animal health management systems.
- A national workshop series to identify key features of shark depredation issues and pathways for the development of mitigation options, was undertaken.

- Resources to help improve the survival of sharks and rays released by recreational fishers and enhance the safety of fishers interacting with these animals, were created.
- Understanding of the origins of stock assessments, their key parameters, uncertainties and/or risks associated with their use was completed to provide guidance parameter updates in the future.
- The Land and Sea Aboriginal Corporation Tasmania, Indigenous Land and Sea Corporation, University of Tasmania (represented by the Institute for Marine and Antarctic Studies) and FRDC signed a Memorandum of Understanding — Research to Rights: Supporting cultural fisheries for Aboriginal Tasmanians.
- Evidence-based strategies that fisheries managers could use to optimise compliance in recreational fisheries, were identified.
- Research, development and extension (RD&E) to establish the contributions and structural or cultural barriers faced by women in seafood was undertaken to build leadership capability and increase participation.
- A vaccine (betanodavirus subunit vaccine) that when combined with husbandry, nutrition and water quality improvements, achieved a substantial reduction in the severity of nodavirus outbreaks in farmed juvenile Queensland Groper, was developed.
- A rapid toolkit to mitigate the risk of paralytic shellfish biotoxin from entering the supply chain, thereby safeguarding public health and market access, was developed.
- The sold-out Seafood Directions conference was held in Brisbane in September 2022.
- A project to address uncertainties in the assessment and management of Queensland east coast Spanish Mackerel commenced.



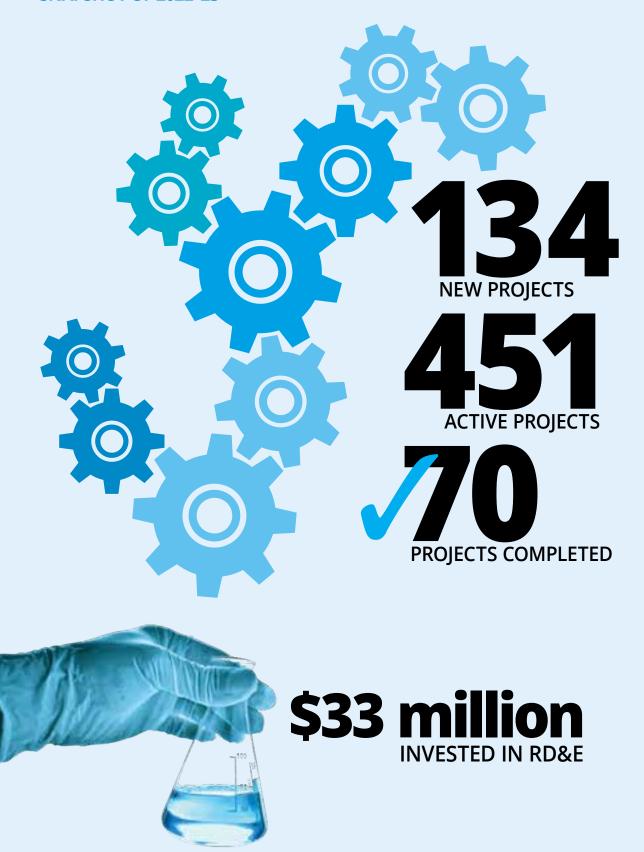
#### **KEY ACHIEVEMENTS FROM FRDC'S INVESTMENTS**

- The National Carp Control Plan Report that compiled extensive scientific research coordinated by FRDC to investigate the technical feasibility of using Cyprinid herpesvirus 3 (CyHV-3) as a biological control agent for carp, was released in November 2022.
- The long awaited National Social and Economic Survey of Recreational Fishers was released at the World Recreational Fishing Conference in Melbourne in February 2023.
- The Department of Natural Resources and Environment Tasmania, Tasmania's Abalone Industry Reinvestment Fund and FRDC held a two-day National Centrostephanus Workshop to update the 130 attendees from across Australia on Longspined Sea Urchin biology and ecology, its impacts on the marine environment and management options.
- FRDC supported the Ocean Business
   Leaders' summit a forum for leaders in
   government, business, research, finance,
   conservation and sustainability to engage
   on the current status, principles, shifts and
   catalysts required to realise a sustainable
   ocean economy that is inclusive, equitable
   and truly transformational.

- FRDC representatives attended the Ocean Business Leader's summit and provided input into the White Paper, to inform the development of the Oceans Plan under the High Level Panel for a Sustainable Ocean Economy.
- Funding was provided for the Western Australian Fishing Industry Council to undertake a project to review and quantify the cumulative effects of multiple offshore activities and their impacts on commercial and recreational fishing, as well as aquaculture, charter and Indigenous fishing.
- FRDC was part of the Australian Agricultural Data Exchange consortium that secured funding to develop a minimum viable product for a trusted data exchange for industry by industry.
- FRDC became a Tier 2 partner in the Cooperative Research Centre for Solving Antimicrobial Resistance in Agribusiness, Food and Environments created to protect Australia's food and agribusiness industries and the environments they operate in from the growing threat of antimicrobial resistance.
- FRDC sponsored the World Aquaculture Society Conference 2023 that focused on how to grow the sector. There were over 1200 Australian and international delegates and the trade show attracted over 100 exhibitors



## **SNAPSHOT OF 2022-23**



SNAPSHOT OF 2022–23





## **2022–23 ACHIEVEMENTS THROUGH INVESTMENT**

## Five years at a glance

#### Table 1: Income

	2018-19	2019-20	2020-21	2021-22	2022-23
	\$m	\$m	\$m	\$m	\$m
Total income	39.56	33.03	32.92	36.55	36.74
Industry contributions	7.32	6.90	7.17	7.64	7.97
Project contributions	2.86	1.53	2.11	3.77	1.99
Total government contributions	23.48	22.08 <sup>1</sup>	23.21	24.04	24.69
Project contributions from other parties	3.42	0.82	0.19	0.89	0.76
Other income	2.48	1.70	0.24	0.21	1.33

<sup>1.</sup> Gross value of production declined during the year associated with COVID-19, which impacted on contributions.

#### Table 2: Matchable income

	2018-19	2019-20	2020-21	2021–22	2022-23
	\$m	\$m	\$m	\$m	\$m
Maximum matchable (government) contribution <sup>1</sup>	7.78	7.45	7.80	8.08	8.29
Actual government matching	7.78	7.19	7.59	7.89	8.11

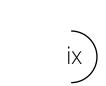
<sup>1.</sup> Government funding and maximum matchable contribution (the maximum amount to which the Australian Government will match industry contributions) are detailed in Appendix A.

#### Table 3: Financial indicators of investment against programs

	2018-19	2019-20	2020-21	2021-22	2022-23
	\$m	\$m	\$m	\$m	\$m
Total expenditure	35.22	34.44	33.53	35.6	38.96
Total of research and development (R&D) projects	29.80	28.94	28.24	30.71	33.00
R&D Program 1 (Environment)	7.92	8.35	8.65	7.70	9.36
R&D Program 2 (Industry)	14.48	13.39	13.22	15.23	13.60
R&D Program 3 (Communities)	1.83	2.25	1.88	2.30	2.56
R&D Program 4 (People)	2.39	2.20	1.90	2.46	3.59
R&D Program 5 (Adoption)	3.19	2.75	2.59	3.02	3.88
Management and accountability	5.41	5.50	5.29	4.89	5.97

#### Table 4: New, active and completed projects

	2018-19	2019-20	2020-21	2021-22	2022-23
Number of approved new projects	145	118	80	95	134
Active projects under management during the year	491	440	407	405	451
Number of projects completed	120	124	96	67	70



#### 2022–23 ACHIEVEMENTS THROUGH INVESTMENT

### FRDC's balanced research investment approach

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. FRDC's balanced investment approach ensures appropriate coverage of a range of issues and seeks to balance short, medium and long term; high and low risk; and strategic and adaptive RD&E needs. Ultimately, all FRDC investment in RD&E is driven by the needs of its stakeholders.

#### Table 5: Investment against R&D plan 2020-25 outcomes

	2020-21		2022-23
	\$m	\$m	\$m
Total expenditure	33.53	35.84	38.96
Total of R&D projects	28.24	30.71	33.00
Outcome 1: Growth for enduring prosperity	12.73	13.53	11.48
Outcome 2: Best practices and production systems	7.98	8.81	10.04
Outcome 3: A culture that is inclusive and forward thinking	1.41	1.95	3.48
Outcome 4: Fair and secure access to aquatic resources	3.00	2.63	3.60
Outcome 5: Community trust, respect and value	3.12	3.79	4.40
Corporate costs	4.66	5.13	5.97

#### **Table 6: Project duration**

Duration	Number of projects	Total investment	Average project value
		\$	\$
Long (36 months and over)	136	83,780,475	616,033
Medium (from 18 and 36 months)	128	56,429,289	440,854
Short (up to 18 months)	187	20,952,041	112,043
Total	451	161,161,805	357,343

#### Table 7: Project investment by risk profile

	2018-19	2019-20	2020-21	2021-22	2022-23	Total
	\$	\$	\$	\$	\$	%
High	1,065,692	669,685	1,174,234	982,396	917,314	2.78
Low	15,533,813	16,301,505	15,191,844	18,463,765	18,878,045	57.21
Medium	13,204,366	11,965,941	11,877,334	11,260,369	13,202,065	40.01
Total	29,803,871	28,937,131	28,243,412	30,706,530	32,997,423	100.00

#### Table 8: Applied versus basic research

	2018-19	2019-20	2020-21	2021-22	2022-23	2022-23
	\$m	\$m	\$m	\$m	\$m	%
Applied	28.43	27.99	20.07	30.3	32.22	98.00
Basic	1.37	0.94	0.17	0.4	0.78	2.00

Applied research is a research methodology that creates practical solutions for specific problems while basic research is scientific research in domains where 'real-world' applications are not immediately apparent but is often fundamental for future research and innovation.



## 2022–23 ACHIEVEMENTS THROUGH INVESTMENT

	A	В	C	Q	Ш	ь	פ	Ι	-	_
Jurisdiction — by year	Maximum matchable contribution	Actual industry contributions	Percentage of matchable	Distribution of FRDC spend	8	Return on contribution	Additional cash contribution	Percentage of total contributions	05	Return on contribution (D/(B+G))
	[note 1]	[note 2,3]		[note 4,8]		[note 5,6]	[note 8]			[note 5,6]
	4	₩	%	4	2022-23	5 years	₩	%	2022-23	5 years
Commonwealth	1,469,508	1,295,771	88	4,958,901	3.83	3.40	212,098	103	3.29	3.08
New South Wales	454,798	434,223	95	4,275,416	9.85	8.19	112,127	120	6.87	3.46
Northern Territory	281,683	255,533	91	1,765,335	6.91	5.91	13,636	96	95'9	5.65
Queensland	491,383	550,000	112	4,793,315	8.72	7.78	312,667	176	5.56	5.03
South Australia	977,153	876,988	06	3,823,427	4.36	4.82	158,667	106	3.69	3.01
Tasmania	3,296,923	3,097,712	94	6,045,565	1.95	2.81	543,163	110	1.66	2.41
Victoria	263,180	178,876	89	2,033,246	11.37	10.20	200,000	144	5.37	6.67
Western Australia	1,055,330	1,284,460	122	5,302,218	4.13	2.81	440,032	163	3.07	2.17
Total	8,289,958	7,973,563	96	32,997,423	4.14	4.06	1,992,389	120	3.31	3.05
Australian farmed prawns [note 7]	448,135	382,544	85	1,146,454	3.00	2.35	ı	1	I	I

Maximum matchable contribution is the maximum amount that the Australian Government will match industry contributions in accordance with the criteria detailed in Appendix A.

Table 9: Industry contributions (non-project) maximum matchable contributions by the Australian Government and return on investment

Summary of industry contributions

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.

There are timing issues in some jurisdictions therefore matching may not occur in the year in which the invoice is raised.

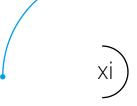
Distribution of FRDC spend is based on the estimated flow of RD&E benefits to the respective jurisdictions. It includes a deduction of prior project refunds.

Ratios in column F and J are derived from the distribution of FRDC spend (column D) for 2022-23 and the previous four years.

The total distribution of spend includes \$519,771 (approximately invested in the Australian Capital Territory, included in New South Wales).

Australian farmed prawns are also included in the jurisdictional totals above. The Australian Prawn Farmers' levy is collected under the Primary Industries Research and Development Act 1989 (PIRD Act) and the Fishing Levy Regulations. This levy is paid to FRDC by the Department of Agriculture, Fisheries and Forestry under a special appropriation as per the PIRD Act.

<sup>8.</sup> Column Gincludes industry collaborative project contributions provided as co-investment to FRDC projects.



### 2022-23 ACHIEVEMENTS THROUGH INVESTMENT



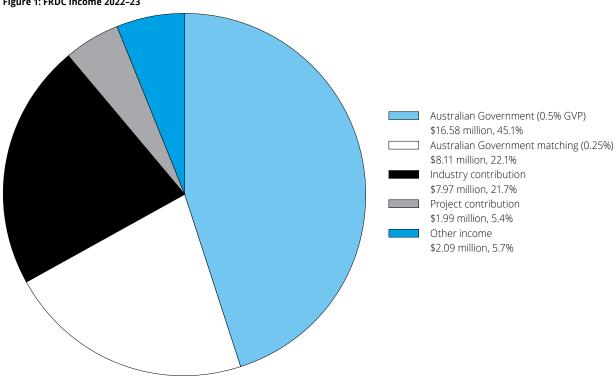
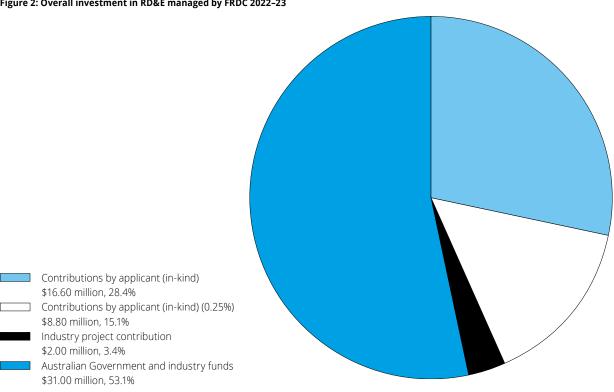
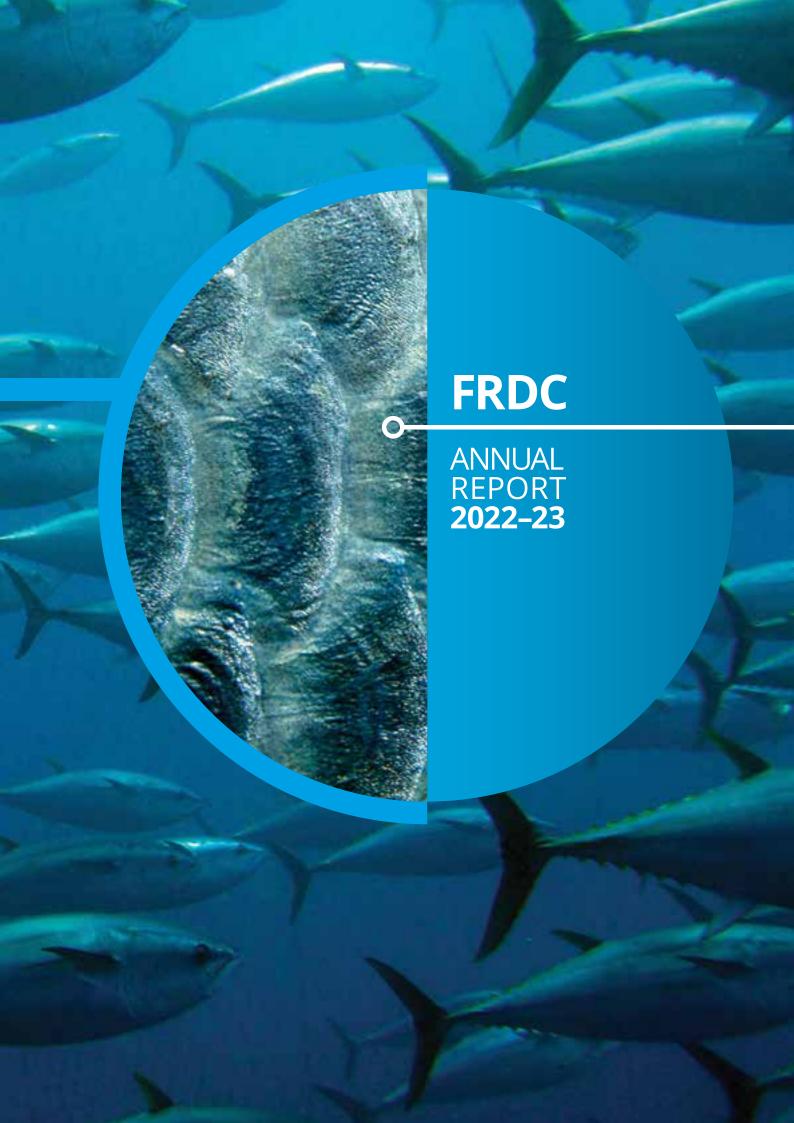


Figure 2: Overall investment in RD&E managed by FRDC 2022-23







#### **DIRECTORS' REPORT**

Dear stakeholders,

It is with great pleasure that we present to you the annual report for the 2022–23 financial year. This report highlights the achievements, events, stakeholder engagements and innovative programs of FRDC. The breadth of these activities is testament to our belief that people are at the heart of transformation and it is the people in fishing and aquaculture who drive the successful operations of FRDC. Throughout this year, we have witnessed diverse research, development and extension (RD&E) achievements for the benefit of our stakeholders who are primarily Indigenous, commercial and recreational fisheries and aquaculture.

#### Financial performance

We are pleased to report FRDC has achieved an unmodified audit for the 2022–23 financial year. Through the FRDC Board's Finance and Audit Committee, the Board has provided independent leadership, advice and robust analysis to ensure FRDC's financial and risk performance continues to be recognised by the Commonwealth as having advanced risk maturity — the highest level that can be obtained for Commonwealth entities.

The key results are:

- Annual gross value of production (GVP) was determined as \$3.5 billion for 2022–23, resulting in an increase of 5.2 per cent over the previous year.
- FRDC's Australian Government revenue was \$1.3 million over the conservative 2022–23 Annual Operational Plan (AOP) forecast.
- FRDC's income from other investors increased by \$5 million, an ongoing demonstration by stakeholders that FRDC is relevant to their needs and is a good place to invest (e.g. New South Wales Department of Primary Industries, Queensland Department of Agriculture and Fisheries, South Australian Department of Primary Industries and Regions and the Department of Agriculture, Fisheries and Forestry (DAFF) ).
- FRDC met the eligible expenditure target for 2022–23 (determined as \$33.2 million).
- RD&E expenditure performed well for 2022–23, investing \$33.0 million.
- Corporate costs were higher than forecast due to implementation of the new workforce plan.
- FRDC achieved an unmodified audit from the Australian National Audit Office.



#### **DIRECTORS' REPORT**

#### Governance

The Board strengthened the focus on governance throughout the year, undertaking an independent Board Performance Assessment, commissioning a review of FRDC's Indigenous Reference Group, an independent review of the Board's performance and reviews of policies including, FRDC's Delegations Policy, Finance and Audit Committee Policy, Standards Development Policy and the Board's People and Culture Committee Policy. The Board also approved new RD&E investment strategies to increase investment in shared strategic opportunities (outlined on page 6 of this report).

## Strong relationship with governments and key partners

FRDC has continued to work productively with Commonwealth and state governments and fostered close relationships with Senator the Hon. Murray Watt, Minister for Agriculture, Fisheries and Forestry, the Australian Fisheries Management Forum and the staff from DAFF.

Throughout 2022–23, FRDC consulted and partnered with our representative organisations: Seafood Industry Australia, Recfish Australia and the Commonwealth Fisheries Association. FRDC also included the Indigenous Reference Group and the Australian Recreational Fishing Foundation in all representative organisation consultation activities. We continued to strengthen our engagement with those involved in our Industry Partnership Agreements (IPAs), Research Advisory Committees (RACs) and researcher partners, without who FRDC could not function effectively.

These relationships and partners have helped FRDC deliver key initiatives during 2022–23, such as the sold-out Seafood Directions conference, the National Carp Control Plan, World Recreational Fishing Conference, the publication of the long awaited National Social and Economic Survey of Recreational Fishers report, the National Centrostephanus Workshop and the World Aquaculture conference 2023. As a testament to the strong connections with Commonwealth and state governments, FRDC has a diverse range of partnerships and opportunities, some of which are outlined below.

The Commonwealth Government demonstrated its confidence in FRDC by nominating the Corporation to administer its \$8 million investment in seaweed research. This investment will help establish a National Hatchery Network for the commercialisation of seaweed with a focus on *Asparagopsis* production to provide a key input into feedstock to help reduce methane emissions. Working on behalf of the departments of Climate Change, Energy, the Environment and Water (DCCEEW) and DAFF and in a partnership with Australian Sustainable Seaweed Alliance, FRDC will oversee this critical work.

The South Australian Government also announced a significant partnership with FRDC for its Snapper Science Program. This \$5 million, three-year research program includes collaboration between industry stakeholders and research providers including the South Australian Research and Development Institute (SARDI), Flinders University, the University of Adelaide and the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Funding for the program comprises \$2.5 million from FRDC, matched 1:1 by the South Australian Government.



#### **DIRECTORS' REPORT**

FRDC is also pleased to have extended the partnerships we created through the Australian Agricultural Data Exchange. This program is designed to develop an interconnected data highway for sharing, re-using and combining data. We were pleased to successfully secure funding from Australian Research Data Commons under its 'Food Security Data Challenge' to contribute towards increasing food security.

Ongoing discussions between FRDC, the Land and Sea Aboriginal Corporation Tasmania, the Indigenous Land and Sea Corporation and the Department of Natural Resources and Environment Tasmania, culminated in the signing of a Memorandum of Understanding (MoU) in June 2023. This MoU outlined each signatories' commitment to maintaining respectful and mutually beneficial relationships so that Aboriginal Tasmanians keep and expand their sea country assets and rights and work together to identify strategic marine research needs.

## Building capability and capacity in fishing and aquaculture

FRDC continued to expand a program of activities designed to attract and retain capable and well-trained personnel within fishing and aquaculture roles. This program involved the commencement of several projects including research to better understand the changing profile of Australia's seafood workforce, providing leadership training and developing a workforce capability framework.

FRDC also partnered with Seafood Industry Australia in the development of an interactive website to promote employment opportunities, career awareness, training, mentoring, safety and mental health training to attract and retain workers in wild catch, aquaculture and post-harvest sectors. This initiative complements another project being undertaken by Primary Industries Education Foundation Australia to understand the current levels of engagement, barriers and opportunities to enhance jobs and careers in fishing and aquaculture for students and teachers.

We were also pleased to continue supporting leadership and capability growth through ongoing funding of programs such as the Turn the Tide program run by Women in Seafood Australasia, the National Seafood Industry Leadership Program, the Australian Rural Leadership Foundation, the Nuffield Scholarship program and bursary opportunities.

#### Corporate social responsibility

FRDC worked with other rural research and development corporations (RDCs) on environmental, social and governance (ESG) to ensure our reporting meets the Australian Government's requirements on the United Nations Sustainable Development Goals. Further, FRDC staff have formed a Corporate Social Responsibility working group to explore opportunities for the Corporation to actively pursue initiatives that promote environmental stewardship, social welfare and community engagement.

#### **Appreciation**

We would like to express our sincere appreciation to our stakeholders, employees and partners for their unwavering support and dedication. Our success would not have been possible without your trust and commitment. We would also like to extend our gratitude to the Board of directors for their valuable guidance and governance.

#### Conclusion

Clearly, 2022–23 has been a very productive year for FRDC. This report is testament to our ongoing focus on building strong people relationships that are critical to the sustainable transformation of fishing and aquaculture ecosystems. We remain confident in our ability to adapt, innovate and deliver value to all our stakeholders and the marine fauna and flora we all work so hard to protect. We look forward to the future with great enthusiasm and determination as we embark on the next chapter of RD&E in 2023–24.

Thank you.

John Williams, Chair
on behalf of the Board of directors

#### THE CORPORATION

## FRDC's role and strategic priorities

#### **FRDC**

We are a co-funded partnership between the Australian Government and fishing and aquaculture and receive a levy from farmed prawns. FRDC was established as a statutory corporation on 2 July 1991 under the *Primary Industries Research and Development Act* 1989 (the PIRD Act). We are responsible to the Minister for Agriculture, Fisheries and Forestry.

#### Responsible minister

The Minster for Agriculture, Fisheries and Forestry is Senator the Hon. Murray Watt.

#### What we do

We plan, invest in and manage research and development for fishing and aquaculture, and the wider community and encourage adoption of the resulting knowledge and innovation for impact.

#### Our planned outcome

We plan to achieve increased economic, social and environmental benefits for Australian fishing and aquaculture, and the wider community, by investing in knowledge, innovation and marketing.

#### Our representative organisations

We have three representative organisations declared under the PIRD Act:

- · Seafood Industry Australia,
- Australian Recreational and Sport Fishing Industry Confederation Inc. (trading as Recfish Australia).
- · Commonwealth Fisheries Association.

We involve the Indigenous Reference Group and the Australian Recreational Fishing Foundation in all representative organisation activities.

#### Our stakeholders

Our stakeholders are Indigenous, commercial and recreational fishers and aquaculturists, including people involved in post-harvest activities, fisheries management, research, innovation, extension, the Australian Government and the wider Australian community.

#### Our R&D Plan

Our R&D Plan 2020–25 pursues a vision in 2030 of creating collaborative, vibrant fishing and aquaculture, creating diverse benefits from aquatic resources, which is celebrated by the community.

At the core of the R&D Plan are five R&D outcomes and five enabling strategies that will help us achieve those outcomes.

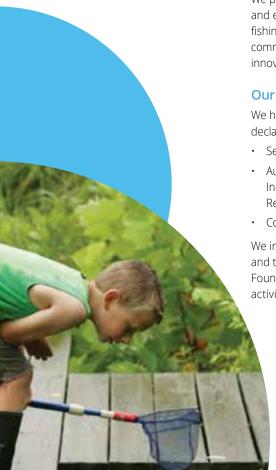
#### **FIVE R&D OUTCOMES**

- 1. Growth for enduring prosperity.
- 2. Best practices and production systems.
- 3. A culture that is inclusive and forward thinking.
- 4. Fair and secure access to aquatic resources.
- 5. Community trust, respect and value.

#### **FIVE ENABLING STRATEGIES**

- 1. Drive digitisation and advanced analytics.
- 2. Strengthen adoption for transformative change.
- 3. Promote innovation and entrepreneurship.
- 4. Build capability and capacity.
- 5. Provide foundational information and support services.

As part of operationalising FRDC's R&D Plan 2020–25, FRDC regularly consults with RACs, industry partners, Coordinating Programs and holds an annual stakeholder planning workshop. This helps to confirm the importance of areas driving positive change to deliver impact across fishing and aquaculture. These processes have helped highlight 10 strategic opportunities within FRDC's R&D Plan 2020–25 that, if addressed, can help build a platform for change across fishing and aquaculture.



#### THE CORPORATION

#### THESE STRATEGIC OPPORTUNITIES ARE:

- 1. Activate a program to improve resilience of fishing and aquaculture to a changing climate.
- 2. Activate a program to aid transitioning fishing and aquaculture into a circular economy.
- 3. Investigate opportunities to optimise equitable sharing and security of access to Australia's aquatic resources.
- 4. Understand and respond to threats and opportunities presented by alternative proteins.
- 5. Partner to increase opportunities for Indigenous communities in fishing and aquaculture.
- 6. Collaborate across agriculture, fisheries and forestry to target shared strategic issues.
- 7. Bring together a collective to lay the foundations for successful digital transformation.
- 8. Explore opportunities to enhance national sustainability reporting.
- 9. Initiate an expanded program to build capability and capacity across fishing and aquaculture.

10. Deploy a regional network to facilitate greater adoption of RD&E.

#### Reporting

Progress of the AOP and R&D Plan will be measured against a Monitoring and Evaluation Framework that sets out how progress will be evaluated using metrics that are appropriate, timely and provide an accurate picture of the impact of FRDC's investment. The framework aligns reporting and evaluation with FRDC's statutory obligations and international obligations such as the United Nations Sustainable Development Goals.

#### **Measuring success**

Our Monitoring and Evaluation Framework details how we measure and evaluate our achievements, consistent with the Australian Government's Statutory Funding Agreement with FRDC and associated guidelines. We report our progress against this framework in our annual report.



## **PERFORMANCE STATEMENT**

## Key performance indicators against 2022–23 Portfolio Budget Statements

FRDC met all of the 2022–23 Portfolio Budget Statement's (PBS) performance measures.

All financial targets were met this year. For a full explanation of budgetary variances, see page 118 in the financial statements.

PBS performance criteria	Targets 2022-23	Results
R&D Plan Outcome 1: Growth for enduring prosperity Enduring and balanced ecological, social and economic growth for the community benefit.	On track for 100 per cent of priority activities	Achieved. Projects align with strategic priorities set out
<b>R&amp;D Plan Outcome 2: Best practices and production systems</b> Diverse benefits from aquatic resources to be consistent with shared principles.	identified in AOPs to be invested in by 2025.	in FRDC's AOP and partner plans.
<b>R&amp;D Plan Outcome 3: A culture that is inclusive and forward thinking</b> A fishing and aquaculture community that is cooperative, diverse and well equipped to enable growth and adaptability in a complex and uncertain world.	Projects sampled for cost-benefit analysis show positive average	
<b>R&amp;D Plan Outcome 4: Fair and secure access to aquatic resources</b> Integrated management of Australia's aquatic resources, providing certainty and confidence.	- return on investment.	
<b>R&amp;D Plan Outcome 5: Community trust respect and value</b> People feel good about using the products, services and experiences provided by fishing and aquaculture.		



The 10-year FRDC Statutory Funding Agreement (SFA), signed on 5 April 2020 sets guidelines and principles to ensure the performance and accountability of FRDC and to help foster a culture of continual improvement. The key performance indicators (KPIs) aligned with these guidelines have been incorporated into FRDC's Monitoring and Evaluation Framework (MEF) to ensure efficient alignment for reporting.

FRDC's summary performance against the SFA performance principles are as follows.

Principle	SFA KPIs	FRDC MEF target	FRDC MEF KPI	
Engage stakeholders	1.1 Strategy prioritisation and development	Stakeholders report that	Proportion of	
to identify RD&E	processes include appropriate consultation	they value FRDC services	stakeholders that are	
priorities and activities	plans, based on the best practice guide to	highly.	satisfied with FRDC	
that provide benefits	stakeholder engagement.		services remains	
to industry.			at 70% or above.	

**Results**: In 2022, FRDC's stakeholder survey asked stakeholders about their awareness, usage of and satisfaction with FRDC's services. Stakeholders were grouped by audience type: fishing and aquaculture (comprising those who identified as Indigenous, recreational, or commercial fishers, or part of the seafood supply chain), partners (governments, managers and natural resource managers) and the research community.

Awareness and usage showed a direct relationship. The proportion of stakeholders that rated themselves as 'very satisfied' or 'satisfied' on a Likert scale were:

- Fishing and aquaculture 55%
- · Partners 73%
- Research community 58%

Two groups fell below the 70% target in this survey. Awareness and usage showed a directly proportional relationship. Of those who used FRDC's services, 71–100% of respondents across groups reported either a passive or active outcome. This suggests that effort towards increasing awareness is one key opportunity for improving future scores.

1.2 Demonstrated stakeholder engagement in the identification of RD&E priorities and activities consistent with the consultation plan in 1.1.

Stakeholders report that they value FRDC highly.

stakeholders that are satisfied with FRDC services remains at 70% or above.

**Results**: In the 2022 stakeholder survey, the proportion of stakeholders that listed themselves as 'satisfied' or 'very satisfied' regarding FRDC on a Likert scale were:

- Fishing and aquaculture 37%
- Partners 55%
- · Research community 56%

The ratings returned were lower than expected and may bear a relationship with the decreased face-to-face interaction, technological adjustments and delayed delivery of research and other services which resulted from the COVID-19 period. While it can be hoped that the post-COVID-19 return of efficiency and ease of interaction may have a natural consequence of increased satisfaction, the survey also demonstrated that a very high number of stakeholders misidentified the roles and responsibilities of FRDC. Increased opportunities to improve understanding of FRDC is also expected to help. This is already being aided by the increased contact with stakeholders with the introduction of FRDC's first Extension Officer Network (EON) which commenced in the 2022–23 financial year. FRDC also began stakeholder webinars to explain the process of priority setting, applications and evaluation of successful applications (additional details in 1.3).

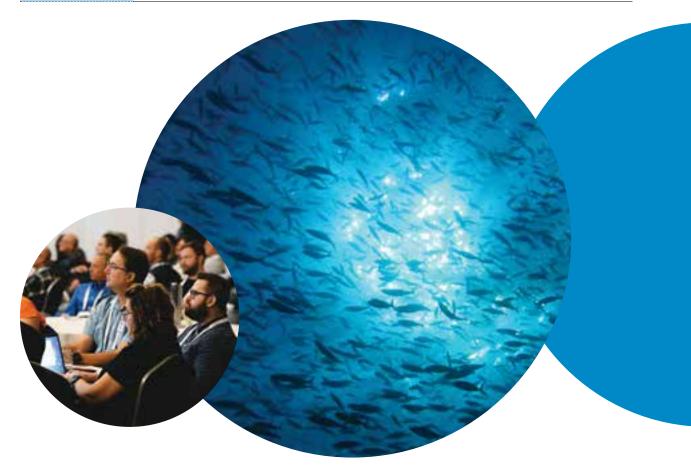
Principle	SFA KPIs	FRDC MEF target	FRDC MEF KPI
Engage stakeholders	<b>1.3</b> Demonstrated incorporation of stakeholder	Stakeholders report high	Proportion of
to identify RD&E	feedback on RD&E priorities and activities.	satisfaction with FRDC	stakeholders that
priorities and activities	Where incorporation is not possible,	consultation activities.	are satisfied with
that provide benefits	demonstration of feedback to stakeholder/s		FRDC consultation
to industry.	on why incorporation was not possible.		activities remains
(continued)			at 70% or above.
		•	•

**Results**: Following the November 2022 strategic stakeholder workshop, FRDC asked stakeholders about their experience with the consultation activities using three questions considered to be highly relevant to satisfaction:

- Stakeholders felt able to communicate their key points to FRDC average rating 4.20/5
- Stakeholders felt heard and respected average rating 4.64/5
- Stakeholders clearly understood how key points would be addressed by FRDC average rating 3.40/5 While these ratings indicated that FRDC exceeded the target, it is expected that continued progress towards perfect scores will become increasingly difficult. With this in mind, specific feedback provided by stakeholders regarding future engagement was highly valued and has been incorporated into planning for immediate implementation.

FRDC also followed up with stakeholders following engagements with FRDC Directors:

- Stakeholders felt they received what they wanted/needed from the visit average rating 3.82/5
- Stakeholders were able to communicate key points to Board/FRDC staff average rating 4.00/5
- Stakeholders clearly understood how key points would be addressed by FRDC average rating 2.91/5 A key opportunity that stakeholders raised in all settings was for FRDC to increase awareness of how it operates and increase transparency and understanding of these operations. In response, FRDC planned a webinar event held in tandem with the June 2023 call for investment opportunities to provide an explanation of processes and answer questions. Around 130 attendees joined the webinar.
- 96% felt that they had gained new information
- 91% felt they would be able to use the information gained on the day



Principle	SFA KPIs	FRDC MEF target	FRDC MEF KPI				
To ensure RD&E (and marketing) priorities are strategic activities, collaborative and targeted to improve	2.1 RDC investments align with strategic plans and have demonstrated outcomes to levy payers and taxpayers, including through growth in the industry, increased profitability of producers, commercialisation, or access to new markets.	Investment in alignment with the R&D Plan and AOPs.	On track for 100% of priority activities identified in AOPs are invested in by 2025.				
profitability, productivity,	<b>Results</b> : Projects align with strategic priorities set out in FRDC's AOP and partner plans. FRDC is on track for 100% of priority activities identified in AOPs to be invested in by 2025.						
productivity, competitiveness and preparedness for future opportunities and challenges through a balanced portfolio.	2.2 Of levy payers who participate in RDC-supported extension and adoption programs:  The majority (over half) have gained new knowledge or new information to improve their long-term profitability, productivity, competitiveness and preparedness.  The majority (over half) intend to make or have made changes to existing practices by adopting the outcomes of RD&E.	they value FRDC extension gained new and adoption. gained new knowle or information from extension and adoption extension and adoption programs and intend to (or high practices).					
	Results: In the 2022 stakeholder survey, the proportic knowledge or information from extension and adoptic Fishing and aquaculture — 86% Partners — 96% Research community — 79% Of those who had participated in RD&E events in the Irreporting that they had made changes, planned to ma Fishing and aquaculture — 66% Partners — 83% Research community — 76% At the time of the survey, the Extension Officer Networks awareness of them was still somewhat low. However, with the Extension Officer Network and rated them as Fishing and aquaculture — 73% Partners — 71% Research community — 63% The standout from this early response is that it indicat with the fishing and aquaculture community with their Additionally, it is the first time this group has emerged	ast 12 months, the proportion ke changes, or intended to, we rk had only been in existence for, respondents who had alread 'very valuable' or 'valuable' cor sa move in the right direction highest rating by far for any or	of stakeholders re: or a few months, dy interacted nprised:				

Principle	SFA KPIs	FRDC MEF target	FRDC MEF KPI					
To undertake strategic and sustained cross-industry and cross-sectoral collaboration that	<b>3.1</b> Completed, current and future RD&E including commercialisation opportunities that are accessible through the grow <sup>AG</sup> platform.	Number of completed, current and future RD&E including commercialisation opportunities accessible through the grow <sup>AG</sup> platform grows over time.	Number of completed, current and future RD&E including commercialisation opportunities added to the grow <sup>AG</sup> platform.					
addresses shared challenges and draws	<b>Results</b> : To date, FRDC has a total of 381 projects currently active on the grow <sup>AG</sup> platform. In 2022–23, FRDC contributed a further 114 projects.							
on the experience from other sectors.	<b>3.2</b> Number and quantum of cross-industry and cross-sector RD&E investments available.	Collaboration with other RDCs is maintained or increases.	Tracking number of activities, investments or partnerships in joint/cross RDC projects.					
	<ul> <li>DAFF National Agriculture Traceability Regulatory Te Agricultural Data Exchange — Ag sector traceability data platform and exchange</li> <li>Cooperative Research Centre for Solving Antimicrol (CRC SAAFE)</li> <li>Australian Rural Leadership Program</li> <li>Australian Research Data Commons — Food Securi</li> <li>Economic Participation of Indigenous Communities</li> <li>Know &amp; Show Your Carbon Footprint</li> <li>Agri-Climate Outlooks</li> <li>Australian Food and Wine Collaboration Group</li> <li>Circular Economy program with Regional Circularity</li> <li>Community Trust in Rural Industries</li> <li>Emerging National Rural Issues</li> <li>Cross-RDC Knowledge Transfer and Commercialisate</li> <li>Blue Economy CRC</li> <li>grow<sup>AG</sup></li> </ul>	transformation delivered throubial Resistance in Agribusiness of ty Data Challenges project	ugh an interoperable					



Principle	SFA KPIs	FRDC MEF target	FRDC MEF KPI				
For governance arrangements and practices to fulfil legislative requirements and align with contemporary Australian best practice for open,	<b>4.1</b> Ongoing oversight, planning and reporting of investment activities is done in accordance with legislative and Australian Government requirements and timeframes.	FRDC is fully compliant with administrative and record keeping responsibilities. The Corporation's record keeping is complete and allows all investments and transactions to be clearly tracked and understood.	Unmodified result found.				
transparent and	<b>Results</b> : FRDC received an 'unmodified' result from the Australian National Audit Office (ANAO).						
proper use and management of funds.	<b>4.2</b> Demonstrated management of financial and non-financial risk.	FRDC has appropriate oversight of risk, and risk management planning in place, and utilises risk management accordingly.	FRDC systems of risk management, internal control and compliance shows FRDC to be effective.				
	<b>Results</b> : FRDC has satisfied the Finance and Risk Syste compliance.	ems required for management,	internal control and				
	<b>4.2</b> Demonstrated management of financial and non-financial risk.	FRDC has in place appropriate probity measures and has complied with those measures.	Management of probity issues is 'effective', probity arrangements are 'appropriate', and FRDC has 'complied' with applicable probity requirements (assessment wording from ANAO).				
	<b>Results</b> : ANAO assessment of FRDC's probity management, arrangements and requirements is 'effective, appropriate, compliant'.						
	<b>4.3</b> Relevant policies and procedures adopted and implemented (e.g., whistleblower, privacy etc).	Policies and procedures are reviewed and updated internally no later than every two years.	No updates overdue by more than three months.				
	<b>Results</b> : FRDC has been working with the policy and p procedures as changes are discovered to be necessar and assigned among business units to ensure all are be	rocedure system to allow for co y. Policies have been aligned w	ith FRDC's risk taxonomy				
	<b>4.4</b> Non-financial resources implemented effectively (human resources, information technology, intellectual property etc).	Non-financial resources (human resources, information technology, intellectual property) are implemented effectively.	FRDC's policies and procedures are regularly reviewed, updated and understood.				
	<b>Results</b> : FRDC has been working with the policy and p of procedures as changes are discovered to be necess taxonomy and assigned among business units to ensustant are familiarised with policies and procedures as a referred to by staff and policy updates are announced	ary. Policies have been aligned are all are brought up to date and a part of basic induction. Proce	with FRDC's risk and maintained.				

Principle	SFA KPIs	FRDC MEF target	FRDC MEF KPI			
To demonstrate positive outcomes and delivery of RD&E (and marketing) benefits to levy payers and the Australian community	<b>5.1</b> Impact (cost-benefit) assessment of a sample of RD&E [and marketing] investments undertaken annually.	Positive return demonstrated for project sample set which includes all outcomes of the R&D Plan.	All projects sampled show positive return on investment.			
	<b>Results</b> : Average return on investment was positive at 2.98 to 1.00.					
in general and show continuous improvement in governance and administrative efficiency.	<b>5.2</b> Demonstrated consideration of and response to outcomes of monitoring and evaluation processes.	Outcomes of monitoring and evaluation inform outcomes are RD&E investments, activities, and/or system improvements within FRDC.				
	<b>Results</b> : FRDC provides regular updates of financial are the Board and advisory committees to inform finer so stakeholder satisfaction monitoring are presented to process, and as part of an FRDC all-staff workshop to are effective or need additional work. FRDC has also be understand how to improve activities so that we know	ale strategic planning. Addition, the Board, as part of the annua determine whether actions FRI been increasing the application	ally, outcomes of I stakeholder planning OC has taken to improve of follow-up surveys to			
	<b>5.3</b> Transparent communication to stakeholders (including government) on the impacts and benefits of the RD&E [and marketing] activities.	Stakeholders have been made aware of the impacts and benefits of RD&E activities.	Stakeholders report that they have seen and understand information about the impacts and benefits of FRDC's RD&E.			
	Results: In the 2022 stakeholder survey, the proportion that FRDC is transparent in how it communicated the Fishing and aquaculture — 47% Partners — 61% Research community — 62% This is the first time that FRDC has collected data on t	impacts of the RD&E it has sup	ported was:			



#### PROGRESS AGAINST PERFORMANCE FOCUS AREAS

Each year, FRDC holds an informal tripartite meeting with DAFF and our representative organisations that precedes a formal performance meeting with DAFF where our progress against our Statutory Funding Agreement is presented. These discussions provide an opportunity to consider practical continuous improvement for the following

In 2022, four areas of focus were identified:

- 1. Increased in-depth consultation: Ensuring stakeholders understand the overarching objective and rationale for this consultation and highlighting the expected outcomes up front.
- 2. Increased focus on post-project delivery: Connecting industry and project leaders to maximise the benefits and support innovation
- 3. Improving project timeframes: From concept stage to on-the-ground delivery, where possible.
- 4. Increased engagement with First Nations stakeholders: Providing opportunities for broader engagement over a longer timeframe, beyond the Indigenous Reference Group.

- 1. Increased in-depth consultation: Ensuring stakeholders understand the overarching objective and rationale for this consultation and highlighting the expected outcomes up front.
  - FRDC established a project working with the Extension Officer Network (EON) to explore the use of systems planning and impact pathway thinking, to assist with prioritising working with IPAs, RACs and Coordinating Programs.
  - FRDC continued to evolve its approach towards consultation with stakeholders to explore shared strategic needs through the annual stakeholder planning workshop and continued engagement with different sectors through advisory committees.
- 2. Increased focus on post-project delivery: Connecting industry and project leaders to maximise the benefits and support innovation.
  - FRDC established its EON in May 2022 with one extension officer located in each jurisdiction. Their role is to connect research and stakeholders at a regional scale to maximise the impact of RD&E.
  - The EON worked with all stakeholders including wild catch, recreation, aquaculture, Indigenous, post-harvest and natural resource management sectors.
  - The EON augmented FRDC's efforts to promote adoption of research investment outputs.
  - Extension officers undertook more than 700 engagement activities. The impact from these interactions included:
    - Approximately 50 per cent of these interactions connected stakeholders and researchers to enable RD&E design, ideation or future innovation tailored to our stakeholders needs.
    - Approximately 20 per cent of these interactions resulted in direct extension of previous or current projects.
  - Increased stakeholder input to FRDC's RD&E priority setting process.



#### PROGRESS AGAINST PERFORMANCE FOCUS AREAS

- 3. Improving project timeframes: From concept stage to on-the-ground delivery, where possible.
  - FRDC established an internal 'sprint' process to speed up application evaluations.
  - FRDC developed alternative application types to reduce transaction time and costs, and in the coming year will implement a new milestone reporting process to expedite project delivery.
  - FRDC commenced the implementation of a new investment approach with the RACs to deliver tactical investments with immediate adoption pathways.
- 4. Increased engagement with First Nations stakeholders: Providing opportunities for broader engagement over a longer timeframe, beyond the Indigenous Reference Group.
  - FRDC partnered with the National Environmental Science Program Marine and Coastal Hub to deliver a workshop in August 2022, on how to advance a national framework for Sea Country research and monitoring in Australia.
  - FRDC engaged an independent consultant to review processes used by FRDC for the identification of Indigenous RD&E needs.
  - FRDC committed as a Tier 1 partner in the Economic Participation of



#### **RELATIONSHIPS WITH KEY STAKEHOLDERS**

FRDC continued to work and foster relationships with diverse and geographically dispersed stakeholders across fishing and aguaculture. These relationships are driven by a shared vision of working to address issues of concern and opportunities.

Throughout 2022–23, the FRDC Board visited a number of regions and engaged directly with those involved in fishing and aquaculture to gain a first-hand insight into the issues and priorities of our stakeholders. These stakeholder engagement visits, some coinciding with conference attendance, involved travel to Albany, Perth, Melbourne, Adelaide, Hobart, Darwin and Canberra. FRDC is committed through formal policy to:

- treat stakeholders courteously and professionally,
- ensure all communication is based on the best available science,
- empower its stakeholders,
- take a facilitation leadership role,
- regularly and formally monitor and survey the relationships to gain feedback on how effectively FRDC is performing, and to determine areas that require action.

**Australian Government** 

In the 2022–23 year, FRDC met with the Minister for Agriculture, Fisheries and Forestry and departmental staff on several occasions to share updates on RD&E activities managed by FRDC and to gain insight into the key priorities of the Australian Government. The Department acts as the routine policy intermediary between the offices of the Minister and FRDC.

#### **Australian Fisheries Management Forum**

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

FRDC understands that adoption of research outputs by management agencies is key to optimising management outcomes. We continued to work with AFMF, participating as an invited representative to its meetings, providing advice and ensuring AFMF priorities are incorporated into planning and prioritisation processes.

### Rural research and development corporations

FRDC continued to partner with other rural RDCs on a range of activities to enhance joint strategic outcomes. FRDC also attended meetings of the Council of Rural Research and Development Corporations (CRRDC), as well as meetings of executive directors, business managers and communications managers. FRDC is an active member of these groups driving several key areas, particularly the CRRDC's evaluation program.

#### Research partners

Investment in RD&E activities and initiatives to promote adoption remained FRDC's core business throughout 2022-23. In any given year, FRDC has over 400 active projects under management. As such, it is vital to FRDC's success that good relationships are built and maintained with its research partners.



Throughout the year, FRDC has focused on delivering its core business of planning, investing in, and managing RD&E for fishing and aquaculture, and the wider community as well as ensuring the resulting knowledge and innovation is adopted for impact. FRDC continued to engage and communicate with stakeholders using formal consultative structures (representative organisations, Government, RACs, IPAs, and FRDC's coordination programs). This engagement played a vital role in ensuring high-quality research priorities were identified and transformed into outcomes.

### **Research Advisory Committees**

The RACs play an important role in effective planning and investment processes by helping to set RD&E priorities that meet the needs of stakeholders within their respective jurisdictions. RAC membership was expanded to include representatives of industry or sectors with an emphasis on the end-users of research.

The RACs also worked with FRDC's jurisdiction-based EON to ensure RD&E outputs are appropriately extended to end-users in a meaningful way.

While there continued to be eight RACs—one for each jurisdiction including the Commonwealth, FRDC halved the number of Chairs that oversee them, with each Chair now overseeing two RACs. This was done to help encourage cross-pollination of ideas between jurisdictions and aid collaboration.

The RAC Chairs at the end of 2022–23 follow.

# Industry Partnership Agreements

The IPAs are a key part of FRDC's business because they provide individual sectors with greater certainty for long-term investment against their R&D plans and priorities. Like the RACs, the IPAs play an important role in setting research priorities.

Each IPA develops a R&D plan containing its specific priorities, from which it determines the focus of calls for applications. The R&D plans and priorities continued to form the basis of investment for the financial year.

During the year FRDC had IPAs with the following organisations.

Industry partner	Industry contact
Abalone Council of Australia	Dean Lisson
Australian Abalone Growers Association	Nick Savva
Australian Barramundi Farmers Association	Jo-Anne Ruscoe
Australian Council of Prawn Fisheries	Rachel King
Australian Prawn Farmers Association	Kim Hooper
Australian Southern Bluefin Tuna	Brian Jeffriess
Industry Association	
Oysters Australia	Andy Myers
Pearl Consortium	Nicole Anderson
Southern Ocean	Rhys Arangio
	and Brad Milic
Southern Rocklobster Limited	Tom Cosentino
Tasmanian Salmonid Growers Association Ltd	Matt Barrenger
Western Rocklobster Council Inc.	Matt Taylor

Jurisdiction	Chair
Commonwealth and Northern Territory	Professor Cathy Dichmont
New South Wales and Queensland	Dr James Findlay
South Australia and Western Australia	Brett McCallum
Tasmania and Victoria	Dr Heidi Mumme

For further information on the RACs — www.frdc.com.au/research-advisory-committees-racs

## Other consultative research priority areas

FRDC also uses coordination programs to assist in the identification of priority areas such as human dimensions, aquatic animal health and biosecurity and for stakeholder groups including Indigenous and recreational fishers. These coordination programs were established as an FRDC initiative, or at the request of a specific stakeholder group. There are currently four coordination programs, Indigenous Reference Group, Aquatic Animal Health and Biosecurity, Recfishing Research and Human Dimensions Research.

FRDC also continued to depend on the contributions of many other bodies and agencies including:

- peak and representative bodies (from all sectors),
- Commonwealth, state and territory fisheries management and research agencies,
- the many researchers who work on FRDC projects,
- the numerous other interested people and seafood consumers FRDC engages with.

#### **Indigenous Reference Group**

FRDC's Indigenous Reference Group (IRG) was established in 2012 to provide advice to FRDC on its investments in relation to Indigenous fishing and aquaculture. In 2022–23, the long standing executive officer and Chair decided to step down from these roles.

These events provided an opportune time for FRDC to instigate a review of its investment in RD&E for Indigenous Australian's and its IRG advisory structure. An examination is currently underway to determine whether there is a more effective mechanism to formulate priorities and direction on Indigenous fishing and aquaculture, while also ensuring the RD&E delivers impact and improvements for end-users. This has included an external independent review conducted in early 2023 and will be followed by more expansive analysis in 2024.

#### Recreational Fishing Advisory Committee

A committee representing recreational fishing bodies from across Australia was formed to oversee RD&E priorities for recreational fishing. The formation of this committee was jointly supported by FRDC and the Australian Recreational Fishing Foundation (ARFF).

The objective of the committee is to develop and prioritise national research and extension to help recreational fishing bodies implement cultural and behavioural changes needed to ensure fish populations remain healthy.

The committee comprises representatives from each of the ARFF's member organisations, an independent Chair, and at least one member of FRDC's EON. This composition ensures fair representation of each jurisdiction while also providing local research expertise through FRDC's EON. Further information can be found on the recreational fishing page on FRDC's website — www.frdc.com.au/recreational-fishing

### Human Dimensions Research Coordination Program

The Human Dimensions Research (HDR) Coordination Program is responsible for setting RD&E priorities to maximise investment in the field of human dimensions research, with a focus on social, economic and cultural factors and the people, markets, institutions and behaviours these affect. The HDR does this by:

- undertaking strategic planning and prioritisation of RD&E that takes into account priorities of FRDC structures (e.g. RACs, IPAs),
- identifying opportunities for beneficial collaboration between researchers, managers and seafood industry interests,
- · promoting the best scientific methods,
- communicating regularly on coordination program activities through existing networks and with potential beneficiaries.

Further information can be found on the HDR page on FRDC's website — www.frdc.com.au/hdr-coordination-program



## Aquatic Animal Health and Biosecurity Coordination Program

The Aquatic Animal Health and Biosecurity Coordination Program (AAHBCP) was established to ensure the productivity and profitability of aquatic animal industries and to protect aquatic environments through research and development.

The AAHBCP continued to play a pivotal role in leading national aquatic animal health and biosecurity-related research. It guided FRDC-funded RD&E to address priorities identified through industry consultation and the objectives of the national strategic plan for aquatic animal health, AQUAPLAN. It also engaged with industry sectors as well as research and diagnostic agencies, to identify aquatic animal health and biosecurity related priorities.

#### Stakeholder workshop

The annual FRDC Stakeholder Workshop was held in mid-November 2022 in Adelaide. This event brought key stakeholders from RACs, IPAs, industry associations and research partners together to discuss strategic issues and plan together for the future. Input from the workshop helps with the continuous improvement of FRDC's practices, processes and consultative structures. It also assisted with the themes addressed in FRDC's 2023-24 AOP and informed future strategic investment in RD&E activities. Key topics discussed included integrated ocean management, enhanced sustainability reporting and adoption of RD&E for impact. Several priority areas were identified to improve sharing of insights, optimising use of data in decision making, measuring and sharing information on how fishing and aquaculture benefits the Australian community and documenting best practice in models for consultation and compensation.

#### Stakeholder survey

Following COVID-19 disruptions, FRDC committed to conduct an annual stakeholder survey from 2022 to 2025, coinciding with the remaining years of our current R&D Plan 2020–25. The 2022 Stakeholder Survey collected a large volume of feedback from federal and state government stakeholders, fisheries managers, national resources managers; Indigenous, commercial and recreational fishing and aquaculture stakeholders; research partners; and the Australian community.

While there was an immense amount of data collected that offers ongoing analytical opportunities, the initial insights from the survey indicated there is cautious optimism about the future of the fishing and aquaculture sectors. The majority of stakeholders were positive about FRDC's performance and the services we offer.

Like many RDCs, one of the challenges facing FRDC is ensuring our stakeholders have a clear understanding of our role and responsibilities. This was correlated with the levels of satisfaction that stakeholders reported. A new addition in this year's survey was an early insight into the impression that stakeholders had of the potential and immediate impacts and value of the new EON. The results were overwhelmingly positive, notably among industry themselves.

## FRDC staff and workforce changes

A staff working group undertook a review of the FRDC workforce plan during the financial year 2022–23. The plan was revised, expanded and renamed the '2023–26 People and Culture Plan'. The purpose of FRDC's 2023–26 People and Culture Plan is to set out how FRDC will continue to evolve our people, skillsets, organisational design, workforce environment, leadership and incentive mechanisms over 2023–26 to ensure the Corporation is well positioned to deliver the R&D Plan.

The People and Culture Plan adheres to the principles of continuous improvement to ensure it is flexible enough to adapt to the needs of the Corporation and incorporate different ways of working. Specific areas of current organisational focus for FRDC include:

- enhancing our culture to promote workplace diversity and inclusion,
- ensuring effective work-life balance and flexibility in working arrangements,
- · enhancing innovation and creativity,
- One FRDC: Building cross-functional engagement to harness the strengths, skills and capabilities of our people,
- having the ability to harness and nurture capability from our broader ecosystem and strengthen collaboration,
- · demonstrating performance and impact.

The design principles below guide how FRDC staff operates.

Agile and adaptable	Facilitates agile response to changes in the environment as well as processes and systems, including a scalable staffing model.
	Allows a more iterative process for design, adaptive planning and evolutionary development.
	Ability to course-correct for speed or to adapt when something goes wrong.
Puts clients at the centre	<ul> <li>Structures and resource allocation, as well as expectations of our people, reinforces a focus on client experience.</li> </ul>
	Enables a more stakeholder-focused, market-needs approach.
	Feedback/evaluation easily implemented for continuous improvement.
Empowerment	<ul> <li>Supports and encourages an ecosystem of resources that feel empowered, flexible and has the authority to act.</li> </ul>
	Fosters collaboration, communication and partnership across FRDC
	Makes it easy for everyone to understand their own and others' part in service delivery and how they can support others. Allows easy access to information.
	Enables seamless and strong working relationships with external partners, removing barriers where required.
Innovative	Enables impactful, thought-leading work that pushes boundaries and challenges the status quo.
	Improves time to market for new research, services and innovations.
Value driven	Enable sustainable performance aligning personal purpose and values with work.
	Value planning and knowledge building to minimise re-work.

Staff changes for 2022–23 included:

- · Appointment of the new General Manager Stakeholder Engagement.
- Resignation of the former part-time Communications Officer and appointment of a new full-time Communications Officer.
- Appointment of a Graduate
- Appointment of a Research Portfolio Manager.



## **Submissions to inquiries**

FRDC plays an important role in delivering science to meet the needs of government and industry. FRDC has provided submissions on:

- Inquiry on plastics in oceans and waterways — December 2022.
- Federal House Standing Committee on Agriculture inquiry into 'Strengthening and Safeguarding Food Security in Australia' — December 2022.
- 'Have Your Say by DAFF on Sustainable Funding and Investment to Strengthen Biosecurity' discussion paper — November 2022.
- Inquiry into climate-related marine invasive species — October 2022.
- Senate inquiry into the adequacy of Australia's biosecurity measures and response preparedness, in particular with respect to foot-and-mouth diseases — August 2022.

All FRDC submissions are available on the website — www.frdc.com.au/submissions

## Significant events after 30 June 2023

Nil.

#### **COMMONWEALTH GOVERNMENT PRIORITIES**

FRDC works closely with the Minister for Agriculture, Fisheries and Forestry and DAFF to ensure it delivers results that are in line with the Australian Government's Science and Rural RD&E priorities. FRDC invests in targeted projects that assist in the delivery of Australian Government priorities. Government priorities are consistent with 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 22–23).

The following tables summarise the total expenditure allocated against each set of priorities within the 2022–23 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 Australian Government priorities.

## Government research priorities attributed to each R&D program

#### National agricultural innovation priorities

	\$	%
	m	
Trusted exporter of premium food and agricultural products	13.44	44.41
Champion of climate resilience to increase the productivity, profitability and sustainability		
of the agricultural sector	5.21	17.22
World leader in preventing and rapidly responding to significant pests and diseases		
through future-proofing our biosecurity system	4.90	16.17
Mature adopter, developer and exporter of digital agriculture	6.72	22.21
Total	30.27	100.00
	m	
	m	
Advanced manufacturing	0.68	2.11
Cyber security	0.37	1.16
Energy	0.06	0.19
Environmental change	2.10	6.53
Food	12.14	37.74
Health	0.81	2.51
Resources	2.03	6.31
Soil and water	13.93	43.29
Transport	0.05	0.15
Total	32.17	100.00

Not all projects align to the priorities. Figures in these tables have been rounded, hence totals may not agree with component total R&D financial figures.

	Object B— Make provision for the funding and administration of marketing relating to products of primary industries.		Energy	Health		Priority 4 Mature adopter, developer and exporter of digital agriculture.	vation beople.	
gislation — PIRD Act section 3	elating to primary industries industries and to the community of the products of primary industries, and the scientific community in particular, relation to primary industries.	earch priorities	port Cyber security	Environmental change	vation priorities	Priority 3  World leader in preventing and rapidly responding to significant pests and diseases through future-proofing our biosecurity system.	<b>FRDC's mission</b> To act as a national thought leader, facilitating knowledge creation, collaboration and innovation to shape the future of fishing and aquaculture in Australia for the benefit of the Australian people.	
Objects of FRDC's enabling legislation — PIRD Act section 3	<b>de provision for the funding and administration of research and development relating to primary industries n a view to:</b> 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, achieving the sustainable use and sustainable management of natural resources, making more effective use of the resources and skills of the community in general and the scientific community in particular, supporting the development of scientific and technical capacity, developing the adoptive capacity of primary producers, improving accountability for expenditure on research and development activities in relation to primary industries.	Science and research priorities	Soil and water Transport	Advanced manufacturing	Agriculture innovation priorities	Priority 2 Champion of climate resilience to increase the productivity, profitability and sustainability of the agricultural sector.	FRDC's mission as a national thought leader, facilitating knowledge e the future of fishing and aquaculture in Australia	
	<ul> <li>Object A—</li> <li>Make provision for the funding and administration of research and development relating to primary industries with a view to:</li> <li>(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 indus (ii) achieving the sustainable use and sustainable management of natural resources,</li> <li>(iii) making more effective use of the resources and skills of the community in general and the scientific community in pa (iv) supporting the development of scientific and technical capacity,</li> <li>(v) developing the adoptive capacity of primary producers,</li> <li>(vi) improving accountability for expenditure on research and development activities in relation to primary industries.</li> </ul>		Food	Resources		Priority 1  Trusted exporter of premium food and agricultural products.	To act to shap	

Figure 3: FRDC's framework for integrating legislation, government and industry priorities

### **COMMONWEALTH GOVERNMENT PRIORITIES**

Integrated management of Australia's aquatic resources, providing certainty and People justifiably feel good about using the products, services and experiences Enduring and balanced ecological, social and economic growth for community equipped to enable growth and adaptability in a complex and uncertain world. Diverse benefits from aquatic resources in a manner consistent with shared A community of fishing and aquaculture that is cooperative, diverse and well provided by Australia's fishing and aquaculture community. 3. A culture that is inclusive and forward thinking 4. Fair and secure access to aquatic resources Best practices and production systems Community trust, respect and value 1. Growth for enduring prosperity R&D Plan outcomes principles. FRDC's role 'n. 'n information and support II. Strengthen adoption for and advanced analytics transformative change and entrepreneurship V. Provide foundational III. Promote innovation **Drive digitisation Enabling strategies** IV. Build capability and capacity services vibrant while creating diverse benefits aquaculture will be collaborative and from our aquatic resources that are By 2030, Australia's fishing and celebrated by the community. **FRDC's vision** 

### **INVESTMENT STRATEGY**

# A balanced research investment approach

FRDC aims to spread its investment in RD&E across the whole value chain of the commercial fishing and aquaculture industry, with benefits also extending to both Indigenous and recreational fishers.

In line with the R&D Plan 2020–25 and requirements of its Statutory Funding Agreement, FRDC invests in:

- a balanced portfolio of projects (type, length and risk),
- · outputs (project milestone and report),
- five outcomes and enabling strategies (investment and project delivery),
- · impact (benefit cost analysis).

RD&E investments are regularly assessed to ensure 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 FRDC's project management system that is based on the points above to inform future investment decisions and ensure a balance is maintained. FRDC ensures funding applications are developed and reviewed in line with broader portfolio requirements. A breakdown of investment for the past year can be seen on pages viii–ix.

Throughout 2022–23 and beyond, FRDC seeks to achieve maximum leverage from its investments by providing research administration and services using a value-adding model. FRDC aids in the development of priorities and provides advice and evaluations on applications addressing those priorities to decide on a specific outcome which are then actively managed and monitored.

### **COST ALLOCATION POLICY**

The purpose of this policy is to ensure FRDC has established controls and procedures for allocating costs across its RD&E and marketing in accordance with the PGPA Act and the Statutory Funding Agreement with the Commonwealth. This will ensure RD&E funds are not spent on marketing and FRDC maintains 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.



### STRATEGIC PLANNING

There are two key documents that drive FRDC's strategy, operations and investment. These are FRDC's Research and Development Plan 2020–25 (R&D Plan) and its Annual Operational Plan (AOP). Both documents aim to work together to guide the pursuit of a vision by 2030 to achieve a collaborative, vibrant fishing and aquaculture, creating diverse benefits from aquatic resources celebrated by the community. The diagram on page 26 represents the vision, outcomes and strategies we are pursuing.

The R&D Plan focuses on five R&D outcomes, supported by five enabling strategies that make progress towards those outcomes faster and easier. The R&D Plan aligns to key national initiatives such as the National Marine Science Plan, the Agricultural Innovation Policy Statement and the National Fisheries Plan. It also recognises key international plans and obligations such as the United Nations

As part of operationalising FRDC's R&D Plan 2020–25, FRDC regularly consults with RACs, industry partners, Coordinating Programs and other partners, as well as holding an annual stakeholder planning workshop. This helps to confirm the importance of areas driving positive change to deliver impact for fishing and aquaculture. These processes have helped highlight 10 strategic opportunities within FRDC's R&D Plan 2020–25 that, if addressed, can help build a platform for change across fishing and aquaculture.

The 10 strategic opportunities outlined in the 2022–23 AOP are set out along with our outcomes and strategies on the following pages. A progress report on these opportunities can be found on pages 66–69 of this annual report.



### **STRATEGIC PLANNING**

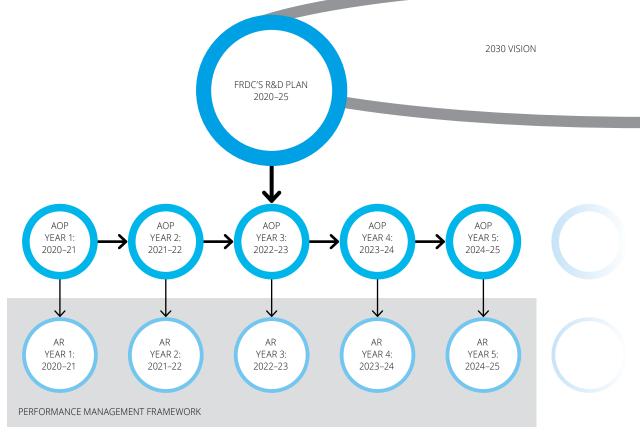


Outcomes	Enabling strategies
Outcome 1: Growth for enduring prosperity	Strategy I: Drive digitalisation and advanced analytics
Outcome 2: Best practices and production systems	Strategy II: Strengthen adoption for transformative change
Outcome 3: A culture that is inclusive and forward thinking	Strategy III: Promote innovation and entrepreneurship
Outcome 4: Fair and secure access to aquatic resources	Strategy IV: Build capability and capacity
Outcome 5: Community trust respect and value	Strategy V: Provide foundational information and support services

		Outcome	Strategy
1.	Activate a program to improve resilience of fishing and aquaculture to a changing climate.	<b>0 2 3 4 5</b>	000
2.	Activate a program to aid transitioning fishing and aquaculture into a circular economy.	<b>0</b>	<b>0 0</b>
3.	Investigate opportunities to optimise equitable sharing and security of access to Australia's aquatic resources.	<b>3 4</b> 5	
4.	Understand and respond to threats and opportunities presented by alternative proteins.	<b>1 3 5</b>	<b>0 0</b>
5.	Partner to increase opportunities for Indigenous communities in fishing and aquaculture.	<b>1</b> 2 3 5	<b>0 0</b>
6.	Collaborate across agriculture, fisheries and forestry to target shared strategic issues.	<b>1 2 3 4 5</b>	
7.	Bring together a collective to lay the foundations for successful digital transformation.	<b>1 2 3 4 5</b>	0
3.	Explore opportunities to enhance national sustainability reporting.	<b>1 2 3 4 5</b>	V
9.	Initiate an expanded program to build capability and capacity across fishing and aquaculture.	<b>1 2 3 4 5</b>	<b>W</b>
10.	Deploy a regional network to facilitate greater adoption of R&D.	<b>123</b>	0

### STRATEGIC PLANNING

Each year, FRDC's investment is guided by our AOP that outlines groups of activities to be progressed, and income and expenditure for the coming year. The 2022–23 AOP, which this annual report relates to, is the third of five to drive investment under the R&D Plan.



AOP: Annual Operational Plan AR: Annual report

FRDC's approach to investment during 2022–23 sought to manage distribution of investment to tackle issues of national importance, while ensuring that jurisdictional and sectoral needs were met. Planning and operations were aligned with FRDC's Statutory Funding Agreement, delivering balanced investment across time scales, risk appetite and strategic/adaptive posture.





### How to read FRDC's RD&E operational results

The R&D Plan focuses on five R&D outcomes, supported by enabling strategies that help make pursuit of those outcomes faster and easier.

This section of the annual report details investments and outputs against each of the five outcomes, as set out in FRDC's AOP, while providing an indication of relevance to enabling strategies where appropriate.

RD&E investments completed in 2022–23 are listed in Appendix D on page 149.

### **Enabling strategies**







### **Outcome 1: Growth for enduring prosperity**

Enduring and balanced ecological, social and economic growth for the community benefit

As the world's population grows, so must the range of benefits that come from Australia's aguatic resources. If managed sustainably, fishing and aquaculture can contribute to growth and diversification, helping Australia achieve its target of growing agriculture to \$100 billion by 2030.

Confidence from economic security promotes innovation and new perspectives to deliver benefits for the wider community. Awareness that prosperity and sustainability are mutually supporting concepts is central to FRDC's R&D Plan. Australia's aquatic ecosystems are under pressure from a variety of activities and influences and fishing and aquaculture can affect natural systems. However, improved and better-informed management has seen fewer unwanted incidents.

Other threats to ecosystems are now better understood. Examples are increased water use, exploration and extraction of minerals and petroleum, climate change, runoff, habitat removal and degradation from urban and agricultural areas, larger amounts of plastics and their impact as well as more vessel traffic and associated port infrastructure. These pressures can compromise the productivity of Australia's aquatic systems and fisheries.

### **Key focus areas**

Over the life of the R&D Plan, FRDC will explore opportunities to invest in, manage and promote adoption of RD&E to:

- support a sustainable, efficient and effective increase in production, value and price,
- guide a coordinated and evidence-based strategy for growth,
- develop more effective and cost-efficient solutions for understanding and responding to biosecurity risks from a changing climate and increased global movement of goods,
- promote a circular economy to remove waste from processing systems, keep products and materials in use and promote the repair of natural systems,
- improve understanding of, and increase community benefits from, fishing and aquaculture,
- better connect Indigenous communities with fishing and aquaculture initiatives to build opportunities for economic security in regional and remote areas where desired,
- improve understanding of the cause and extent of impacts to aquatic systems and what is needed to improve them,
- build skills and networks, including the traditional knowledge, innovation and practices of Indigenous Australians to understand, restore and create healthy aquatic ecosystems,
- build partnerships to develop system-wide understanding and identify ways to maintain and get the most benefits from aquatic systems.

THIS OUTCOME ALIGNS WITH THE FOLLOWING UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (SDGs):





























Problems/opportunities and outputs from 2022–23 AOP	Progress against AOP	Enabling strategy	RD&E investments started 2022–23
Accelerate fishery enhancement.	On track: Activities underway		<ul> <li>2022-116: Cracking the code on captive breeding of Macquarie Perch.</li> <li>2021-055: Artificial Reefs: Suitability of recycled materials for integration into purpose built artificial reefs for enhancing marine productivity, biodiversity and social outcomes.</li> </ul>
Animal health and productivity.	On track: Activities underway		<ul> <li>2021-101: Minor use permit for oxytetracycline in marine and freshwater crustaceans.</li> <li>2021-071: Minor use permit to sedate finfish using Australian Pesticides and Veterinary Medicines Authority (APVMA) registered products containing isoeugenol.</li> <li>2021-120: Minor use permit for toltrazuril in marine and freshwater finfish.</li> <li>2021-048: Ready, set, go! preparing for emergency disease outbreaks in aquatic animals.</li> <li>2021-130: Upskilling Australian Barramundi farmers on harmful algal bloom identification, monitoring and fish health management tools.</li> </ul>
Improved productivity through genetics.	On track: Activities underway		<ul> <li>2022-008: Towards healthy and sustainable freshwater fish populations — assessing genetic health of priority fish species to inform management.</li> </ul>
Nutrition and production.	On track: Activities underway		<ul> <li>2022-049: Optimising the nutrition of farmed Murray Cod.</li> <li>2022-069: Novel solutions for inducing ovarian maturation in the Black Tiger Prawn (<i>Penaeus monodon</i>).</li> </ul>
Improve product quality.	On track: Activities underway		2021-047: Harnessing the aquaculture potential of Queensland's native rock oysters.
Aid expansion into new markets.	On track: Activities underway		<ul> <li>2022-060: Understanding the economics and markets of the Western Rock Lobster industry.</li> <li>2022-107: Researching, trialling and evaluating a market driven approach to commercialising a range extended marine species — Tasmanian Wild Sea Urchin (Longspined Sea Urchin).</li> <li>2022-022: Australian Food and Wine — Collaboration Group.</li> <li>2021-047: Harnessing the aquaculture potential of Queensland's native rock oysters.</li> </ul>
Extension and commercialisation of RD&E outputs.	On track: Activities underway		<ul> <li>2022-183: Seafood employment and training platform (build — structure and design).</li> <li>2022-133: Sponsorship of World Aquaculture 2023.</li> <li>2022-109: TransTasman Rock Lobster Industry Congress — Locking in the Future: 2023–2031.</li> <li>2022-107: Researching, trialling and evaluating a market driven approach to commercialising a range extended marine species — Tasmanian Wild Sea Urchin (Longspined Sea Urchin).</li> <li>2022-106: Bursary application for World Recreational Fishing Conference 10 Study tour.</li> <li>2022-100: Sponsorship of the 11th International Abalone Symposium, held in New Zealand at Auckland University of Technology from 27 February to 2 March 2023.</li> </ul>

Problems/opportunities and outputs from 2022–23 AOP	Progress against AOP	Enabling strategy	RD&E investments started 2022–23
Extension and commercialisation of RD&E outputs. (continued)	On track: Activities underway		<ul> <li>2022-082: Enhanced education and engagement with New South Wales commercial fishers re biosecurity with focus on White Spot Syndrome Virus.</li> <li>2022-080: Developing capability and capacity for seafood international trade in new and existing markets.</li> <li>2022-073: Attracting the next generation — Primary Industries Education Foundation Australia Membership 2022-2023.</li> </ul>
Improve seafood traceability and labelling.	On track: Activities underway		<ul> <li>2022-176: Australian Research Data Commons: Food Security Data Challenges — Increasing food security through liberation of fishing and aquaculture data.</li> </ul>
Improve digitalisation and use of artificial intelligence.	On track: Activities underway		<ul> <li>2020-111: Accelerating the adoption of digital technology on Queensland prawn farms.</li> <li>2022-097: Australian Fisheries Management Forum Data and Digital Sharing Working Group Digital Strategy.</li> <li>2021-088: Data management and governance framework development for fishing and aquaculture.</li> </ul>
Inform decision making to reduce biosecurity risks.	On track: Activities underway		<ul> <li>2022-082: Enhanced education and engagement with New South Wales commercial fishers re biosecurity with focus on White Spot Syndrome Virus.</li> <li>2022-125: Technical support and advice to the Australian fishing and aquaculture sectors on aquatic animal health and biosecurity related matters.</li> <li>2022-072: Biosecurity operational planning for prawn farms in the Clarence River under increased risk scenario.</li> <li>2021-112: Developing biomass assessment approaches, harvest methodologies and biosecurity knowledge for wild harvest of seaweeds in southern Australia.</li> <li>2022-018: A global review of disease risks to the health and productivity of South Australia farmed Southern Bluefin Tuna.</li> <li>2019-193: Assessment of the sensitivity of Australia's aquatic animal disease surveillance system using scenario tree modelling.</li> </ul>
Solutions that turn waste into value.	On track: Activities underway		<ul> <li>2021-133: Circular Economy Program 2022–2025.</li> <li>2021-055: Artificial Reefs: Suitability of recycled materials for integration into purpose built artificial reefs for enhancing marine productivity, biodiversity and social outcomes.</li> <li>2022-058: NSW Department of Primary Industries Seafood Innovation Program</li> </ul>
Inform natural accounting and ecosystem services.	On track: Activities underway		<ul> <li>2022-108: Taskforce for Nature Related Financial Disclosure (TNFD)         'Blue TNFD Pilot'. Three case studies applying the TNFD nature         related risk and opportunity management and disclosure framework         to commercial fisheries: Austral Fisheries, Western Rock Lobster         Council and Spencer Gulf and West Coast Fishermen's Association         (Spencer Gulf Prawns).</li> <li>2021-123: Status of Australian Fish Stocks (SAFS) sixth edition.</li> </ul>
Improve gear selectivity.	On track: Activities underway		2021-119: Improving bycatch reduction strategies and escape vents in Queensland Mud Crab fisheries.

Problems/opportunities and outputs from 2022–23 AOP	Progress against AOP	Enabling strategy	RD&E investments started 2022–23
Understand impacts of other activities on fishing and aquaculture.	On track: Activities underway		<ul> <li>2022-201: International Travel Bursary. Elspeth Macdonald's (Scottish Fishermen's Federation) experience with spatial management and the renewable energy sector.</li> <li>2022-104: Review and quantify the cumulative effects of expanding industrial coastal developments and emerging offshore renewable energy on the fishing industry in Western Australia.</li> <li>2022-084: Convention on International Trade in Endangered Species (CITES) 19th Conference of Parties, Panama City, Panama — individual bursary.</li> </ul>
Understand linkages between fishery productivity and ecosystem health.	On track: Activities underway		<ul> <li>2022-181: Attendance and participation at the Governing Changing Oceans Workshop and North Pacific Marine Science Organization (PICES) 5th International Symposium on the Effects of Climate Change on the World's Ocean in Bergen, Norway.</li> <li>2021-097: Environmental risk factors that may contribute to vibrio outbreaks — a South Australian case study.</li> <li>2022-091: The South East Australian Marine Ecosystem Survey: Untangling the effects of climate change and fisheries.</li> <li>2021-114: A synthesis of research conducted into the impacts of surface water abstraction on tropical aquatic species.</li> <li>2022-054 and 2022-055: Bursary to attend the 2022 Microplastics and Seafood: Human Health Symposium in the United Kingdom — Bronwyen Gillanders (2022-054) Nina Wootton (2022-055).</li> </ul>
Improve valuation methods for fishing and aquaculture sectors.	On track: Activities underway		<ul> <li>2022-108: Taskforce for Nature Related Financial Disclosure (TNFD)         'Blue TNFD Pilot'. Three case studies applying the TNFD nature         related risk and opportunity management and disclosure framework         to commercial fisheries: Austral Fisheries, Western Rock Lobster         Council and Spencer Gulf and West Coast Fishermen's Association         (Spencer Gulf Prawns).</li> <li>2022-038: Valuing Western Australian smaller commercial fisheries         across the supply chain.</li> </ul>
Development of new products and diversification of species.	On track: Activities underway		<ul> <li>2021-136: FRDC investments in Marine Bioproducts CRC.</li> <li>2022-089: Inland saline aquaculture — past progress, new opportunities and a synthesis of available knowledge</li> </ul>
Measuring, interpreting, and monitoring performance.	On track: Activities underway		<ul> <li>2022-105: Know &amp; Show Your Carbon Footprint — Discovery Phase.</li> <li>2022-102: Pilot scale trial to assess benefits of remote sensing technology to optimise fishing efficiency of tuna ranching operations.</li> <li>2022-079: Defining behaviour metrics for farmed prawns and developing methods to enhance spawning and welfare of <i>Penaeus monodon</i> broodstock.</li> <li>2021-017: Basement Jacks — Where's your stock at? Understanding stock structure and connectivity of Mangrove Jack in northern Australia.</li> <li>2022-032: Biological parameters for stock assessments in South Eastern Australia — an information and capacity uplift.</li> <li>2022-034: Profiling and tracking change in Australia's seafood workforce: Establishing a baseline workforce dataset.</li> <li>2021-140: 10th International Fisheries Observer and Monitoring Conference.</li> </ul>

# **Examples of project** activity during the year

# Growing seaweed to reduce emissions from livestock

#### PROJECT 2022-132

FRDC will administer an \$8 million investment to progress seaweed research on behalf of DCCEEW and DAFF and it will be undertaken as a partnership between Australian Sustainable Seaweed Alliance, FRDC and DAFF. It is anticipated the investment will draw together public and private sector groups working to expand seaweed production in Australia, with the initial focus on the opportunities arising from the production of the red seaweed *Asparagopsis*.

Asparagopsis is a native species to Australia and has been proven to reduce methane emissions from livestock when added to feed. It can help Australia, and the world, meet commitments to reduce emissions. Commercial production of Asparagopsis has begun and a rapid scale up is needed to meet demand for this product. This investment will also help the sector expand seaweed research expertise and capability, enhance breeding techniques, and support existing and future industry stakeholders to navigate regulatory processes.

Australian seaweeds exhibit great potential for use in human food, animal feed, pharmaceuticals, biofuels and fertilisers. Seaweed cultivation can also provide environmental benefits by reducing nutrient pollution and buffering ocean acidification.

# Innovative nanobubble technology used in diverse production industries globally, is being evaluated for its potential to help Australian aquaculture oxygenate water

#### PROJECT 2019-139

In many recirculating aquaculture systems, maintaining the optimal dissolved oxygen levels in water is an ongoing challenge. Getting it right will result in fast-growing, healthy and productive fish. Too little oxygen results in slower fish growth, reduced resilience to disease and potentially, death from hypoxia — a lack of oxygen. Paradoxically, when oxygen levels are too high it can also reduce fish health and productivity, leading to the potentially fatal gas bubble disease.

While diffuser technology commonly used to aerate water is becoming increasingly efficient, in most systems, oxygen quickly disperses from the water into the atmosphere with 6 per cent or less available for fish. However, new nanobubble technology offers the potential to improve oxygenation rates, reducing production costs and improving the profitability of aquaculture operations.

Australian-based company Nano Bubble Technologies has patented its Nano Bubble Injector which puts microscopic gas bubbles into the water column. Its technology is being used to add oxygen to water in turf production, hydroponics and agriculture. Internationally nanobubble technology is used in wastewater treatment, biomedical engineering, aquaculture, the gas and oil industry and the food industry. Yellowtail Kingfish (*Seriola lalandi*), and Barramundi (*Lates calcarifer*) are the test species for the nanobubble evaluations, which are being conducted at the Port Stephens Fisheries Institute in New South Wales.

The project is investigating whether it provides a more efficient way to get the oxygen into the water for tank-based aquaculture, and other fish holding systems, and if this can reduce costs and improve production efficiencies while maintaining fish growth. A further two experiments will be completed by testing aeration systems and fish performance in different water salinities and at different temperatures. A cost-benefit analysis will also be produced comparing oxygen gas use and other efficiencies that might result from the nanobubble technology.





# Outcome 2: Best practices and production systems

Diverse benefits from aquatic resources to be consistent with shared principles

Ethical performance is now big business worldwide, with benefits including improved reputation, reduced risk, competitive advantage, access to new markets and value creation. Industries and sectors are responding by adopting practices that have less impact on the environment or are even regenerative. They also consider the wellbeing of workers, communities and consumers, conserve non-renewable energy, sustainably manage natural resources, minimise stress in animals, and do not compromise the needs of future generations.

### Key focus areas

Over the life of the current plan, FRDC will explore opportunities to invest in, manage and promote adoption of RD&E to:

- minimise impacts on non-target species and ecosystems,
- better understand and increase wellbeing, equity and safety of workers within each sector,
- develop innovative ways to conduct and communicate independent validation of sustainable practices and outcomes to markets and consumers,
- · improve animal welfare outcomes,
- promote learning and sharing among sectors and industries, including identifying, documenting and promoting Indigenous traditional fisheries management systems and practices,
- inform effective management of climate change impacts through adaptation and mitigation,
- explore ways to capitalise on new opportunities presented by climate change,
- develop improved decision-making tools better able to respond to biological variability and increased revenue volatility and risks.

THIS OUTCOME ALIGNS WITH THE FOLLOWING UNITED NATIONS SDGs:





















Problems/opportunities and outputs from 2022–23 AOP	Progress against AOP	Enabling strategy	RD&E investments started 2022–23
Improve understanding and mitigating impacts of fishing on environment.	On track: Activities underway		2020-026: Habitat ecological risk assessment for eco-regions with high trawl footprints, in southern Queensland and northern New South Wales.
Enable rebuilding stocks of target species.	On track: Activities underway		<ul> <li>2022-116: Cracking the code on captive breeding of Macquarie Perch.</li> <li>2022-101: Understanding Southern Bluefin Tuna distribution changes through satellite tagging.</li> </ul>
Understand and mitigate impacts to threatened, endangered and protected species.	On track: Activities underway		<ul> <li>2023-009: Reducing impacts on threatened, endangered, and protected species in the Queensland East Coast Otter Trawl Fishery.</li> <li>2022-068: Multi-fishery collaboration to assess population abundances and post release survival of threatened sawfish captured in commercial fishing operations in Northern Australia.</li> </ul>
Improve safety.	On track: Activities underway		<ul> <li>2021-103: Safety in Seafood — saving lives through a culture of safety.</li> </ul>
Improve animal welfare outcomes.	On track: Activities underway		<ul> <li>2022-125: Technical support and advice to the Australian fishing and aquaculture sectors on aquatic animal health and biosecurity related matters.</li> <li>2022-079: Defining behaviour metrics for farmed prawns and developing methods to enhance spawning and welfare of <i>Penaeus monodon</i> broodstock.</li> <li>2022-028: Development of resources and equipment to enable best practice in the humane dispatch of sharks caught by commercial fishers in the Northern Territory.</li> </ul>
Identify and mitigate obstacles to uptake of best practice for animal welfare.	On track: Activities underway		<ul> <li>2021-130: Upskilling Australian Barramundi farmers on harmful algal bloom identification, monitoring and fish health management tools.</li> <li>2022-074: Animal Welfare Best Practice for Australian Prawn Farming.</li> <li>2022-064: Responsible (animal welfare) fishing practice for the Australian wild prawn industry.</li> </ul>
Inform climate change adaptation/mitigation strategies.	On track: Activities underway		<ul> <li>2022-059: Agri-Climate Outlooks.</li> <li>2021-104: Applying the fisheries climate adaptation handbook to Australia's state fisheries.</li> <li>2022-091: The South East Australian Marine Ecosystem Survey: Untangling the effects of climate change and fisheries.</li> <li>2022-101: Understanding Southern Bluefin Tuna distribution changes through satellite tagging.</li> <li>2022-096: Northern Prawn Fishery Tiger Prawn Fishery Adaptation Strategy workshop.</li> <li>2022-041: Assessing the potential of translocation to increase vongole productivity and fishery catches.</li> </ul>

Problems/opportunities and outputs from 2022–23 AOP	Progress against AOP	Enabling strategy	RD&E investments started 2022–23
Acceleration of seaweed culture.	On track: Activities underway		<ul> <li>2022-132: Asparagopsis R&amp;D review and implementation plan for a national seaweed hatchery network.</li> <li>2022-114: Registration for International Seaweed Symposium (Hobart 2023) — bursary.</li> <li>2022-014: FRDC sponsorships for 24th International Seaweed Symposium 19–24 February 2023, Hobart.</li> <li>2021-112: Developing biomass assessment approaches, harvest methodologies and biosecurity knowledge for wild harvest of seaweeds in southern Australia.</li> </ul>
Inform innovative fishery management approaches.	On track: Activities underway	<b>P</b>	<ul> <li>2022-196: FRDC investments in CRC SAAFE.</li> <li>2022-021: Review and assessment of existing valuation methods for commercial fishing licences.</li> <li>2022-039: Developing spatial based assessment methodologies and tools for small scale dive. fisheries: Case study of the Tasmanian Commercial Dive Fishery.</li> <li>2021-135: Review of national guidelines to develop fishery harvest strategies.</li> </ul>
Data inputs to enable improved decision making.	On track: Activities underway		<ul> <li>2022-173: Assessing current data and alternate data collection methods relating to recreational catches of tropical tuna and billfishes.</li> <li>2023-002: Developing a cost-effective and novel fisheries-independent monitoring program to inform scalefish fisheries management.</li> <li>2022-009: Quantifying Banded Morwong, Bluethroat Wrasse and Purple Wrasse abundance and movements to sustain key fisheries in Tasmania — postgraduate.</li> <li>2022-032: Biological parameters for stock assessments in southeastern Australia — an information and capacity uplift.</li> <li>2022-016: Australian Fisheries and Aquaculture Statistics 2021.</li> <li>2022-007: Trials of oceanographic data collection on commercial fishing vessels in south-eastern Australia.</li> <li>2021-088: Data management and governance framework development for fishing and aquaculture.</li> </ul>



Problems/opportunities and outputs from 2022–23 AOP	Progress against AOP	Enabling strategy	RD&E investments started 2022–23
Ensuring food safety.	On track: Activities underway		• 2021-053: Building capability in food safety in Australian shellfish.
Additional Outcome 2 activities: develop innovative ways to conduct and communicate independent validation of sustainable practices and outcomes to markets and consumers.	On track: Activities underway		<ul> <li>2022-197: DAFF National Agriculture Traceability Regulatory Technology Research and Insights Grant: Australian Agricultural Data Exchange — Ag sector traceability transformation delivered through an interoperable data platform and exchange.</li> </ul>
Additional Outcome 2 activities: promote learning and sharing among sectors and industries, including identifying, documenting and promoting Indigenous traditional fisheries management systems and practices.	On track: Activities underway		2021-107: Two-Eyed Seeing — a framework for cultural fishery assessments supporting equitable and sustainable access to shared resources in New South Wales inland rivers.



# Examples of project activity during the year

### Implications of plastic in seafood

#### PROJECT 2021-117

Through the United Nations Environment Assembly, more than 500 organisations and 21 governments, including Australia, have signed up to commitments to change how plastic is produced, used and reused and through the creation of circular economies to keep it out of the environment.

FRDC has funded a body of research looking at the plastic issue in an Australian context, including a project focused on the potential effects and implications of plastic in seafood and its impacts for fishing and aquaculture. Dr Patrick Reis Santos and Dr Nina Wootton are part of the team reviewing and synthesising available data on sources of marine pollution to quantify how much plastic is entering aquatic ecosystems, including from fishing and aquaculture sources, with a focus on the Australian context. This research was then discussed at the Plastic Particles and Seafood: Human Health Symposium held in Edinburgh in September 2023.

### **Tasmania's Marine Atlas**

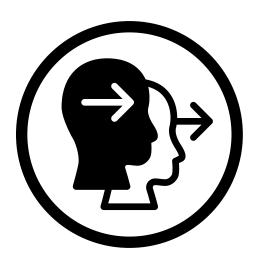
#### PROJECT 2019-111

Tasmania's marine environment is increasingly subject to varying and sometimes competing uses. As the marine environment is becoming more congested, there is a growing need to track activities and how they overlap with each other, which is why holistic marine spatial planning is becoming increasingly important. While there are many useful and valuable datasets available for fishery and aquaculture stakeholders, they are often not easily accessible. Tasmania's Marine Atlas aims to address these issues by collating and integrating this data into a format that makes it easier to find and understand the available information.

The data is sourced from many publicly available datasets such as state government, federal agencies and research outputs, and includes links back to the original source. To build on the data and tools currently available, Tasmania's Marine Atlas is being developed through a three-year research project. The project also includes analysis and comparison of available decision-support tools, ranging from simple tools that just scan what is in a specific area, to more advanced management tools. This will help determine how the Atlas can integrate with these tools, depending on the sophistication of the mapping and end uses required.

Now in its final year of development, the Atlas will be a publicly available online mapping platform that acts as a central point to access and overlay data on Tasmania's marine environment. This will include information on human activities such as fishing, transport and infrastructure, along with environmental information such as habitat diversity and species occurrences. The Atlas is intended to be accessible to anyone, but it will be specifically relevant for government, fishing and aquaculture sectors, researchers as well as the public.





### Outcome 3: A culture that is inclusive and forward thinking

A fishing and aquaculture community that is cooperative, diverse and well equipped to enable growth and adaptability in a complex and uncertain world

'Culture' describes an emergent pattern of behaviours and responses adopted by a group over time, which they consider to be the 'correct' way to perceive, feel, think and act. Culture reflects what a group stands for, what they consider to be right and wrong, and is shaped by the rules, systems and protocols of their surroundings.

Working to address the dynamics that affect fishing and aquaculture today — such as market volatility, evolving societal beliefs, climate-driven ecological changes and technological disruption — will require a culture that is focused on solutions, resourceful and willing to collaborate.

To change culture, you must modify what shaped it in the first place. This means identifying the underlying beliefs, relationships and norms that are influencing decision making and challenging assumptions and expectations. This requires developing new ways of working together.

### **Key focus areas**

FRDC explores opportunities to invest in and manage adoption of RD&E research to:

- understand and address factors that hold back positive cultural and behavioural change,
- promote greater inclusiveness, creative thought and solution seeking,
- support sharing among stakeholders so that others can learn from those who are already producing promising results,
- encourage openness to new ideas, approaches and ways of thinking and behaving, recognising that needs may differ among sectors,
- strengthen collaboration across sectors to enable the full benefit of collaborative partnerships.

FRDC aims to modify how it identifies and solves problems by engaging a range of collaborators to tackle ambitious challenges together. This may mean accepting new tolerances for risk and realising that experimentation can fail or come up with unexpected results but will always provide opportunities for learning.

THIS OUTCOME ALIGNS WITH THE FOLLOWING UNITED NATIONS SDGs:













Problems/opportunities and outputs from 2022–23 AOP	Progress against AOP	Enabling strategy	RD&E investments started 2022–23
Identify solutions to provide basis for sustainable business activities.	On track: Activities underway		2022-027: Targeting behavioural change in fisheries and aquaculture.
Improve value delivered through representative and advisory structures across fishing and aquaculture.	On track: Activities underway		<ul> <li>2022-088: Seafood Trade Advisory Group — transitioning to a new, communications, governance and operating model.</li> <li>2022-065: Capability and Capacity Steering Committee (operations).</li> <li>2021-137: Capacity and Capability Steering Committee — Independent Chair.</li> </ul>
Building capability and capacity across fishing and aquaculture to adapt to change.	On track: Activities underway		<ul> <li>2022-180: Phase 2. Designing the integration of extension into research projects: Tangible pathways to enhance adoption and impact.</li> <li>2022-153: Fishing and Aquaculture Workforce Capability Framework.</li> <li>2021-099: National Seafood Industry Leadership Project 2022.</li> <li>2022-033: Building capability and capacity of women in recreational fishing: online course development.</li> <li>2022-073: Attracting the next generation — Primary Industries Education Foundation Australia Membership 2022-23.</li> <li>2022-066: FRDC Australian Rural Leadership Foundation Alumni bursaries 2022.</li> <li>2022-061: Developing leadership and networking capability in Australian prawn farming.</li> </ul>
New ways of partnering and solving problems.	On track: Activities underway		<ul> <li>2021-124: Partnering to deliver national research, development and extension for Australia's recreational fishing sector: Management project 2022-2024.</li> <li>2022-186: Supporting attendees at the International Tropical Rock Oyster Workshop and World Aquaculture Conference 2023.</li> <li>2022-094: Embedding impact pathway thinking into the identification and prioritisation of RD&amp;E needs and investments for FRDC.</li> <li>2022-075: National Workshop to develop a regional collaborative plan to control the invasive Longspined Sea Urchin (<i>Centrostephanus rodgersii</i>).</li> <li>2021-056: Initial field trial of an anti-theft estuarine pot prototype by applying industry-adoption-centric research in collaboration with industry.</li> </ul>
Use of new methods to reduce unsustainable impacts of fishing and aquaculture on target species.	On track: Activities underway		<ul> <li>2022-164: Tropical fish traps — addressing ghost fishing impacts and refinements to catch reporting/sampling.</li> <li>2022-068: Multi-fishery collaboration to assess population abundances and post release survival of threatened sawfish captured in commercial fishing operations in Northern Australia.</li> <li>2022-045: Measuring non-commercial fishing catches (traditional subsistence fishing) in the Torres Strait in order to improve fisheries management and promote sustainable livelihoods.</li> <li>2022-012: Quantifying post-release survival of skate bycatch in the Heard Island and McDonald Islands Patagonian Toothfish longline fishery.</li> <li>2022-006: Developing a harvest control rule to use in situations where depletion can no longer be calculated relative to unfished levels.</li> <li>2022-019: Removal of microalgae and total nitrogen in effluent water from prawn farms using electrocoagulation water treatment technology.</li> </ul>

Problems/opportunities and outputs from 2022–23 AOP	Progress against AOP	Enabling strategy	RD&E investments started 2022–23
Assist integration of Indigenous traditional ecological knowledge into fisheries management.	On track: Activities underway		<ul> <li>2021-098: Incorporating Aboriginal perspectives into fishery management review processes, using the Northern Territory Barramundi Fishery as a case study.</li> <li>2022-076: Integrating Indigenous fishing: Extending adoption pathways to policy and management.</li> </ul>
Additional Outcome 3 activities: support sharing among stakeholders so that others can learn from those who are already producing promising results.	On track: Activities underway		<ul> <li>2022-194: Seafood employment and training platform — pathways content creation.</li> <li>2022-183: Seafood employment and training platform (build — structure and design).</li> <li>2022-133: Sponsorship of World Aquaculture 2023.</li> <li>2022-100: Sponsorship of the 11th International Abalone Symposium, held in Auckland New Zealand at Auckland University of Technology from 27 February to 2 March 2023.</li> <li>2022-026: Australian Rural Leadership Foundation 30th Anniversary Sponsorship — Silver Package.</li> <li>2022-110: 2023 evoke<sup>AG</sup> bursary.</li> <li>2022-098: evoke<sup>AG</sup> bursary.</li> <li>2022-109: TransTasman Rock Lobster Industry Congress — Locking in the Future: 2023–2031.</li> <li>2022-106: Bursary application for World Recreational Fishing Conference 10 study tour.</li> <li>2022-052: Bursaries to attend the 2022 New Zealand Seafood Industry Conference.</li> <li>2022-057: 2023-25 Science and Innovation Awards for Young People in Agriculture, Fisheries and Forestry.</li> <li>2022-083: Convention on International Trade in Endangered Species (CITES) 19th Conference of Parties, Panama City, Panama — individual bursary.</li> <li>2022-081: Ocean Decade Australia — Ocean Leaders Summit 2023.</li> </ul>



### **Examples of project** activity during the year

Maintaining cultural practices and building knowledge and capacity to support sustainable fishing of the Gynburra on Narungga Sea Country

### PROJECT 2021-050

Work has begun on a project to capture cultural and scientific knowledge on iconic fish species of the Narungga people the Traditional Owners of Guuranda, South Australia's Yorke Peninsula. The project focused on the Gynburra, also known as the Dusky Morwong or Butterfish, and is being led by Garry Goldsmith in collaboration with his community on Guuranda and by Dr Paul Rogers from Southern Fishery and Ecosystem Solutions. The Narungga community are known as the Butterfish Mob because Narungga men traditionally waded in the incoming tide and attracted Gynburra by stirring up sediments of sand.

This project is helping to enhance traditional knowledge and practices to support Narungga to preserve and sustain the Gynburra as a species of cultural and ecological importance.

It is aiming to build foundational knowledge and capacity in fisheries science and

### A wide cross-section of Australia's fishing communities come together to address shark depredation

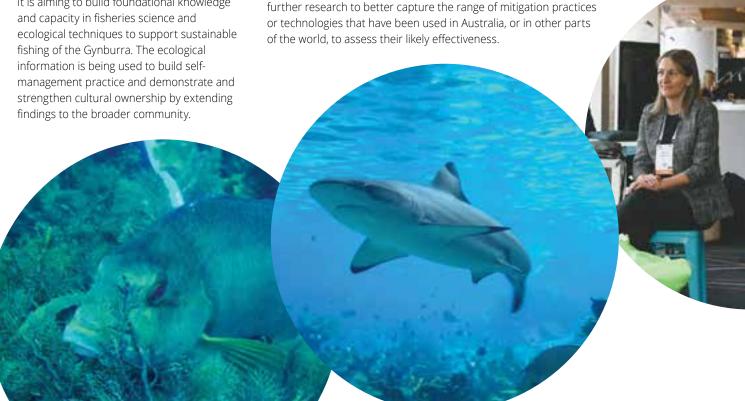
#### PROJECTS 2021-111 AND 2021-038

Reports of shark depredation on fishing operations have been increasing, to the extent that commercial, charter and recreational fishers reached out for help. In response, FRDC held two national workshops over the past year. These workshops aimed to assess the scale of shark depredation and explore mitigation options.

Dr Jonathan Mitchell from the Queensland Department of Agriculture and Fisheries presented a discussion paper at the workshops which said depredation rates in commercial fisheries were estimated to range between 2–20 per cent. The use of surveillance cameras and genetic tests identified up to 12 shark species as being responsible. The paper also found shark depredation had been reported since the 1800s. Anecdotally, it was believed to be increasing but there was little to no empirical data to confirm this.

The online workshops attracted a large and diverse cross-section of Australia's fishing sectors, including fisheries agencies and researchers. One unexpected outcome from the workshops was the emergence of a clear dividing line between northern and southern waters. Southern fishers and fisheries managers reported shark depredation was not considered as serious an issue, but they took the opportunity at the workshop to raise similar depredation issues caused by seals in some fisheries.

Informed by the outcomes of the workshop series, FRDC is funding





# Outcome 4: Fair and secure access to aquatic resources

Integrated management of Australia's aquatic resources, providing certainty and confidence

Access to aquatic resources, guided by good management, is fundamental for the continued delivery of economic and social benefits such as food, income, employment, recreation and cultural identity for all Australians. However, resource sharing among users can be contentious. As the 'blue economy' takes shape and seafood species move in response to a changing climate, Australia's seascapes are likely to become busier and more contested.

Optimising benefits for the Australian community means sharing resources fairly using open and evidence-based processes within the limits of sustainability.

Decision making on the management of aquatic resources sometimes occurs without a multi-sector view and the associated context necessary to ensure that the Australian community receives the best value from any decisions made. This has led — at times — to trade-offs, environmental impacts, unnecessary complexity, ineffectiveness, inefficiency and increased costs.

### **Key focus areas**

FRDC explores opportunities to invest in RD&E to:

- support increasingly integrated and effective management of Australia's aquatic resources,
- promote development and adoption of management measures that are well suited for resilience to change. These include:
  - harvest strategies that are flexible to take account for the dynamic nature of resource use,
  - flexible spatial arrangements, decision-making tools better able to transparently deal with biological variability, climate change, harvest uncertainty, management of revenue volatility and risks,
  - management approaches that aim for fairness, and participative management across Australia's fisheries to improve efficiency and reduce costs.

THIS OUTCOME ALIGNS WITH THE FOLLOWING UNITED NATIONS SDGs:















Problems/opportunities and outputs from 2022–23 AOP	Progress against AOP	Enabling strategy	RD&E investments started 2022–23
Understand and compare values across fishing and aquaculture sectors.	On track: Activities underway		<ul> <li>2022-195: Fisheries Management Training Course Bursaries.</li> <li>2022-170: Integrating recreational fisher experience/satisfaction into decision making.</li> <li>2021-098: Incorporating Aboriginal perspectives into fishery management review processes, using the Northern Territory Barramundi Fishery as a case study.</li> <li>2021-064: Using multiple values to inform the management of Australian marine partially protected areas.</li> </ul>
Understand impacts of other activities on fishing and aquaculture.	On track: Activities underway		<ul> <li>2022-201: International Travel Bursary — Elspeth Macdonald's (Scottish Fishermen's Federation) experience with spatial management and the renewable energy sector.</li> <li>2022-104: Review and quantify the cumulative effects of expanding industrial coastal developments and emerging offshore renewable energy on the fishing industry in Western Australia.</li> </ul>
Improve valuation methods for fishing and aquaculture sectors.	On track: Activities underway		<ul> <li>2022-008: Towards healthy and sustainable freshwater fish populations — assessing genetic health of priority fish species to inform management.</li> <li>2021-111: Addressing uncertainties in the assessment and management of Queensland east coast Spanish Mackerel.</li> </ul>
Additional Outcome 4 activities: promote development and adoption of management measures that are well suited for resilience to change, including: flexible spatial arrangements, decision-making tools better able to transparently deal with biological variability, climate change, harvest uncertainty, management of revenue volatility and risks.	On track: Activities underway		<ul> <li>2022-184: Provide management support and advice on steps to assist Clarence River Fishermen's Cooperative Ltd and their members to acquire relief and financial assistance as a result of the white spot disease outbreak at Palmers Island.</li> <li>2022-181: Attendance and participation at the Governing Changing Oceans Workshop and North Pacific Marine Science Organization (PICES) 5th International Symposium on the Effects of Climate Change on the World's Ocean in Bergen, Norway.</li> <li>2021-049: Developing and testing a cultural change process in the New South Wales wild harvest sector: A case study to facilitate a process towards co-management in the New South Wales Northern Fish Trawl.</li> </ul>
Additional Outcome 4 activities: promote development and adoption of management measures that are well suited for resilience to change, including: participative management across Australia's fisheries to improve efficiency and reduce costs.	On track: Activities underway		2021-107: Two-Eyed Seeing — a framework for cultural fishery assessments supporting equitable and sustainable access to shared resources in New South Wales inland rivers.

# **Examples of project** activity during the year

# National social and economic survey of recreational fishers

#### PROJECT 2018-161

The release of the National Social and Economic Recreational Fishing Survey, highlighted the positive economic and health benefits of recreational fishing for Australians.

Delivered in partnership with the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), Executive Director Dr Jared Greenville says the survey provides a current picture of recreational fishing in Australia, including information on participation rates, as well as the contribution to the economy and society.

A total of 4.2 million, or one in five adult Australians are estimated to participate in recreational fishing each year; the number increasing proportionately as the population has increased. The survey shows Australians spend 28 million days fishing each year. This comprises people who fish a few days a year to weekly activity. This is estimated to contribute more than 100,000 jobs and over \$11 billion a year to the Australian economy.

### Seafood, community and connection to Country

#### PROJECTS 2019-143 AND 2015-205

Diminishing opportunities for the exchange of traditional knowledge within local communities is a significant barrier to connecting people with seafood and its broader benefits. Researcher at Monash University, Beau Cubillo worked on a project to investigate Indigenous values to support the development of Indigenous fisheries. Beau is a Larrakia and Wadjigan Aboriginal man from the Northern Territory, and says an Indigenous perspective is central to the research that has involved close collaboration with the Maningrida Traditional Owners, Bawinanga Aboriginal Corporation and both Monash and Charles Darwin universities.

Through part of the research investigation, 10 themes emerged from the 13 'yarning' sessions undertaken between Beau and 16 community members. Yarning is a recognised conversational practice among Aboriginal and Torres Strait Islander researchers in Australia. It involves a two-way sharing of knowledge between the researcher and community members as equals.

The key themes that emerged from these conversations were: respecting

elders, culture, connection to Country, Aboriginal nutrition and traditional

medicinal knowledge, Aboriginal fishing enterprise, lived experience,

intergenerational knowledge transfer, interconnectedness, and barriers to seafood. Beau's work built on previous FRDC

a year to weekly activity. This is estimated to contribute more than 100,000 jobs and over \$11 billion a year to the Australian economy.

\*\*The indigenous communities, it showed that fishing was not just about harvesting something and selling it to make money, it was about food for communities, nutrition and health benefits and just as importantly, connection to culture and Country.



### **Outcome 5: Community trust, respect and value**

People feel good about using the products, services and experiences provided by fishing and aquaculture

Community support is essential if Australia's fisheries are to grow and prosper and aquaculture activities are no exception. Achieving and retaining this support means fishing and aquaculture needs to show that use of publicly owned resources can be compatible with community values and also deliver societal benefits.

FRDC research determined the main reasons that society does, or will, support fishing and aquaculture, these included:

- government is seen to have a strong oversight of the sector and there are fair decision-making processes in place,
- operations are acting in alignment with social norms, have a level of visibility and there is evidence of sustainable and responsible practices,
- sectors are building relationships, connecting with the community and communicating effectively,
- fishing and aquaculture work together, using alliances and partnerships to resolve issues,
- there is a shared vision, with benefits being generated and distributed to the Australian community.

### **Key focus areas**

FRDC explores opportunities to invest in, manage and promote adoption of RD&E to:

- · motivate action across sectors to achieve a shared vision,
- nurture relationships and communications between stakeholders and with the community,
- encourage the use of transparent decision-making tools and best practice in the management of fisheries and aquaculture to ensure a fair distribution of economic and societal benefits,
- improve seafood traceability and integrity from capture through to end-user.

THIS OUTCOME ALIGNS WITH THE FOLLOWING UNITED NATIONS SDGs:

















Problems/opportunities and outputs from 2022–23 AOP	Progress against AOP	Enabling strategy	RD&E investments started 2022–23
Improve understanding values of community and aligning fishing and aquaculture practices.	On track: Activities underway		<ul> <li>2021-116: Recreational fishers in Tasmania: Understanding experiences, behaviours, drivers, communication needs and change factors.</li> <li>2021-141: Stakeholder Research Program 2022–25: Understanding perceptions of FRDC's performance.</li> </ul>
Improve understanding and mitigation of food safety risks.	On track: Activities underway		2021-053: Building capability in food safety in Australian shellfish.
Improve seafood traceability and labelling.	On track: Activities underway		<ul> <li>2022-197: DAFF National Agriculture Traceability Regulatory Technology Research and Insights Grant: Australian Agricultural Data Exchange — Ag sector traceability transformation delivered through an interoperable data platform and exchange.</li> <li>2021-142: Australian Prawn Farmers Association Prawn Provenance — assessing options for commercialisation through a service agreement analysis.</li> <li>2021-088: Data management and governance framework development for fishing and aquaculture.</li> </ul>
Additional Outcome 5 activities: Nurture relationships and communications between stakeholders and with the community.	On track: Activities underway		<ul> <li>2022-113: Apollo Bay Seafood Festival 2023.</li> <li>2022-112: Sponsorship of the Wooden Boat Festival Hobart, February 2023.</li> <li>2022-103: FRDC sponsorship for the Fremantle Boat and Seafood Festival, 10–12 March 2023.</li> <li>2022-092: Seafood on Spencer showcasing Spencer Gulf seafood.</li> <li>2022-063: Western Rock Lobster Communication, Education and Engagement Program.</li> <li>2022-051: Mapping the aquaculture engagement and aquaculture literacy landscape.</li> <li>2022-053: NSW Taste of Seafood Festivals.</li> </ul>
Additional Outcome 5 activities: Encourage the use of transparent decision-making tools and best practice in the management of fisheries and aquaculture to ensure a fair distribution of economic and societal benefits.	On track: Activities underway		<ul> <li>2022-170: Integrating recreational fisher experience/satisfaction into decision making.</li> <li>2021-139: Manage FRDC accreditation as a Standards Development Organisation 2022-2025.</li> <li>2021-107: Two-Eyed Seeing — a framework for cultural fishery assessments supporting equitable and sustainable access to shared resources in New South Wales inland rivers.</li> </ul>

# **Examples of project** activity during the year

# Community Trust in Rural Industries — a cross-RDC initiative

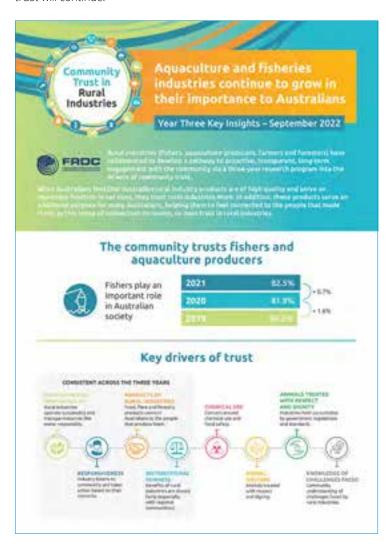
#### PROJECT 2019-042

FRDC has been one of the partners in the Community Trust in Rural Industries (CTRI) collaborative project, run by AgriFutures and funded by the rural RDCs. The third and final year of this program of work delivered deeper insights into the pathways to community trust and acceptance for Australia's farmers, fishers and foresters. With 4969 surveys of Australian citizens included in the Year Three analysis and 19,194 participating in the three annual surveys since 2019, this program represented a significant dataset of community attitudes toward rural industries.

The CTRI project found that acting on issues that matter to Australians is not only in line with community expectations for how rural industries should operate, but also the primary pathway to growing community trust in and acceptance of these industries.

While trust and acceptance levels of rural industries among the community continued to be high, the project identified an opportunity to build on this strong position. The findings showed that the pathway to building and maintaining community trust is to be genuinely responsive to community attitudes, particularly around environmental sustainability, and resource use. Addressing challenging issues requires rural industries to embrace a level of vulnerability by acknowledging challenging issues and communicating what is being done to address them.

From FRDC's perspective, 82.5 per cent of respondents believe fisheries and aquaculture play an important role in Australian society. More specifically, there is a view that fishers have a strong financial incentive to avoid catching protected species that they can not sell. Findings that require further consideration are that just over 40 per cent of respondents were comfortable with farming fish like salmon, as long as it happened in a closed system on land, rather than in the open oceans and inshore fisheries and the community sees the welfare of fish differently to other livestock species. Further work on assessing and building community trust will continue.



# **Examples of project** activity during the year

Indigenous brands attract price premiums, strengthen communities and create employment opportunities

#### PROJECTS 2020-121 AND 2016-244

With the growing involvement of Indigenous fishers and their communities in Australia's commercial seafood sector, there has also been growing interest in the economic benefits of creating Indigenous seafood brands. To better understand branding opportunities, FRDC commissioned market research to assess existing Indigenous food brands in Australia and overseas.

Researcher Ewan Colquhoun, from Ridge Partners, initially identified 55 businesses with 69 brands in Australia, New Zealand, the United States and Canada, for assessment. Of the 24 enterprises assessed in detail, 13 acknowledged economic benefits from Indigenous branding, primarily through increased sales. Longer established enterprises also reported higher prices and increased profit margins. These included seafood companies Moana New Zealand and Goolwa PipiCo, but both indicated it was difficult to quantify how much Indigenous branding contributed to price premiums. This is because their brands represent one of a larger group of attributes that customers are seeking, such as sustainable fisheries management, Marine Stewardship Council certification, brand reputation and product

While brands are generally created to boost sales and economic value, for many of the enterprises, economic gain from Indigenous branding was not necessarily the primary motivation.

"The branding was an internal function, a way of bringing Indigenous people together into an entity. It may be tied to the customary production of food or fishing on country and positions them as a community that is proud of its heritage," Ewan explains. Commercial leverage of the brand may come later.

An alignment with Indigenous culture and a commitment to country are often essential elements of these brands. Internal stakeholders commit to this over time before putting the brand to external commercial markets. For some of the enterprises, this commitment was more important to the foundation of the business than incorporating an Indigenous identity into the brand for marketing purposes. Looking at the regulatory framework, native title settlements are providing impetus for new Indigenous ventures across Australia. However, more advanced legislation in countries such as New Zealand, the United States and Canada, coupled with government support, have helped to establish Indigenous enterprises which re-invest profits into social and business services to support Indigenous communities.







To help make progress towards the five R&D Plan outcomes faster and easier, FRDC is using five enabling strategies:

- I. Drive digitisation and advanced analytics (this means expanding capacity to make decisions based on data).
- II. Strengthen adoption for transformative change (this means increasing adoption of results from R&D to bring about beneficial change).
- III. Promote innovation and entrepreneurship (this means encouraging new solutions, products and processes as well as new ways of thinking and doing).
- IV. Build capability and capacity (this means helping people from across fishing and aquaculture to have the knowledge and skills needed to be safe, happy and productive, and to adapt and flourish in the face of change).
- V. Provide foundational information and support services (this means delivering information to guide the evolution of fishing and aquaculture in Australia).

These enabling strategies aim to equip fishing and aquaculture sectors with the tools and ways to tackle shared challenges in the future. Each strategy can support one or multiple outcomes.





# Enabling strategy I: Drive digitalisation and advanced analytics

Technology is changing the way people live, work and relate to one another. Some new technologies present opportunities for fishing and aquaculture to easily combine and analyse data to make decisions that reduce costs and increase benefits. Commercial wild-catch fishers will have access to data previously unavailable, including near real-time information on:

- gear performance and efficiency,
- costs and usage of energy and other inputs,
- behaviour and distribution of target species,
- · markets and prices.

In aquaculture, new technologies already mean that operators can remotely monitor:

- · stock health and welfare,
- · feed efficiency,
- disease incidence,
- responses of fish to medicine and treatment.

These new technologies are called 'advanced analytics' and they allow for automated collection and analysis of large datasets that translate into tools for decision making. Implementing advanced analytics in Australian fishing and aquaculture means that all sectors could conduct their activities 'smarter' and add value to their products. In addition to the economic and social benefits, such as health and safety as well as technologies that can be used to improve ecosystem health. All fishing and aquaculture sectors, including managers, should be open to change to make the most of these decision-support tools.

Falling technology costs are making broadscale adoption of advanced analytics in Australian fishing and aquaculture more affordable. Increased collaboration across sectors and industries should also motivate the uptake of advanced analytics across fishing and aquaculture.

FRDC will explore how to invest in, manage and promote adoption of RD&F to:

- encourage collection and sharing of data to support advanced analytics that will benefit fishing and aquaculture and the community,
- work towards building trust and confidence in digital technologies and data,
- · support the development of systems and tools,
- contribute to a series of cross-disciplinary 'lighthouse projects' showing how advanced analytics can help transform Australian fishing and aquaculture.

# Examples of project activities during the year

### Australian Agricultural Data Exchange

#### PROJECTS 2020-126 AND 2022-197

The Australian Agricultural Data Exchange (AADX) is an initiative designed and overseen by members of the agrifood industry to enable participants to share, reuse and merge data from disparate systems in a secure environment on a permissioned basis.

In 2022, specific industry experiments provided a proof of concept of use of the exchange. Following the finalisation of the industry experiments, a business case was developed for future funding, governance and build of the platform.

In June 2023, the AADX received funding under DAFF's National Agriculture Traceability Grants Program — Regulatory Technology Research and Insights Grant Round (FRDC project 2022-197). This investment, coupled with investment from the RDCs, will see the funding of the build to establish the minimum viable product platform, with planning for procurement now underway.

# Increasing food security through liberation of fishing and aquaculture data

#### PROJECT 2022-176

This project seeks to develop a national fisheries and aquaculture data ingestion and storage system, ensuring that information derived from fisheries and aquaculture activities is findable, accessible, interoperable and reusable.

The ingestion and storage system will be bolstered by a complementary data catalogue (detailing the data sets available on the platform) and analytical tools (able to gain insights without moving data outside the storage platform).

The platform will be underpinned by appropriate data standards and metadata, informed by the National Farmers' Federation and Food Agility CRC's Data Code Certification and a robust governance framework.

Use of the system will be tested through three case studies, supporting capacity and capability improvement of the sector. Case study participants include Spencer Gulf and West Coast Prawn Fisherman's Association, Australian Council of Prawn Fisheries, South Australian Research and Development Institute, Western Australia's Department of Primary Industries and Regional Development, Abacus Fisheries and the University of Tasmania.





# **Enabling strategy II: Strengthen adoption for transformative change**

Research and development activities only deliver benefits for industry when results are shared and used. Adoption of research results by end-users is determined by factors including:

- degree of end-user participation in delivery,
- · complexity of research outputs,
- · financial cost of adoption,
- time period to recover expenditure following adoption,
- · end-user beliefs and opinions,
- · level of end-user motivation,
- perceptions of relevance of research outputs,
- end-user attitudes towards risk and change,
- the ease or difficulty with which outcomes of adoption may be observed.

A review in 2019 reported variable results from FRDC's past extension\* (or adoption) efforts. It found that these could be more structured, but a 'one size fits all' approach would be difficult to apply across all fisheries. Feedback from stakeholders noted that:

- FRDC may be well-placed to coordinate extension activities, even if they are delivered by someone else,
- the most efficient extension methods are not always the most effective because end-users are more likely to take up the results of research when they are explained or shown by a trusted colleague,
- successful extension of research requires awareness of local context, effective networks and understanding who the 'adopter' is; why they need it and therefore what they need; what will encourage them, and any constraints they are facing along the way.

Over the life of its R&D Plan 2020-25 FRDC will:

- take a new approach to adoption by moving beyond transferring knowledge to helping end-users make changes in their businesses,
- support end-users in forming 'communities of practice' informal groups that work together to use their local knowledge and experience to refine and improve adoption of research outputs.
- \* Extension has a range of different interpretations. In this case it is defined as enabling change or adoption (through the use of RD&E knowledge).

### **Examples of project** activities during the year

### Ready Set Go! Enhanced biosecurity preparedness

#### PROJECT 2021-048

A national simulation 'Exercise FlyWheel' took place with the farmed Barramundi industry to test technical responses to an exotic disease outbreak and ensure they are fit for purpose. Participants include the Commonwealth, state and territory governments, farm managers and staff from the Barramundi industry, the Australian Barramundi Farmers Association, and aquatic veterinarians.

The exercise involved an online workshop to share knowledge and increase understanding of emergency response, biosecurity and industry practices, priorities and perspectives. A face-to-face exercise will also be conducted, where participants will be presented with a suspected disease outbreak scenario and asked to develop an initial response plan. Following the exercise, a national webinar will be held to share learnings with other industry sectors to further extend the project's outcomes.

### **Optimising compliance outcomes** in recreational fisheries

#### PROJECT 2019-011

Western Australia's Peel-Harvey Blue Swimmer Crab fishery and the Blue Swimmer Crab fishery in South Australia are the focus of new research into recreational fishing behaviour and compliance. It brings together fisheries compliance data from state authorities and a purpose-built online survey of stakeholders, including fishers, to inform compliance strategies and community education programs.

Blue Swimmer Crabs are accessible from shallow waters, they do not require expensive equipment or boats, and the species is a relatively easy and rewarding catch. The research indicates that while there are incidents of non-compliance in the recreational catch of Blue Swimmer Crab, fishers are keen to contribute to a sustainable fishing effort. Results from the anonymous surveys, for example, show clear support for tighter regulations including longer fishery closure periods and increased surveillance, along with more information and resources to encourage compliance.

Demographic data ensures recommendations around encouraging compliance are tailored to the fishers' activities and needs. Understanding when and where people fish is expected to help streamline surveillance efforts. The behaviours of those who do not comply with regulations can be used to tailor regulation and/or communication education programs to be more effective.

Focusing education campaigns on young people allows them to pass information onto family members. Using social media for education campaigns is a clear way of engaging younger people, but targeting technology favoured by older audiences is also important. Initiatives such as installing more permanent multilingual signage with QR codes linking to further information in several languages would help fishers understand regulations around allowable size and catch rates.

While the research was conducted specifically on Blue Swimmer Crab fisheries, the recommendations could be applied more broadly to other





### **Enabling strategy III: Promote innovation and entrepreneurship**

The fishing and aquaculture industry needs inventive people with the ability to solve problems. In the face of many changes, societies need to think differently and work together to explore solutions to problems. Making a difference usually demands that a new product or process is not just developed but is used to deliver increased benefits across a range of stakeholders. This is the process of innovation.

There are many ways innovation occurs, but all require different ways of thinking about the future and how we interact with it.

### **Doing things better**

This involves ongoing small improvements to how business is conducted, usually by introducing new but well-understood advances. Adoption and benefits are usually over shorter timescales.

### Doing things differently

This involves a business's capability to change the way it normally does things in response to changes in the world. It often means applying ideas or technology in new ways but takes longer to implement or see the benefits from.

### Doing different things

This requires innovation and invention. Without knowing what is needed in the future, breaking new ground usually involves envisioning an outcome (be it a product or process), and being committed to achieving it. It may take years for results to emerge, but they could fundamentally change how businesses or communities operate.

### **Balancing FRDC's investment**

Much of FRDC's past investment has focused on 'doing things better' and to a lesser extent 'doing things differently'. This is understandable because innovations in small steps usually solve problems for present-day problems. In contrast, investments seeking to change or disrupt how things are done (or do entirely new things) need different ways of thinking and problem solving. Although these are less likely to provide immediate payoffs, they may come up with unexpected results.

Innovations that disrupt will continue to emerge, and their effects will be felt in fishing and aquaculture even if they are not actively sought. An example is the emergence of laboratory-cultured protein alternatives. Consequently, fishing and aquaculture sectors need to imagine and shape the future they would like to see by solving problems over variable timescales and using different approaches.

Over the life of the R&D Plan 2020–25, FRDC will trial more effective ways to invest in:

- · sharing ways of solving problems,
- · exploring alternative solutions,
- using the results of RD&E to foster longer-term, high-impact innovations that generate new capabilities.

### **Examples of project** activities during the year

### Climate resilient wild-catch fisheries

#### PROJECT 2021-089

As escalating diesel prices saw a growing number of boats tied up at ports all around the world, Seafood Industry Australia (SIA) commenced an FRDC-funded research project exploring alternative fuels. It is tackling this increasingly urgent issue for our wild-catch seafood and aquaculture vessel fleets. The initial impetus for the project was addressing growing consumer expectations about industry action to mitigate climate change. But with diesel prices reaching \$2.50 a litre in July 2022 there was an added economic impetus, as fishing was becoming too costly for some operators.

Allen Haroutonian, Founder of the Blue-X innovation consultancy, is the 'Climate resilient wild catch fisheries' project's technical research coordinator. He said investigations are exploring three key issues: propulsion systems, fuels storage onboard, and alternative fuels. The SIA project is using Austral's northern Snapper 'trap' fishery fleet based in Darwin to model options. Austral has six boats that set out from Darwin year-round, with trips of 12 days at a time, using 750 litres of diesel a day.

Shore-side infrastructure to support alternative fuel options will be critical.

### When invasive sea urchins are the mother of invention

#### PROIECT 2022-075

Following a National Centrostephanus Workshop in Tasmania, a strategy commenced aimed at both controlling the Longspined Sea Urchin (Centrostephanus rodgersii) in Tasmania and optimising its value as a premium product. In the 1970s when the species began moving from its native New South Wales towards south and eastern Tasmania on the back of warming waters. The situation seemed like a daunting environmental catastrophe as the species denuded reefs of macroalgae, created moonscapes, and reduced habitat for abalone and lobsters and non-commercial species.

Workshop participants heard how robotics, machine learning and associated data collection could all play a part in managing the species. Similarly, underwater remotely operated vehicles can be used to cull urchins, particularly in depths below 30 metres, the maximum depth that divers can work to. Robots could also be used in harvesting, as machine learning will allow autonomous vehicles to differentiate the Longspined Sea Urchin from other urchin species and collect urchins instead of culling.

Researchers were already working on kelp regeneration projects, and the processing sector was investigating how they can value add to urchin waste by turning it into valuable fertiliser for the agricultural sector. The Longspined Sea Urchin roe is already considered a high-value export product.

By flipping the narrative, this challenge can become a success. It can be tackled head-on and produce environmental, social, cultural and economic benefits. FRDC extension officer David Maynard suggests "Don't think of this as a pest species. Instead, it is an overabundant, valuable resource that has benefitted from the warming climate. Within that construct, we need to protect marine habitats and other high-value species like the Southern Rock Lobster and abalone."





### **Enabling strategy IV: Build capability and capacity**

FRDC has an ongoing commitment to supporting the development of people across fishing and aquaculture. As the needs and demands of fishers and aquaculturists evolve, so will the need to invest in building capability and capacity to ensure resilience and preparedness. FRDC recognises that capacity will not always be equal among sectors and will make sure it has an up-to-date understanding of each sector's needs so it can target investment in the future.

Building capacity will be an area of increased focus over the life the R&D Plan. FRDC will explore ways to invest in and manage adoption of RD&E for stakeholders across fishing and aquaculture to:

- promote a globally oriented outlook,
- · encourage a culture of transparency,
- · support collaboration across sectors,
- provide skills and mindsets necessary to respond to this uncertain world.

Informed by stakeholder input, FRDC investments will focus on the skills required for success in a changing world. These are likely to include:

- digital and technological proficiency (e.g. the ability to use decisionsupport tools to increase profits, reduce costs and enhance environmental outcomes; R&D Plan Outcome 1),
- leadership and managing change (e.g. the willingness to implement best practice in workplace safety and culture, technology adoption, environmental stewardship and animal welfare; R&D Plan Outcomes 1, 2, 3),
- conflict resolution (e.g. the expertise to engage with opposing sides on resource access and allocation issues; R&D Plan Outcome 4),
- effective communication (e.g. the ability to clearly convey the integrity and transparency of supply chains, refine sector research and management needs, and tell the stories of seafood; R&D Plan Outcome 5).
- biosecurity (e.g. the capacity to take a proactive role in detecting, and managing biosecurity risks as part of day-to-day activities; R&D Plan Outcomes 1, 2, 5),
- environmental stewardship (e.g. the ability to identify, develop and adopt practices and technologies that sustain and enhance stocks and ecosystems; R&D Plan Outcomes 1, 2, 5).

Another priority is to increase the capacity of Australia's fisheries research to benefit from collaboration.

### Examples of project activities during the year

### Nuffield Scholar aims for sustainable aquaculture growth

#### PROJECT 2016-407

Aquaculture has enormous potential to feed the world's growing population and the 2023 FRDC Nuffield scholar Joana Ferreira Mendes aims to help the sector do that sustainably, with the support of the community. Joana's scholarship is supported by FRDC as part of its integrated leadership development program, which also includes support for the Australian Rural Leadership Program and the National Seafood Industry Leadership Program.

Aquaculture is the fastest-growing food production sector in the world. The farming of Atlantic Salmon in Tasmania represents one of the highest value and volume fishery products in Australia. Although the industry contributes significantly to the state's economy, some communities and organisations have questioned the sustainability of salmon farming.

Joana saw an opportunity for the industry to breakthrough with sustainable ideas to improve the way we farm fish. As part of her scholarship, Joana is visiting key aquaculture countries, Norway, Scotland, Canada and Chile, and will bring back insights and innovations to help the Australian industry. Joana hopes to provide Australian aquaculture with knowledge and background on how the different countries address sustainability, particularly in salmon farming. She plans to include detailed information on case studies and strategies that could work in Australia in her final report.

### Strategies to reverse the population decline in Snapper fisheries

#### PROJECT 2019-044

Improved understanding of the survival rates of released Snapper (*Chrysophrys auratus*) will help to address a major knowledge gap that has existed in the increasingly challenging fight to revive Australia's Snapper fisheries. The research is particularly important for South Australia which has been forced to close the Spencer Gulf/West Coast and Gulf St Vincent stocks to Snapper fishing until 30 June 2026. Both stocks have been closed since 1 November 2019.

Fisheries for Snapper in Australia are managed using a variety of management tools including minimum size limits, daily bag limits and seasonal closures. A fundamental assumption of these management tools is that the fish survive following release. However, a growing body of research has demonstrated that the survival rates for some species, including Snapper, can vary drastically in response to 'catch and release'.

To measure the survival rates of released Snapper, Dr Troy Rogers (SARDI) and his team caught Snapper in the wild, fitted them with tiny electronic tags and monitored them using acoustic telemetry for three months. The fish were caught at various depths to emulate common fishing areas of both commercial and recreational fishers and they were released using different techniques (with and without a descender device) to evaluate their effectiveness. The objective, once the data has been fully analysed, is to provide fisheries managers with an improved understanding of Snapper movement and survival when released. This will help them to work with the various fishing sectors to develop a code-of-practice for fish handling and harm minimisation.

A parallel project investigated recruitment variability for Snapper. A characteristic of Snapper populations is that recruitment — the number of juvenile fish that enter the population each year — varies significantly between years, which has contributed to the collapse of the South Australian populations. The latest research sought to better understand the environmental interactions that influence this and, specifically, the reasons there have been insufficient recruitment to sustain Snapper populations.

A key output from this current research project was the development of a recruitment index, which provides an estimate of the relative strength of recruitment between years.





Enabling strategy V: Provide foundational information and support services

Organised information provides the ability to make and justify good decisions. FRDC delivers a range of services on its websites to support fishing and aquaculture. These track and report on:

- sustainability status of fish stocks and performance of fisheries,
- · environmental impacts and risk,
- · international trade and market access,
- · consistency of best practice,
- consumer/community perceptions and behaviour, which inform sectors about emerging trends.

FRDC's stakeholders have emphasised the value of these services, however, there is a need to assess how well they continue to meet the needs of end-users. Under the R&D Plan, FRDC will review and improve the services it delivers, including national reporting that:

- extends beyond standard measures of economic performance (e.g. GVP) to include more informative, near-real-time economic indicators,
- integrates broader metrics that better describe and track environmental and human wellbeing across fishing and aquaculture,
- expands performance reporting of species and sectors so that consumers and the community have access to accurate information.

All FRDC-funded services are reviewed regularly and receive feedback from end-users on their awareness, use and impact of these resources. This ensures FRDC's investments are deployed in areas that deliver value to stakeholders.

Providing foundational information and support services will benefit FRDC's stakeholders in the R&D Plan outcome areas, including:

- expanded environmental management to cover areas other than stock status of target species (R&D Plan Outcome 1),
- improved decision making by fishers and aquaculturists so they can get the most from their business and the products delivered (R&D Plan Outcomes 1, 2, 5),
- increased capacity for managers to consistently inform their decision making (R&D Plan Outcomes 1, 2, 4, 5),
- greater transparency and product traceability so the community and consumers will be able to confidently make more informed choices (R&D Plan Outcome 5).
- more up-to-date information so researchers will be able to target their work to areas of need (all R&D Plan Outcomes).



### Examples of project activities during the year

### FRDC keeps maintaining standards

#### PROJECT 2021-021

FRDC was successfully re-accredited by Standards Australia in September 2022 'to develop Standards in terminology, sustainability, and operational practices in the fishing and aquaculture industry'. As an accredited Standards Development Organisation, FRDC has developed two standards: the Australian Fish Names Standard (AS 5300), and the Australian Standard for Aquatic Plant Names (AS 5301).

These Standards are underpinned by rigorous policies and procedures, and each is managed by a committee comprised of representatives from the following industry sectors: harvesting, production, retail and hospitality; representatives from academia; and an independent Chair.

#### **FISH NAMES**

- Provides improved accuracy in trade descriptions enabling consumers to make more informed choices when purchasing seafood and reduces the potential for confusion, misleading and deceptive conduct.
- Improved monitoring and stock assessment enhances the sustainability of fisheries resources (e.g. Status of Australian Fish Stocks reports, fisheries and aquaculture statistics).

### **AQUATIC PLANT NAMES**

 Utilisation of aquatic plants is an emerging industry, so there is opportunity to create stakeholder-accepted names that meet the naming protocols before it leads to consumer confusion or misleading and deceptive conduct.

#### **BENEFITS OF THESE STANDARDS**

- They strengthen consumer confidence in what they are buying.
- They assist accurate management of seafood-related public health incidents and food safety through improved labelling, traceability and species identification, that reduces public health risk and facilitates efficient product recall/withdrawal procedures.
- They increase efficiency in seafood marketing/aquatic plant improves consumer confidence and industry profitability.
- They enhance the marketability and consumer acceptability of standard fish names used for a species, thereby eliminating misleading and deceptive conduct.





### **Examples of project** activities during the year

### Developing consistent rapid tests to track ciguatera risk

#### PROJECT 2019-160

Marine toxin specialist Professor Shauna Murray led the ciguatera toxin detection project at the University of Technology Sydney (UTS), working closely with commercial and recreational fishing sectors, the Sydney Fish Market, University of Tasmania and New Zealand's Cawthron Institute. Ciguatera toxins are produced by single-celled Gambierdiscus micro-algae, a warm water-loving genus, which work their way up the food chain to accumulate in predatory, apex tropical reef fish species. When people eat fish that has accumulated these toxins, it leads to ciguatera fish poisoning (CFP), the leading cause of seafood-related food safety incidents in Australia.

The toxins themselves are difficult to detect in fish; they are colourless, odourless and do not break down when the fish is cooked. The Sydney Fish Market limits the size of certain species prone to CFP as a risk management strategy. Part of the current research is trying to confirm a link between the size of fish and the presence of toxins. To help do this, Dr Arjun Verma from the UTS team has coordinated the sampling contributions from the Sydney Fish Market, commercial fishing cooperatives as well as recreational fishing clubs in northern New South Wales and Queensland. They have collectively contributed more than 250 fish samples to the study from the 2020–22 fishing seasons.

The liquid chromatography mass spectrometry results provide a basis for comparing the effectiveness of simpler cell-based tests, which could provide a faster and cheaper way of testing. These cell-based tests will measure the impact of the toxins on cells, rather than look for the toxins themselves and based on that impact, researchers can work out how much toxin is present in each cell.

Dr Andreas Seger at the University of Tasmania has led the test-kit analysis to assess their practical and economic feasibility for use at markets ad co-ops. In conjunction with this work, Professor Bill Gladstone at UTS has gathered data on migratory patterns to help assess how environmental conditions might be contributing to the presence of toxins in prone fish species. In the final six months of the project the research team will combine the results of its three elements to identify any potential new management strategies. The end goal is to reduce the risk of ciguatera fish poisoning, protect public health, and protect the overall reputation of seafood as a safe and healthy food. lydney Fish Market

## Activate a program to improve resilience of fishing and aquaculture to a changing climate

At the end of 2022, FRDC published a special 'call for climate resilience projects' seeking applications that address three of the initiatives which seek to help improve resilience of fishing and aquaculture to a changing climate, over the remaining life of FRDC's R&D Plan 2020–25. Projects funded under this call will integrate with those already underway including:

- Research (project 2021-089) led by Seafood Industry Australia in partnership with Austral Fisheries, SunShot Industries, Blue-X and Margo Consulting, to prioritise lower carbon alternative fuel solutions to be scaled over coming years.
- Project 2021-104 Applying the fisheries climate adaptation handbook to Australia's state fisheries has commenced. This project seeks to deliver training and support to help managers adapt fisheries management approaches to improve resilience to a changing climate

### Activate a program to aid transitioning of fishing and aquaculture into a circular economy

A circular economy is an economic model aimed at retaining the value of circulating resources, products, parts and materials, by creating innovative business models that allow for renewability, long life, optimal (re)use, refurbishment, remanufacturing and recycling.

Project 2020-078 Circular Economy Opportunities for Fisheries and Aquaculture in Australia was finalised, to provide foundations for understanding how circular practices might be adopted by fishing and aquaculture businesses. Building on those insights, FRDC established a \$1.8 million program of investments under project 2021-133 Circular Economy Program 2022–25, designed to:

- Quantify the current amount of value lost across fishing and aquaculture by not operating in a more circular manner.
- Support businesses and entities to measure their level of circularity and identify opportunities to improve their performance.
- Help clarify the relationship between healthy ecosystems and the fisheries we all value.
- Encourage creative circular economy problem solving within fishing and aquaculture.
- Connect participants and help them to share their progress and help each other.



# Investigate opportunities to optimise equitable sharing and security of access to Australia's aquatic resources

Australia's marine environment is becoming increasingly crowded as the extent of Australia's estate of Marine Protected Areas evolves and we transition to renewable energy, fossil fuel assets reach end of life and other marine uses continue to expand.

As the marine space becomes busier, there is increased risk of overlap or displacement of existing activities, leading to growing tension, cumulative impacts, and trade-offs. Decision making needs to be informed by evidence, to ensure that community expectations can be met and where possible, equitable sharing and security of access is recognised. FRDC continues to investigate mechanisms to provide input to improved ocean planning.

With growing cumulative issues in Western Australia, the Western Australian Fishing Industry Council and FRDC invested in project 2022-104 Review and quantify the cumulative effects of expanding industrial coastal developments and emerging offshore renewable energy on the fishing industry in Western Australia. FRDC also invested in project 2022-201 International Travel Bursary — Elspeth Macdonald (Scottish Fishermen's Federation) to assist with learning from international experiences on spatial management and the renewable energy sector

### Understand and respond to threats and opportunities presented by alternative proteins

In the November 2022 call for investment opportunities, FRDC sought to understand potential risks and opportunities presented by alternative proteins to Australian fishing and aquaculture sectors and enterprises throughout the supply chain. Four applications were received. The resultant project will provide recommendations on how fishing and aquaculture might re-position to embrace benefits associated with supplementary/alternative proteins.

### Partner to increase opportunities for Indigenous communities in fisheries and aquaculture

Throughout the year, FRDC invested in projects and partnerships highlighted through the Indigenous Reference Group. One of the key partnerships was the signing of a Memorandum of Understanding (MoU) between FRDC, the Land and Sea Aboriginal Corporation Tasmania, the Indigenous Land and Sea Corporation and the Department of Natural Resources and Environment Tasmania. This MoU entitled, Research to Rights: Supporting cultural fisheries for Aboriginal Tasmanians, outlined each signatory's commitment to maintaining respectful and mutually beneficial relationships so that Aboriginal Tasmanians keep and expand their sea country assets and rights and work together to identify strategic marine research needs.

Work continued on the FRDC-funded project 2022-036 Approaches for incorporating Indigenous Rights, practices and catch into resource sharing and harvest strategy frameworks, based on international experiences, and project 2022-076 Integrating indigenous fishing: extending adoption pathways to policy and management.



## Collaborate across agriculture, fisheries, and forestry to target shared strategic issues

FRDC is part of Agricultural Innovation Australia (AIA) that was established by Australia's 15 rural RDCs in October 2020, to facilitate joint investment and collaboration in agricultural issues of national importance.

AIA initiatives and investments include:

- Agri-Climate Outlooks (2022-059) aims to deliver enhanced seasonal outlook services to support better decision making.
- Know & Show Your Carbon Footprint (2022-105) aims to deliver a digital solution that enables fishers, farmers and foresters to estimate their enterprise's carbon footprint.
- Initial consultation has commenced to inform assessment of the viability and feasibility of building a 'Climate Atlas', which would provide longer-time horizon (10, 20, 50 year) forecasting ability to inform decision making.

## Bring together a collective to lay foundations for successful digital transformation

FRDC continued its active involvement with the Agricultural Data Exchange to develop an interconnected data highway for sharing, re-using and combining data. The next step will be to release a minimal viable product data exchange in the calendar year 2023. Related activities include:

- Securing funding through the Australian Research Data Commons Food Security Data Challenges — project 2022-176 Increasing food security through liberation of fishing and aquaculture data.
- Working with jurisdictions, statistical working group and sectors to progress digitisation and data sharing — i.e. Status of Australian Fish Stocks and development of an Australian Fisheries Management Forum Data Strategy (2022-097).

### Explore opportunities to enhance national sustainability reporting

FRDC was successful in working with CSIRO and the Institute for Marine and Antarctic Studies to secure a grant through the Australian Sustainability Traceability Grants Program to deliver an enhanced national process for environmental, social and governance (ESG) reporting. This will help build on existing resources and frameworks, including HealthCheck (2016-060), the Status of Australian Fish Stocks (SAFS) and WhichFish (2019-087). The process will seek to improve consistency with other ESG reporting frameworks including the Australian Farm Institute's ESG framework, and commitments under the United Nations Sustainable Development Goals. FRDC is also investing in natural capital accounting and working with the Task Force on Nature-Related Financial Disclosures.

### Initiate an expanded program to build capability and capacity across fishing and aquaculture

FRDC increased its focus on developing the capability and capacity of the fishing and aquaculture sectors with a targeted program under the guidance of FRDC's Capability and Capacity Steering Committee. Initiatives included:

- Project 2022-034 Profiling and tracking change in Australia's seafood workforce to assess the current data framework, make improvement recommendations, develop a baseline dataset focusing on the diversity of employment.
- Project 2022-153 Fishing and Aquaculture Workforce Capability Framework to develop a fishing and aquaculture workforce capability framework to identify current and future needs.
- Partnering with Seafood Industry Australia to support and build Seafood Careers, an interactive online platform showcasing roles and vacancy opportunities across fishing and aquaculture. The platform will include tools to explore pathways and development programs including safety and mental health.

- Continued investment in leadership programs such as, the National Seafood Industry Leadership Program (2021-099), Australian Rural Leadership Program (2019-197), and Nuffield Scholarships (2016-407), to develop emerging and existing leaders.
- Partnering with Women in Seafood Australasia to increase the capacity and capabilities of women in the seafood sector through Turn the Tide. The program offers a range of tailored RD&E opportunities to connect women, build capability and capacity and shift culture.
- Project 2022-073, to build on FRDC's relationship with the Primary Industries Education Foundation Australia to conduct research on the current levels of engagement, barriers and opportunities to more favourably position fishing and aquaculture with students and educators.
- Project 2022-057 Science and Innovation Awards for Young People in Agriculture, Fisheries and Forestry, to enable FRDC to support an early career researcher (annually) to undertake a project on that contributes to the success and sustainability of Australia's agriculture, fisheries and forestry industries.
- Resources and Security, University of Wollongong in May 2023, building

### Deploy a regional network to facilitate greater RD&E adoption

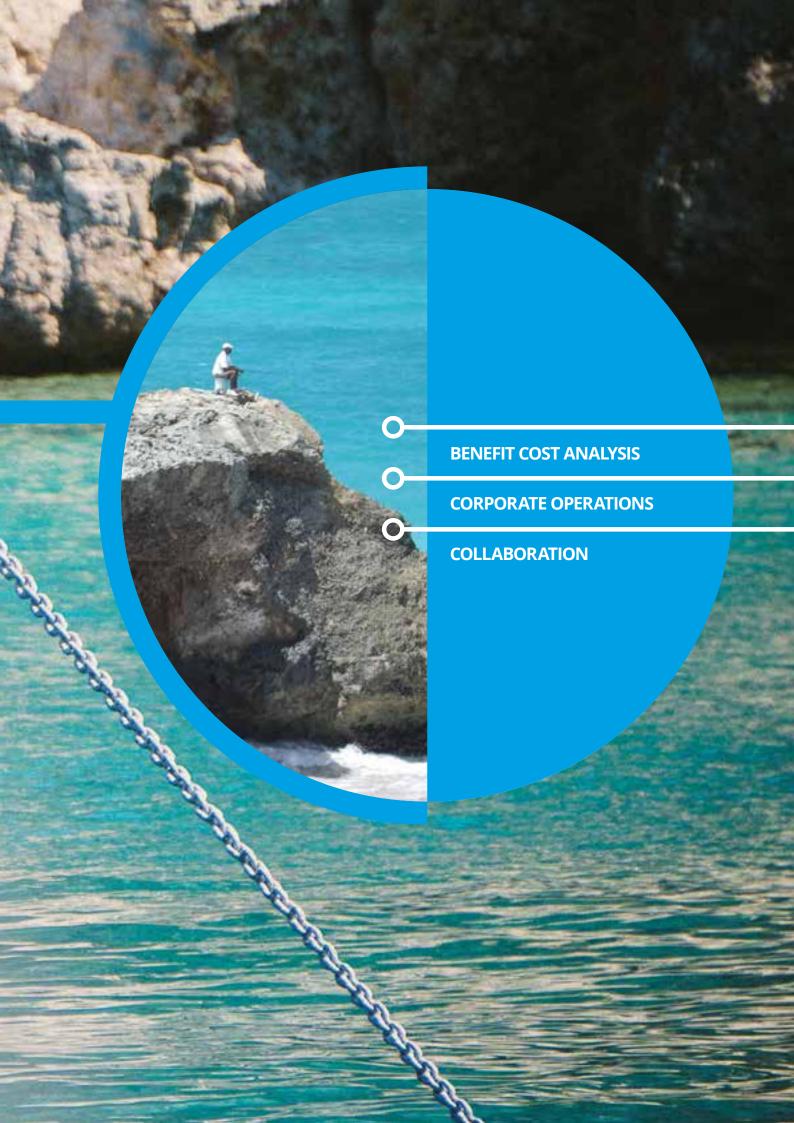
FRDC's Extension Officer Network (EON) was established during 2022 and has focused on collaborating and connecting stakeholders and researchers to increase ideation and adoption of research for impact. The EON worked to extend previous FRDC research and worked with current research projects to amplify extension outcomes and execute extension activities, based on the needs of stakeholders.

The EON also extended FRDC's engagement to stakeholders not typically involved in FRDC structures or processes, e.g. Indigenous ranger groups and aquaculture enterprises.

The EON advised and supported the strategic priorities and programs that relate to FRDC's AOP, R&D Plan and jurisdictional needs. They are working closely with FRDC's RACs, including providing end-user intelligence into RACs to shape their priorities.







### **BENEFIT COST ANALYSIS**

This suite of impact assessments on FRDC's R&D Plan 2020–25, included six FRDC investments. These investments were worth approximately \$0.72 million (nominal FRDC investment) and were selected from an overall population of 76 FRDC investments worth an estimated \$12.61 million (nominal FRDC investment). While this analysis was completed in the 2022–23 financial year, it refers to projects with a final deliverable that was submitted in the 2020–21 financial year.

These six investments were selected through a stratified sampling process such that investments chosen spanned all five FRDC Programs (Environment, Industry, Communities, People and Adoption) and all five current R&D Plan outcomes (Growth for enduring prosperity, Best practices and production systems, A culture that is inclusive and forward thinking, Fair and secure access to aquatic resources, and Community trust, respect and value).

It should be noted that while the majority of investments evaluated demonstrated a positive return on investment, this was not the case 100 per cent of the time. Where investments did not demonstrate a positive return among this evaluated cohort, it was due to one of two reasons:

- The investment involved development of a new methodology (objective of gaining efficiency) but was not successful.
- The objectives of the project included non-market impacts, and market impacts could not be calculated due to inherent uncertainties in the assumptions.

The small proportion of FRDC's investments that resulted in an unsuccessful RD&E benefit cost analysis demonstrated that FRDC has an appropriate appetite for risk and innovation. If 100 per cent of projects produce successful RD&E, it could reasonably be assumed FRDC was prioritising cost risk at the expense of innovation. Innovation is acknowledged to be critical in an operating environment where accelerating change is the only constant.

### Table 10: Impact assessment of six FRDC investments

Monetary value is reported in millions of Australian dollars. Total investment includes FRDC, partner and any other contributions. Modified internal rate of return is calculated over 30 years, using and 5 per cent discount rate and 5 per cent finance rate.

Project	Total invest- ment	Total net benefits	Benefit cost ratio	Internal rate of return (IRR)	Modified IRR
	\$m	\$m		%	%
2016-224: Boosting fisher returns through smart value adding and greater use of underutilised species	0.31	0.46	1.5 to 1	8.20	6.40
2018-205: Informing strategies, policies and options supporting owner-operated fishing businesses in fisheries experiencing corporatisation	0.03	0.09	2.6 to 1	32.80	13.80
2018-148: A Stock Assessment Toolbox for Australian Fisheries	0.20	0.60	3.1 to 1	29.00	9.10
2016-261: Investigating the use of trace element profiles to substantiate provenance for the Australian prawn industry	0.54	3.12	5.8 to 1	31.90	11.80
2017-134: Progressing the National Fisheries Digital Data Framework — industry consultation	0.07	0.34	1.9 to 1	3.32	7.11
2017-242: Our Pledge: Australian seafood industry response to community values and expectations	0.26	0.78	3.0 to 1	35.80	9.20

#### **Trade**

FRDC continued to provide updates and advice to stakeholders regarding Australian seafood trade and market access via the FRDC website including the Australian Government's Agricultural Trade and Market Access Cooperation Program. For further information visit www.frdc.com.au/australian-seafood-trade-and-market-access

### **Trade statistics**

International trade and export are valuable activities for many in the Australian seafood industry. Trade disruptions continued to have an impact on the export of commodities resulting in changes in the makeup of the top export commodities. As was the case last financial year, exports of Atlantic Salmon continued to overtake rock lobster as the most valuable seafood export commodity. The bulk of production is consumed domestically with the total domestic consumption of salmonids at an all-time high of approximately 79,000 tonnes.

The FRDC trade database continues to be updated monthly, providing access to the latest import and export trade data from the Australian Bureau of Statistics. The database can be filtered allowing 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 portal at www.frdc.com.au/seafood-production-and-trade-databases

### **Seafood Trade Advisory Group and SafeFish**

The FRDC-funded Seafood Trade Advisory Group (STAG) project continued to provide advice and updates on market conditions, primarily related to China, and the International Freight Assistance Mechanism (IFAM) program as COVID-19 and other disruptions continued to affect the Australian seafood industry. The STAG also provided information and data to assist industry participate in the IFAM process. Additionally, FRDC's SafeFish project (2021-018: SafeFish 2021 to 2025) continued to provide technical assistance to address food safety, and trade and market access issues affecting Australian seafood. FRDC also invested in the Australian Food and Wine Collaboration Group. The collaboration comprises Horticulture Innovation Australia Ltd, Meat & Livestock Australia, Wine Australia, Seafood Industry Australia and Dairy Australia. This has funding from the Commonwealth Agricultural Trade and Market Access Cooperation Program to deliver a collaborative market expansion initiative.

### **Standards**

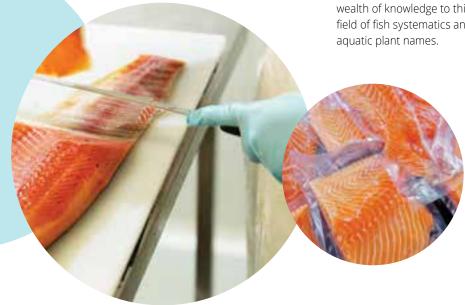
Standards Australia is the nation's peak non-government, not-for-profit standards organisation specialising in the development and adoption of internationally aligned standards in Australia.

FRDC is accredited to develop Australian Standards for the Australian fishing and aquaculture industries in the fields of terminology, sustainability and operational practices.

FRDC has demonstrated through the maintenance and ongoing development of two standards — the Australian Fish Names Standard AS 5300 and the Aquatic Plant Names Standard AS 5301, that it has the skills, credibility, industry experience and policies and procedures to manage Australian Standards.

In September 2022, FRDC and both its Standards (AS 5300 and AS 5301), were subject to full re-certification audits and both were successful.

Gordon (Gus) Yearsley was appointed as the new Standards Project Manager and commenced in April 2023 after Meaghan Dodd resigned in December 2022. Gus, formerly the Chair of the Aquatic Plant Names Committee and Deputy Chair of the Fish Names Committee, brings a wealth of knowledge to this role. He has decades of experience in the field of fish systematics and seafood names and more recently with aquatic plant names.



### Australian Fish Names Standard AS 5300

The Australian Fish Names Standard AS 5300-2019 prescribes a standard fish name for each species of fish produced or traded in Australia, including imported product. Developed by the Australian Fish Names Committee, this standard was first approved in 2007 to ensure the correct names are used for species of fish throughout the seafood supply chain.

Having the Australian Fish Names Standard in place increases consumer confidence in the seafood they buy because no matter where they purchase their seafood, they know it will be called by the same name. Standard names also allow 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.

FRDC maintains an online searchable Fish Names database on the Standards page of FRDC's website. This database includes all species listed in the Australian Fish Names Standard — nearly 5000 Australian and imported species.

The Fish Names Committee held a meeting on 14 November 2022 but due to the new project manager not starting until April, the May 2023 meeting was deferred until later in the year. On 1 February 2023, the Fish Names Committee invited public feedback on a proposed amendment to the Australian Fish Names Standard. The change was outlined in Application 351: To change Alaskan Pollock to Alaska Pollock for *Gadus chalcogrammus*, in the Fish Names Standard. Applications closed on 1 May 2023.

#### **Fish Names Committee membership**

Independent Chair	Gus Dannoun
Deputy Chair	To be advised
Australian Seafood Industry appointee	Jessica McInerney
Australian Fisheries Management Forum appointee (fisheries agencies)	Dr Sonia Talman
DAFF appointee (fish exports)	Lisa McKenzie
Recreational fishing appointee	Russell Conway
Seafood Importers Association of Australasia Inc. appointee	Mark Boulter
Master Fish Merchants Association of Australia appointee (independent fish retailers)	Michael Kitchener
Expert member (major supermarket)	Hamish Allen
Expert member (hospitality)	Glenn Austin
Invertebrate taxonomist and Codes for Australian Aquatic Biota (CAAB) expert	Dr Shane Ahyong
Expert member (seafood marketing)	Kate Birch
Expert member (seafood processors)	Toby Abbott
Observers and non-voting members	
Standards Development Organisation representative	Dr Patrick Hone
Standards Development Organisation representative	Dr Carolyn Stewardson
Project Manager and administration	
Project Manager	Meaghan Dodd (finished 31 December 2022)
	Gus Yearsley (commenced 1 April 2023)

### **Australian Standard for Aquatic Plant Names AS 5301**

The Australian Standard for Aquatic Plant Names AS 5301-2020 prescribes a standard aquatic plant name for each species of aquatic plant (as per definition in the standard) produced or traded in Australia, including imported product. Developed by the Aquatic Plant Names Committee, this standard was first approved in November 2020 to ensure the correct names are used for species of aquatic plants, throughout the supply chain. Plants from marine and freshwater environments are covered by this standard, irrespective of the country of origin.

FRDC maintains an online searchable Aquatic Plant Names database on the Standards page of FRDC's website. This database includes all species listed in the Australian Standard for Aquatic Plant Names — approximately 50 Australian and imported species.

The Aquatic Plant Names Committee held a meeting on 18 October 2022 but due to the new project manager commencing in April, the May 2023 meeting was deferred until later in the year.

#### **Aquatic Plant Names Committee membership**

Independent Chair	To be advised
Deputy Chair and academia	Dr John Huisman
Industry	James Ashmore
Industry	Dr Pia Winberg
Industry	Russell Glover
Hospitality	Umar Nguyen
Academia	Dr Alecia Bellgrove
Codes for Australian Aquatic Biota (CAAB) expert	Dr Shane Ahyong
Observers and non-voting members	
Standards Development Organisation representative	Dr Patrick Hone
Standards Development Organisation representative	Dr Carolyn Stewardson
Project Manager and administration	
Project Manager	Meaghan Dodd (finished 31 December 2022)
	Gus Yearsley (commenced 1 April 2023)



### **National Carp Control Plan**

One of the most comprehensive and coordinated assessments of a biological control strategy for aquatic environments ever undertaken globally, the National Carp Control Plan (NCCP) was funded by the Australian Government via a Commonwealth Grant Agreement, with \$10.37 million allocated to FRDC to lead this extensive body of research and analysis.

The NCCP investigated the technical feasibility of using CyHV-3 for invasive carp control only. FRDC was contracted to conduct rigorous scientific investigation and deliver the research results to assist decision makers, not to provide a final decision on whether or not the virus should be released.

Australia's leading universities and research institutions were engaged by the NCCP to undertake a multi-faceted series of scientific studies. The NCCP brings together the results of the full body of research, comprising nine technical summary papers plus the full results of 19 peer-reviewed research studies, four planning investigations, and communication, extension and engagement outcomes.

The NCCP is not a decision; it is one step in the process for a decision regarding whether, or not, to use CyHV-3 to assist with the control of invasive carp. FRDC submitted the NCCP to DAFF in September 2022.

Following publication of the NCCP, all Commonwealth, state and territory governments will determine how the advice in the NCCP will be used to decide whether, or not, to proceed further with the potential release of the carp virus as a biocontrol agent. DAFF is facilitating this process and involving relevant committees, including the Environment and Invasives Committee, the National Biosecurity Committee and the Agriculture Senior Officials Committee. This process ensures every aspect of the NCCP is adequately examined. The Australian and state and territory agriculture ministers will be the ultimate decision makers on whether to proceed further with the biological release program following a formal review of the NCCP.

### Information and communications technology

Shifts in the geopolitical environment and some high-profile information technology vulnerabilities meant that FRDC, like many other Australian organisations, needed to be alert and prepared, to increase its resilience posture and to monitor for threats.

For FRDC to improve its cyber security posture, it deployed sophisticated tools and used objective data to guide targeted management of cyber security risk. Reviews have been undertaken of both FRDC's cyber posture and information and communications technology (ICT) infrastructure. An Australian National Audit Office had no findings regarding FRDC's ICT, security processes and cyber process.

### Stakeholder engagement

FRDC has established a comprehensive stakeholder engagement capability that includes a team of communications and regional extension specialists. We prioritise engagement with people in the seafood sector — from water to plate, so they have the information they need to support sustainable, profitable and resilient fish stocks, businesses and communities.



### **Extension Officer Network**

During 2022–23 the EON became fully operational after completing a comprehensive induction, training and stakeholder introduction phase. The network achieved impact through its core tasks, in particular, building trusted relationships with stakeholders, extending existing FRDC knowledge, connecting with stakeholders that have traditionally not participated in FRDC investments but who have a strong innovation agenda, working with FRDC-funded researchers to improve extension within and beyond projects, and simply connecting stakeholders and researchers that have similar interests and ideas.

All extension officers have implemented extension events such as major stakeholder workshops based on FRDC research (e.g. Longspined Sea Urchin management, and sustainable commercial fishing).

### **Communications**

A renewal of the communications team occurred during 2022–23 with the departure of a long-standing part-time officer and a short-term contractor, and the recruitment of another experienced officer and a graduate who started midway through the financial year.

This period also was the first year without the printed *FISH* magazine that had for several decades, been FRDC's mainstay communications vehicle to convey project outcomes and priorities for our sectors. FRDC communications took a digital-first communications approach with the primary electronic vehicle being *FRDC News* which is distributed electronically to more than 9300 readers per month and continues to achieve above general market, and agri-sector open rates and engagement.

The team also re-commenced active usage of social media platforms after more than a year's hiatus, with LinkedIn, Facebook and Instagram being the main channels. The analytics for these platforms have continued to improve as the team has used a range of still and video imagery to grow FRDC's profile.

The FRDC website content also continued to be expanded, updated and improved. The site uses extensive tagging to curate content and improve search functionality. Our website (frdc.com.au) is accessible to all stakeholders, including the Australian public, and is the primary platform for all information about our projects, priorities, investments, generated knowledge and performance. It has continued to evolve and improve throughout the year as feedback from users is adopted.

Where relevant, FRDC also released its own, or partnered with researchers and sector organisations to issue media releases on completed or new research projects such as the completion of the NCCP, FRDC's calls for investment opportunities and the completion of one of the Tasmanian Storm Bay projects, that delivered a model that simulates the circulation and nutrient dynamics from onshore and offshore activities.

The communications team also provided integral support for the numerous conferences and events supported and attended by FRDC staff throughout 2022–23. These included activities such as: attending events to host exhibition stands, creating and providing FRDC logos for promotions and collateral, preparing and supplying videos, preparing speaker biographies and providing speaker photos, banners, giveaway collateral (dry bags, recipe cards and stickers), fact sheets, social media posts, newsletter articles, etc. In total, the communications team leveraged over 20 events throughout the year including: seafood festivals across four states, the Seafood Directions conference, the Centrostephanus Workshop in Tasmania, the Ultimate Fishing Expo in Melbourne, evoke<sup>AG</sup> in Adelaide and the World Aquaculture conference in Darwin, to name a few.



### **International collaboration**

FRDC and its partners actively collaborated across the agri-system nationally and globally to investigate opportunities for shared impact. Some of the key achievements this year are outlined in the following.

### **United Nations Oceans Decade**

FRDC supported the United Nations Ocean Decade, with its mission to use transformative ocean science solutions for sustainable development, connecting people and oceans. FRDC commenced actions to support the Ocean Decade vision of 'the science we need for the ocean we want'. The four actions FRDC submitted to the United Nations Decade of Ocean Science for Sustainable Development were:

- 1. Further expand sustainability reporting for fishing and aquaculture.
- 2. Help improve climate resilience and performance across fishing and aquaculture.
- 3. Accelerate progress towards zero waste for fishing and aquaculture.
- 4. Continued development of people across fishing and aquaculture to lead and thrive during change.

FRDC also submitted four initiatives for consideration as Ocean Decade Actions, on the basis that they contribute to achieving the goals of the Decade. Actions were designed to generate knowledge, raise awareness and drive positive change for the health and wellbeing of oceans and coastal communities. The four initiatives submitted were:

- 1. Activate a program to improve resilience of fishing and aquaculture to a changing climate.
- 2. Activate a program to aid transitioning of fishing and aquaculture into a circular economy.
- 3. Explore opportunities to enhance national sustainability reporting.
- 4. Initiate an expanded program to build capability and capacity across fishing and aquaculture.

### **International Coalition of Fisheries Associations**

FRDC is a partner of the International Coalition of Fisheries Associations (ICFA), which is a coalition of national fish and seafood industry trade associations from the world's major fishing nations. ICFA members come from countries representing 85 per cent of the global fish harvest. ICFA members represent the voice of the seafood industry at United Nations meetings where fisheries issues are on the agenda. A key outcome of this partnership during the reporting period has been the ICFA Resolution on Marine Plastics, that clearly states their collective support and commitment of the Intergovernmental Negotiating Committee on Plastic Pollution objectives to eliminate plastic pollution in the world's oceans. The resolution also called for clear means of national and international governmental support vehicles and integration of industry and partners which will greatly assist in the successful delivery of these objectives.



### **National collaboration**

### Australian Fisheries Management Forum

The Australian Fisheries Management Forum (AFMF) is an informal network for sharing information between Commonwealth, state and territory government agencies involved in managing fisheries and aquaculture in Australia. FRDC continues to work actively with AFMF to promote a collaborative, coordinated and science-driven approach. At its last meeting, FRDC presented results of the Status of Australian Fish Stocks and Rock Lobster surveys and contributed to key discussions on the National Fisheries Plan, National Carp Control Plan and the National Fisheries Compliance Strategy.

### **Community Trust in Rural Industries**

Increasingly, the public are expecting continual improvement in good practice across the agriculture, fisheries and forestry sector. This multi-industry collaboration involves 11 rural RDCs, the National Farmers' Federation and NSW Department of Primary Industries partnering to understand, track and build community trust, to better understand, and where necessary, take action, to ensure industry practices align with community expectations.



### Cooperative Research Centre for Solving Antimicrobial Resistance in Agribusiness Food and Environments

The Cooperative Research Centre for Solving Antimicrobial Resistance in Agribusiness Food and Environments (CRC SAAFE) received \$34.5 million in launch funding from the Australian Government in 2022. The CRC includes 70 partner organisations who are contributing an additional \$115 million to increase protection for Australia's food and agribusiness industries, and the environments they operate in, from the growing threat of antimicrobial resistance (AMR). The CRC aims to identify and solve the source of AMR (e.g. water treatment plants, agricultural runoff) and ensure that fishers and farmers work together on shared issues. It includes a focus on vaccines for aquaculture — particularly to support developing aquaculture sectors. FRDC joined the CRC as a Tier 2 partner with an interest in reducing the use of antimicrobials in terrestrial agriculture that have downstream impacts to fishing and aquaculture, and to develop new technologies that reduce veterinary medicine use in aquaculture (i.e. vaccines and novel treatment and delivery technologies).

#### Australian Sustainable Seaweed Alliance

Australia's seaweed industry has been growing rapidly at around 10 per cent each year since 2010 and is the fastest growing component of global food production. FRDC is administering an investment of \$8 million on behalf of DCCEEW and DAFF as a partnership between the Australian Sustainable Seaweed Alliance, FRDC and DAFF.

### National Environmental Science Research Program (Marine Biodiversity)

FRDC continues to meet regularly with the National Environmental Science Program (NESP) with the view to further develop collaborative opportunities. FRDC and NESP have co-invested in project 2022-068 Multi-fishery collaboration to assess population abundances and post release survival of threatened sawfish captured in commercial fishing operations in Northern Australia which is underway to better understand population abundances and mitigate fishery interactions with the species.

### **National Marine Science Committee**

The National Marine Science Committee (NMSC) was established in 1998 under Australian Oceans Policy and was formerly known as the Oceans Policy Science Advisory Group. It is an advisory body that promotes the essential role of high-quality marine science in developing Australia's blue economy. It also advocates for investment in and support for this key blue-economy driver.

FRDC provided communications support to NMSC for the release of three new reports, covering marine conservation, biodiversity and sustainable aquaculture in March 2023. The reports provide valuable insights and recommendations for policymakers, industry leaders and researchers working in the field of marine science. FRDC has been a member organisation of the NMSC since its inception and Patrick Hone, Managing Director of FRDC, is the current Chair of NMSC.

### **RDC collaboration**

A cross-RDC collaboration with the Rural R&D for Profit program was completed. Project 2019-172 RRD4P: FRDC Contribution: Closing the Loop: Black Soldier Fly technology to convert agricultural waste was led by Australian Pork Limited. This collaboration also involved Dairy Australia, Australian Eggs, Agrifutures, Australian Meat Processor Corporation, University of Western Australia, Queensland Department of Agriculture and Fisheries, Western Australia Department of Primary Industries and Regional Development and the industry partner Future Green Solutions. There is feasibility in black soldier fly larvae consuming agricultural waste and converting the larvae into a animal feed protein source.

### **Agricultural Innovation Australia**

All of Australia's rural RDCs are founding members of Agricultural Innovation Australia (AIA), which aims to facilitate joint investment and collaboration in agricultural issues of national importance.

FRDC engaged with AIA to ensure fishing and aquaculture interests were represented in AIA's climate initiatives to develop:

- seasonal predictive tools (title: Agri-climate Outlooks),
- · longer-horizon decadal tools (title: Climate Atlas),
- a consistent process for calculating carbon footprints (title: Know & Show Your Carbon Footprint).

### FRDC partners to accelerate commercialisation through grow<sup>AG</sup>

Opportunities to commercialise FRDC RD&E were promoted on the grow<sup>AG</sup> website maintained by our RDC partner, Agrifutures. FRDC scans its completed projects to identify commercialisation opportunities through the grow<sup>AG</sup> website. To date FRDC has uploaded 384 projects to the site and published eight news stories about relevant activities and opportunities.

### **RDC Knowledge Translation and Commercialisation Group**

The RDC Knowledge Translation and Commercialisation Group has members from all RDCs who meet regularly to share knowledge to improve commercialisation of research, translate research outcomes into impact, deliver best practice intellectual property management and share business development opportunities. The group provides a means for RDCs to collaborate and minimise duplication of activities.

### **Regional collaboration**

### Tasmanian Salmonid Science Alliance

FRDC has continued to play a pivotal role in facilitating the development of the Salmonid Science Alliance. This alliance oversees research efforts in response to stakeholder and community demands for impartial and reliable scientific information. The focus of this collaboration is on research planning and discussions concerning sustainable salmonid aquaculture in Tasmania. The alliance involves CSIRO, the Institute for Marine and Antarctic Studies and the University of Tasmania, who are all committed to this long-term research partnership.

A key initiative this alliance continues to work on, is the development of a salmonid aquaculture research website (Salmon Hub) to bring all the research undertaken by the three partner agencies, in a single online format easily accessible to all stakeholders and the community. The group has also worked together to plan the second Salmon Open House event, to bring the scientists, their monitoring equipment, samples and digital models into an accessible space where the general public can speak directly to the researchers and see their work first hand. The second event occurred in early July 2023 to coincide with the school holidays so more family groups could attend.



### **Snapper Science Program**

The Snapper Science Program is a three-year, national research program for Snapper (Chrysophrys auratus) with local application in South Australia. The Snapper Science Program is a critical component of the broader Snapper Recovery Package that was announced in December 2022. It involves significant collaboration between industry stakeholders and research providers including SARDI, Flinders University, the University of Adelaide and CSIRO. The \$5 million initiative, announced in December 2022, addresses key research priorities relevant to Snapper fisheries throughout Australia. FRDC is providing \$2.5 million for the program that is matched 1:1 by the South Australian Government.

### National Centrostephanus Workshop

FRDC joined with Tasmanian Department of Natural Resources and Environment and Tasmania's Abalone Industry Reinvestment Fund in February 2023, to hold a two-day National Centrostephanus Workshop.

Over 130 representatives from industry, government, research, Aboriginal communities, recreational fishing groups and the community attended the workshop.

The workshop consisted of over 30 presentations from researchers, commercial divers, recreational divers, industry and businesses. These presentations and discussions explored the current state of the Longspined Sea Urchin (Centrostephanus rodgersii). They also presented information on range expansion, marine ecosystem health across Tasmania, Victoria and New South Wales, potential controls, and interventions to manage densities below key ecological thresholds and strategies to rehabilitate damaged ecosystems. Of particular interest were the sessions on potential new markets for the urchin as a food product and productive utilisation of waste from food processing.



FRDC has worked with the Australian Fisheries Management Forum to review and revise the National Harvest Strategy Guidelines through project 2021-135 Review of national guidelines to develop fishery harvest strategies. This project involves all states, territories and the Commonwealth and builds on guidelines originally developed through project 2010-061 National Guidelines to develop fishery harvest strategies.

### **Bega Circular Valley 2030**

FRDC is a partner in the 'Bega Circular Valley 2030', which aims to deliver a transformational high-impact regional development initiative with the pioneering vision to establish Bega Valley Shire as the most circular regional economy in Australia.

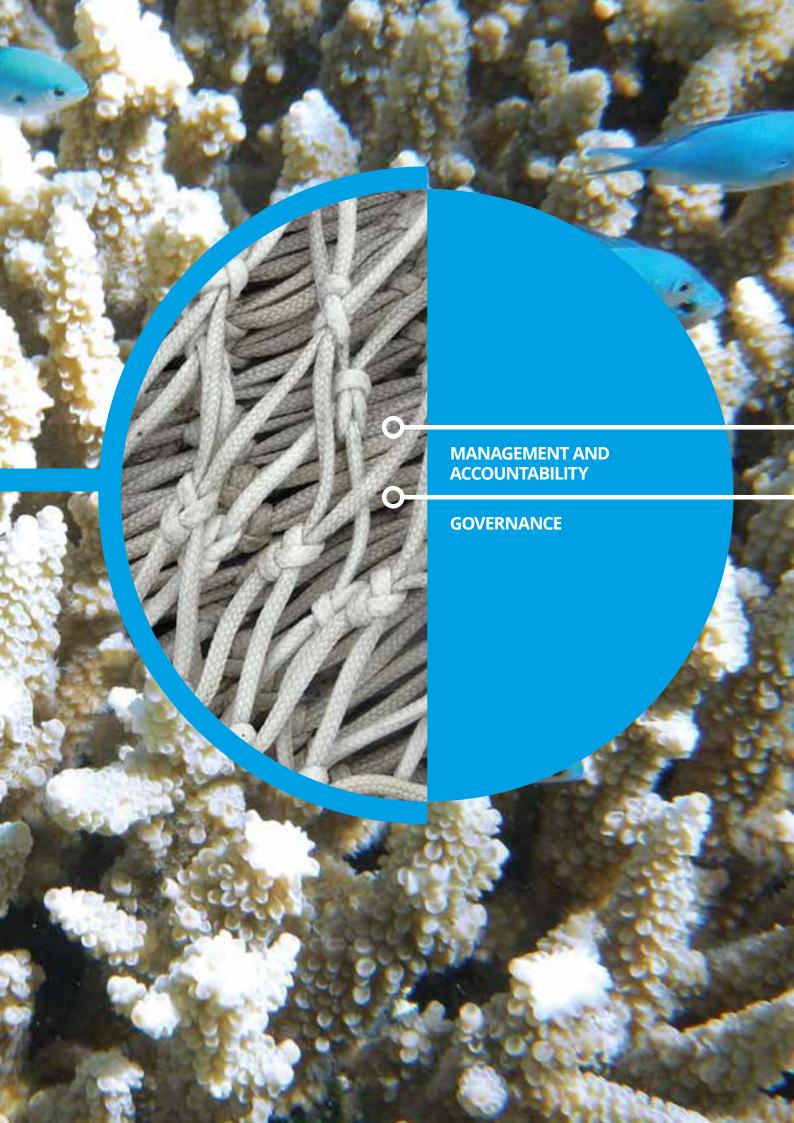
It is a holistic program developed by collaborating with local, national and global stakeholders to mobilise innovative circularity solutions across the five streams of water, waste, renewable energy, food systems and education. The program builds on and accelerates new and existing initiatives by embedding smart circular economy principles and skills to stimulate a marketplace and ecosystem of diverse stakeholders, small and medium-sized enterprises, technology innovators, researchers, academics, Indigenous leaders, social ventures, non-government organisations, government, and investors.

FRDC engagement provides learning opportunities and knowledge sharing to support community intent to create circular system change thinking and drive a 100 per cent circular valley.

The project team includes Bega Valley Circular Economy Co-operative Limited, Bega Cheese Limited, NSW Government, Rabobank Australia, KMPG, Charles Sturt University, Bega Valley innovation hub, Bega Valley Shire Council, Bega Beef Co-op, Far South Coast Dairy Development Group, Addison Law Firm and FRDC.







Management and accountability activities focus on continually improving how 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 governance section starting on page 94.

FRDC's strategic planning and reporting documents (comprising R&D Plan, AOP and the annual report) were completed and presented for approval within their legislated timeframes. These documents aim to identify the key issues that face stakeholders across fishing and aquaculture, outline strategies to respond to issues identified and report on progress in the implementation of those strategies.

### **Principal inputs**

During 2022–23, FRDC's expenditure on corporate costs was \$5.9 million or around 15 per cent of total FRDC expenditure.

### **Performance indicators**

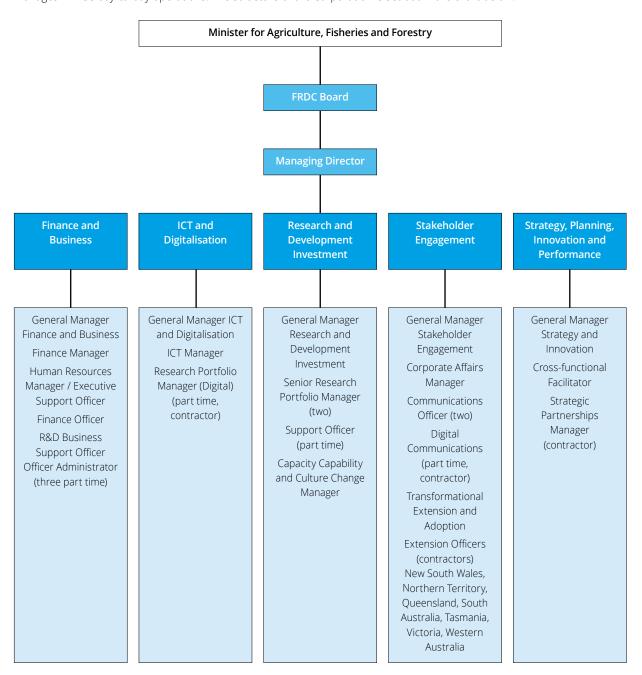
FRDC met all of the 2022–23 Portfolio Budget Statements performance measures.

All financial targets were met this year. For a full explanation of budgetary variances, see page 118 in the financial statements.

Portfolio Budget Statement performance measures	Expected performance results	Results
R&D Plan Outcome 1: Growth for enduring prosperity Enduring and balanced ecological, social and economic growth for the community benefit. R&D Plan Outcome 2: Best practices and production systems Diverse benefits from aquatic resources to be consistent with shared principles. R&D Plan Outcome 3: A culture that is inclusive and forward thinking A fishing and aquaculture community that is cooperative, diverse and well equipped to enable growth and adaptability in a complex and uncertain world. R&D Plan Outcome 4: Fair and secure access to aquatic resources Integrated management of Australia's aquatic resources, providing certainty and confidence. R&D Plan Outcome 5: Community trust respect and value People feel good about using the products, services and experiences provided by fishing and aquaculture.	On track for 100 per cent of priority activities identified in AOPs to be invested in by 2025. Projects sampled for cost-benefit analysis show positive average return on investment.	Achieved. Projects align with strategic priorities set out in FRDC's AOP and partner plans. Average return on investment was 2.98 to 1 across the portfolio.

### **Staffing**

FRDC is governed by a Board of directors (see page 94 appointed for their expertise and is led by a Managing Director who manages FRDC's day-to-day operations. The structure of the Corporation is set out in the chart below.



In 2022–23, FRDC's average staffing level was 23.21 (28 head count including five part-time staff members) across its operations. FRDC's staff are the most important resource and are key to the Corporation's ongoing success.

### All ongoing employees current reporting period (2022-23)\*

	Male			Female		Total	
	Full time	Part time	Total male	Full time	Part time	Total female	
Australian Capital Territory	2	0	2	1	0	1	3
Total	2	0	2	1	0	1	3

<sup>\*</sup> There were no ongoing employees in New South Wales, the Northern Territory, Queensland, South Australia, Tasmania, Victoria or Western Australia.

### All non-ongoing employees current reporting period (2022–23)\*

	Male			Female			Total
		Part time	Total male	Full time	Part time	Total female	
Australian Capital Territory	8	0	8	4	4	8	16
New South Wales	1	0	1	2	0	2	3
South Australia	2	0	2	2	1	3	5
Victoria	0	0	0	1	0	1	1
Total	11	0	11	9	5	14	25

<sup>\*</sup> There were no non-ongoing employees in the Northern Territory, Queensland, Tasmania, or Western Australia.



seven non-executive directors, one managing director, and five senior general managers. Remuneration for the Chair and Directors is in accordance with the Remuneration Tribunal (Remuneration and Allowances for Holders of Part-time Public Office) Determination 2022. The Managing Director During the reporting period ended 30 June 2023, FRDC had 14 key management personnel. These included one non-executive director (Chair), and General Managers are employed through common law agreements.

Information about remuneration for key management personnel

		Short	Short-term benefits	6	Post- employment benefits	Other long-term benefits		Total remun- eration
Name	Position title	Base salary [note 1]	Bonuses	Other benefits and allowances	Super- annuation contributions	Long service leave	Termin- ation	
Veneziani		₩	\$	₩	₩	₩	\$	\$
John Williams	Chair	62,660	1	-1	6,579	I	-1	69,239
Professor Colin Buxton	Deputy Chair	37,600	1	1	3,948	I	1	41,548
Dr Christopher Calogeras [note 2]	Non-executive director	39,688	1	1	4,167	ı	ı	43,856
Dr Saranne Cooke	Non-executive director	37,600	1	1	3,948	ı	1	41,548
Suzanne Hullick	Non-executive director	37,600	1	1	3,948	I	1	41,548
Boris Musa	Non-executive director	40,561	1	ı	987	I	Ι	41,548
Alex Ogg	Non-executive director	37,600	1	1	3,948	T	1	41,548
Dr Lyndal Thorburn	Non-executive director	37,600	1	ı	3,948	I	Ι	41,548
Dr Patrick Hone	Managing Director	364,182	ı	ı	62,545	14,174	ı	440,900
Crispian Ashby	General Manager Research and Development Investment	224,453	ı	ı	38,017	8,983	ı	271,452
Cheryl Cole [note 2]	General Manager Finance and Business	194,900	1	ı	31,306	7,486	ı	233,692
Kyaw Kyaw Soe Hlaing [note 2]	General Manager ICT and Digitalisation	198,722	1	ı	27,484	7,486	ı	233,692
Matt Barwick	General Manager Strategy and Innovation	183,846	1	ı	34,934	7,486	ı	226,265
Kylie Dunstan [note 2]	General Manager Stakeholder Engagement	195,642	_	_	32,580	8,243	_	236,464
Total		1,692,652	-	_	258,338	53,858	-	2,004,848

This disclosure is prepared on an accrual basis.

There are no other senior executives or other highly paid staff.

Note 1. Base salary includes accrued annual leave but not taken for Managing Director and Senior General Managers. Note 2. Base salary includes higher duty arrangements for directors and Senior General Managers.

### **Equal employment opportunity**

FRDC promotes a work environment that is free from discrimination on the basis of race, skin 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.

FRDC has a policy of equal employment opportunity. Merit-based principles are applied in recruitment and promotion to ensure discrimination does not occur.

### **Industrial democracy**

FRDC's staff members work as a team in which all contribute freely. This process is strongly reinforced by 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.

### Disability and accessibility

FRDC's employment policies and procedures align with the *Disability Discrimination Act* 1992 in the broader context of the National Disability Strategy 2010–2020. 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 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.

### **Final report requirements**

Under the *Disability Discrimination Act 1992*, Australian Government agencies are required to ensure information and services are provided in a non-discriminatory accessible manner — FRDC aims to make all project reports meet these requirements. Where information is not accessible, FRDC ensures it is made available in a suitable format.

### **Behaviour**

Corporate governance practices are evolving rapidly, both in Australia and overseas. FRDC is proactive in adopting better practices, including those governing ethical behaviour, into its own processes. 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.

### **Records management**

The National Archives of Australia undertakes an annual assessment (Check-up PLUS) looking at maturity and performance in information and data management. Check-up PLUS is structured to align with the National Archives' Information Management Standard. The survey assesses agencies maturity and performance in information and data management, in line with the National Archives of Australia Policy, *Building trust in the public record: managing information and data for government and community*.

A total of 165 agencies completed the 2022 Check-up PLUS survey. FRDC scored an overall maturity score of 4.76 out of 5,.00 an increase from the previous survey. This is 1.06 above the Australian Government average of 3.40.

#### **Check-up PLUS survey**

	FRDC scores	Rank (out of 165)	Position
Governance and culture index	4.58	9	Top third
Creating information assets index	5.00	1	Top third
Describing information assets index	5.00	1	Top third
Storing, preserving, and managing information assets index	5.00	1	Top third
Appraising and disposing index	4.00	34	Top third
Use, reuse and interoperability index	5.00	1	Top third
Overall index	4.76	5	Top third

### Risk management

There was no incidence of fraud detected at FRDC during the year.

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. The risk management framework includes the fraud control plan, providing the minimum standard for managing the risk and incidents of fraud, and adopting best practice as per the Commonwealth Government Fraud Control Framework, produced by the Attorney-General's Department, which seeks to minimise the likelihood and impact of fraud.

All staff participated in an internal risk workshop 6 February 2023, which was used to update FRDC's risk framework. Additionally, the Board reviews the highest-ranked strategic risks at every meeting.

### **Comcover Risk Management and Benchmarking Survey**

FRDC completed the Comcover Risk Management and Benchmarking Survey — which is conducted annually — and achieved a risk maturity of advanced; noting that the average maturity level of all survey participants was defined.

Figure 4: Comparison of current and target maturity states achieved across elements 1-5 for FRDC relative to the community of practice



- 2. Risk culture
- Risk capability
- 4. Risk management framework and practices
- 5. Organisational resilience and agility

### **Agreements and contracts**

Each year FRDC engages companies, research institutions and government agencies to undertake RD&E activities. The process for applying for funding is outlined on FRDC's website. FRDC engages each organisation using a contract or consultancy agreement that outlines the requirements and responsibilities associated with undertaking work for 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 is available on the website — www.frdc.com.au

### **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. FRDC currently has 12 IPAs.

These partnerships offer both parties a number of advantages. For industry, they provide more involvement in determining and undertaking RD&E. For 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 9: Industry contributions, maximum matchable contributions by the Australian Government and return on investment (page x).



### **Consultancy services and selection of suppliers**

During the financial year 2022–23, FRDC engaged 12 consultancies which were valued at \$10,000 or more (see tables that follow).

When selecting suppliers of goods and services, FRDC follows its procurement policy and 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.

FRDC policies and procedures aim to adopt the better practice principles contained in the Commonwealth Procurement Rules and are available from the FRDC website.

### **Consultancy services**

Consultancy	Description	Amount GST inclusive
		\$
Angel Ink Pty Ltd	Graphic design and supply of printed copies	35,332.00
Ashurst Australia	Legal advisory services	18,626.81
Commsnet Group Pty Ltd	IT services provider	48,339.12
Coretext Pty Ltd	Production of FRDC News	35,768.92
Iconic Holdings Pty Ltd	Web development agency	38,885.00
Insync Surveys Pty Ltd	Board performance review	22,132.00
Isentia Pty Ltd	Media monitoring	34,246.72
Isentrix Pty Ltd	IT consulting	50,875.00
IT Payroll Solutions Pty Ltd	Provision of contract staff	110,614.47
Kilimanjaro Consulting Pty Ltd	Finance management system consulting	15,582.53
Mercer Consulting (Australia) Pty Ltd	Independent human resource services	15,840.00
Palisades Australia Pty Ltd	Recruitment services	10,277.78
Ridge Partners	General consultancy	105,875.00
Rimfire Resources Pty Ltd	Provision of contract staff and recruitment services	1,544,421.70
Rivergum Communications Pty Ltd	Corporate communication strategy and plan	11,843.69
The Trustee for Versecorp Trust	Digital communications	106,173.31
The Trustee for KeidoTrust (Volve)	Website services	39,523.00
Yardstick Advisory Ltd	Internal audit advisory services	22,176.00

#### Consultancy services as required under section 311a of the Commonwealth Electoral Act 1918

Consultancy	Description	Amount
		GST inclusive
		\$
Lee Armson	Stakeholder data analytics and e-mail service	s 18,931.00

### **Cost recovery policy**

	Amount GST inclusive
	\$
Department of Agriculture, Fisheries and Forestry	
Cost recovery expenses to the Commonwealth for levy collection charges	27,793

### **Legal Services Directions Expenditure Report**

FRDC submitted a Legal Services Directions Expenditure report on 8 August 2023.

### **Ministerial directions**

During the year FRDC received no ministerial directions or notifications.

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 FRDC.

### **Government policy**

FRDC has adopted as best practice the Australian Government policy requirements relevant to FRDC:

- Australian Government Cost Recovery Policy,
- Australian Government Commonwealth Procurement Rules,
- Australian Government Commonwealth Property Management Framework,
- · Commonwealth Fraud Control Framework,
- Australian Governement Public Sector Workplace Relations Policy 2023
- Australian Government Foreign Exchange (Forex) Risk Management.

See compliance index starting on page 155.

### **Protective Security Policy Framework**

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

### **Greenhouse Gas Emissions Inventory**

Greenhouse gas emissions reporting has been developed with methodology that is consistent with the Whole-of-Australian Government approach as part of the Australian Public Service Net Zero 2030 policy.

Emission source	Scope 1 kilogram CO <sub>2</sub> -e	Scope 2 kilogram CO <sub>2</sub> -e	Scope 3 kilogram CO <sub>2</sub> -e	Total kilogram CO <sub>2</sub> -e
Electricity	N/A	21,738	1,787	23,525
(location-based approach)				
Natural gas	-	N/A	-	-
Fleet vehicles	-	N/A	-	_
Domestic flights	N/A	N/A	110,444	110,444
Other energy	_	N/A	_	_
Total kilogram CO <sub>2</sub> -e	_	21,738	112,231	133,969

CO<sub>2</sub>-e carbon dioxide equivalent. N/A Not available/applicable.

The kilowatt-hours for the electricity consumed at FRDC's Adelaide office (shared space within Industry House at the National Wine Centre, corner Hackney and Botanic Roads, Adelaide) was not available. FRDC will endeavour to establish the required data management plans and systems to assist with future reporting.

### **Quality management system**

FRDC's quality management system consisting of policies and procedures is continually monitored, reviewed and managed to ensure there are efficient and effective processes in place to perform operations of high quality, both internally and to our stakeholders.

### Judicial reviews and administrative tribunals

There were no judicial or administrative tribunal decisions during the year.

### **Freedom of information**

During 2022–23, FRDC received one request pursuant to the *Freedom of Information Act 1982* (FOI Act). FRDC is required to comply with the FOI Act.

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

For more details on freedom of information see Appendix C on page 147 or the FRDC website to view the FOI Disclosure Log at www.frdc.com.au/About/Freedom-of-information/Disclosure-Log.

### Work health and safety

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. FRDC's ultimate goal is that its workplace is free of injury, illness and disease. 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.

FRDC's Workplace Health and Safety Policy, Work Health and Safety Management System, and Safe Operating Procedures has been developed in accordance with the requirements under the WHS Act in consultation with FRDC's employees. 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.

#### 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 2022–23.		
Initiatives taken during the year to ensure the health, safety and welfare of workers who carry out work for the entity.	<ul> <li>Consultation of WHS issues includes all staff.</li> <li>Agreed health and safety management arrangements policy and procedures.</li> </ul>		
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.	<ul> <li>Health and safety awareness and incidents are a standing item for all staff meetings.</li> <li>Health and wellbeing committee established to monitor changes and implement safety measures.</li> <li>Occupational rehabilitation physiotherapist provides ergonomic assessments to all new staff in their immediate working environment, and when requested.</li> <li>Staff provided with access to influenza vaccinations.</li> <li>Workplace safety training.</li> <li>Mental health training.</li> <li>Bi-annual fire safety and warden training, and six-monthly checks of fire safety equipment.</li> <li>Annual testing and tagging of electrical appliances.</li> <li>Qualified first aid officers and fire warden.</li> <li>Assessment of risks in line with the risk framework annual review.</li> </ul>		
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.	<ul> <li>Increased awareness of roles and responsibilities in WHS including responsibilities of managers.</li> <li>No requests were received from staff and no undertakings were given by FRDC.</li> <li>No directions or notices were given to FRDC.</li> </ul>		

Notifiable incidents	2018-19	2019–20	2020-21	2021–22	2022-23
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 FRDC. The insurance premiums are levied each year based on the level of salaries and wages costs and experience in claims made by employees.

### **Indigenous Reconciliation Statement of Intent and actions**

FRDC's Indigenous Reconciliation Statement of Intent was developed in recognition of the continued history and connection Aboriginal and Torres Strait Islander people have with their traditional lands and waters. This action formalised FRDC's aspirations and outlines a range of activities to pursue them. As well as directly funding research activities, FRDC seeks to act as a conduit for organisations seeking to do similar work, such as the Indigenous Land and Sea Corporation, CSIRO, Australian Institute of Aboriginal and Torres Strait Islander Studies, DAFF and various state government agencies.

The statement confirms FRDC:

- acknowledges the special relationship Aboriginal and Torres Strait Islander people have with their traditional lands and waters,
- values the experiences, knowledge, perspectives and cultures of Aboriginal and Torres Strait
  Islander people, including in a formal sense within projects where appropriate, and protect
  these as we would any other intellectual property elements,
- consistently seeks to demonstrate informed respect for Indigenous Australians and works
  with our partners to achieve the same in developing RD&E projects and realising their
  outcomes,
- incorporates Indigenous knowledge where relevant into research projects and delivery of outcomes.

In 2023, FRDC released its first comprehensive performance report of work undertaken to meet the actions of our Indigenous Reconciliation Statement of Intent. A summary of progress is provided below.

### FRDC's Indigenous Reconciliation Statement of Intent progress

Intents	Area	Actions/projects		
Intent 1	Respect	Completed <b>5</b> . Underway <b>4</b> . Not yet started <b>0</b> .		
	Increase understanding, value and recognition of Aboriginal and Torres Strait Islander cultures, histories, knowledge and rights through cultural learning.			
	Demonstrate respect to Aboriginal and Torres Strait Islander people by observing cultural protocols.	···		
Intent 2	Relationships	Completed <b>0</b> .		
	Aboriginal and Torres Strait Islander people and FRDC.	Underway <b>13</b> .		
	Promote reconciliation through our sphere of influence.	Not yet started <b>1</b> .		
	Promote positive race relations through anti-discrimination strategies.			
	Celebrate National Reconciliation Week.			
Intent 3	Opportunities	Completed <b>5</b> .		
	Improve employment outcomes by increasing Aboriginal and Torres Strait Islander recruitment, retention and professional development.	Underway <b>14</b> . Not yet started <b>3</b> .		

### **GOVERNANCE**

### **Board and organisation**

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.

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, R&D 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, delegations, processes, controls, behaviours and transparency. To support FRDC's high level of commitment to these principles, a list of FRDC policies and copies of financial statements are available from FRDC's website — www.frdc.com.au

From left: Patrick Hone (Managing Director), Saranne Cooke, Suzi Hullick, Boris Musa, John Williams (Chair), Colin Buxton (Deputy Chair to 31 March), Lyndal Thorburn, Alex Ogg, Chris Calogeras (Deputy Chair from 1 April).

#### The Board

The FRDC Board sets the overarching direction and strategy for the Corporation. It has ensured that the necessary governance (policies), systems and procedures are in place to enable the Corporation to invest in priority areas and specific RD&E activities.

The Board comprises of the Board Chair, and seven non-executive 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 face-to-face outside Canberra wherever possible (ideally at least three times a year in regions key to the fishing industry) or via digital means. This provides directors with the opportunity to discuss relevant issues with industry stakeholders, as well as see first-hand, the fishing industry in action.

The Board plays a fundamental role in guiding the Corporation and providing the FRDC management with strong leadership. It oversees corporate governance, ensuring 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 high-risk projects.

A key action during the year was the Board's approval of FRDC's AOP and funds for investment programmatically against both current commitments (existing contracted projects), and new investment delegating FRDC management to oversee the investment in line with stakeholder priorities, the AOP and the R&D Plan. The Board continued to provide the necessary governance, oversight and approval for projects that are high risk. The objective is to provide a more flexible and nimble approach to investment, ensuring FRDC can assess applications at any time throughout the year.

#### APPOINTMENT OF NEW FRDC DEPUTY CHAIR

Professor Colin Buxton's term as Deputy Chair ended on 31 March 2023 and Dr Chris Calogeras was appointed as the new Deputy Chair of the FRDC Board on 1 April 2023.

Other details of the directors who held office during the year follow.





**DIRECTORS' BIOGRAPHIES** 

Appointed Chair from 10 March 2020.

#### John Williams: Chair

John Williams was elected to Federal
Parliament in 2007 as Senator for New South
Wales and was sworn in on 26 August 2008.
John was born in Jamestown South Australia
but has lived most of his life in the Inverell
district in the New England region of New
South Wales. Prior to entering politics,
he had been a truck driver, shearer,
farmer and a small business owner.

With this background, John understands regional Australia and the issues small business operators deal with every day. John is a strong advocate for the reduction of red tape in small business to allow businesses to not only survive and compete but to grow and prosper. His vision is for regional Australia to obtain adequate funding to maintain rural communities and facilities and maintain the way of life so many people enjoy.



#### Dr Christopher (Chris) Calogeras: Director (Deputy Chair from 1 April 2023)

Appointed Director from 1 September 2021.

Chris Calogeras has over 35 years' expertise working with the fishing and seafood industry and associated stakeholders. These roles included senior resource management positions within government, operations manager at an award-winning export focused seafood company, and for the last more than 20 years, director of C-AID Consultants, an independent consultancy. Chris has formal training in resource management, business and seafood processing.

In government Chris managed multi-disciplinary aquatic resource programs covering teams that were responsible for wild-harvest resource management, marine parks and environment, data management, education, legislation, recreational research, as well as coordinating a large range of external projects. Chris represented the Northern Territory and chaired a number of committees and boards, on behalf of government. From 2001 onwards, Chris has been involved in a wide range of consultancies and projects of varying size and complexity. He has worked with all sectors of the fishing and seafood industry, including Indigenous, wild harvest, aquaculture, post-harvest and recreational sectors, government agencies, non-government organisations and researchers, to build capacity and develop innovative sustainable management and research solutions and outcomes across diverse groups.

Chris specialises in work involving inshore wild-harvest species, tropical aquaculture species and has extensive experience working with First Nations people. He has also chaired a number of groups and acts as a representative on committees and boards on behalf of industry groups and clients and has overseen or been involved in over 50 national and international projects. Chris practices a participatory approach to ensure that outputs and outcomes provide real solutions to complex and often competing needs and are in a form that can be readily used. He also seeks to build capacity and leadership in all of his roles.



#### Emeritus Professor Colin Buxton FAICD: Director (Deputy Chair to 31 March 2023)

Appointed Director from 1 September 2015 to 31 August 2018, reappointed 10 October 2018, reappointed 1 September 2021 to 1 April 2023.

Colin Buxton is an independent director and principal consultant at Colin Buxton & Associates. In 2014 he retired as Director of the Fisheries, Aquaculture and Coasts Centre at the Institute for Marine and Antarctic Studies at the University of Tasmania (UTAS), where he is now an Adjunct Professor. Colin 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.

A fellow of the Australian Institute of Company Directors, he has served on the boards of several organisations including the Aquaculture Cooperative Research Centre (CRC), Finfish CRC and Seafood CRC, Southern Rock Lobster Ltd (Chair) and the Tasmanian Environment Protection Authority. He is also Chair of the National Fisheries Advisory Council and serves on the Tasmanian Marine Farming Review Panel. Colin has broad knowledge and experience in coastal marine environments, fisheries and aquaculture and is a frequent consultant and advisor to government and industry in Australia, Africa and the United States. A graduate of the University of Cape Town (Masters *cum laude*) and Rhodes University (PhD), he is internationally recognised and has published widely on 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.



#### **Dr Saranne Cooke: Director**

Appointed Director from 10 October 2018, reappointed 1 September 2021.

Saranne Cooke is a professional director and chair with experience on a variety of boards across the research and education, health, sport, financial and not-for-profit sectors. Saranne is the Deputy Chancellor of Charles Sturt University, Chair of the Australasian College of Sport and Exercise Physicians, Deputy Chair of Racing NSW, Chair of the Royal Flying Doctor Service (South Eastern), a director of Australian Meat Processing Corporation, HESTA Superannuation and Aged and Community Care Providers Association. Saranne is also the Independent Chair of the Sugar Research Australia Director Selection Committee (for 2022 and 2023). As a long-term resident of regional Australia, she has a genuine understanding of regional and rural issues and communities.

Saranne previously held a number of executive roles within the energy, financial, education and manufacturing industries. She completed her doctorate researching board governance across the ASX 200 companies. She also holds a Bachelor of Commerce, Master of Business (Marketing), and a Master of Commercial Law. Saranne is a Fellow of the Australian Institute of Company Directors, a Fellow Certified Practising Accountant, a Fellow of the Australian Marketing Institute, a Certified Practising Marketer and a member of the Golden Key International Honour Society.



Dr Patrick Hone: Managing Director

Appointed Managing Director from 21 April 2005.

Patrick Hone is Managing Director of 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 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 SARDI on a wide range of aquaculture research for Southern Bluefin Tuna, Pacific Oysters, mussels, Yellowtail Kingfish and abalone.



Suzanne (Suzi) Hullick: Director

Appointed Director from 1 September 2021. Suzi Hullick is a banking executive with over 20 years of leadership and management experience in retail and commercial finance within the financial services industry. For more than a decade Suzi has specialised in Indigenous banking. Appointed in June 2022 as the Westpac Group Head of Diversity Equity and Inclusion which provides strategic planning and policy delivery and implementation of the overall people strategy specialising in gender equity, accessibility and inclusion Suzi was recognised as the 2013 overall Women of Influence (inaugural winner) for Westpac and a Bicentennial Service Honour recipient in 2017. Suzi is a graduate of the Australian Institute of Company Directors and Women in Leadership at the Australian Graduate School of Management and as completed an MBA (Social Impact) at the University of New South Wales.

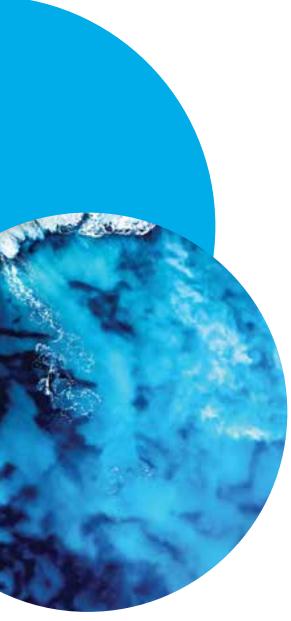




Appointed Director from 1 September 2021.

Boris Musa is the Managing Director and Chief Executive Officer (CEO) of the Mainstream Aquaculture Group, a vertically integrated producer and supplier of Barramundi. Mainstream is one of the largest suppliers of Barramundi table fish products in Australia under the Infinity Blue Barramundi brands and is the global market leader in the supply of juvenile fish (seed stock) to the Barramundi aquaculture industry, exporting to 30 countries across five continents. Mainstream operates five farms and three hatcheries in Australia, including the world's largest aquaculture production facility of its type, as well as the world's largest Barramundi hatchery. Mainstream also operates a Barramundi farm in the United States servicing the local market, located in Arizona. Boris has been Managing Director and CEO since 2012 and under his stewardship; company value has increased by a multiple of 50 times on a commensurate increase in revenue (compound annual growth rate of circa 50 per cent).

Boris' background is in financial services. Most recently, he spent five years at Macquarie Group, the last two as a director. Boris is a non-executive director of the Wyndham City Refuse Disposal Business and the Australian Barramundi Farmers Association. He holds a Bachelor of Commerce from Deakin University and is a Deans Scholar in Finance (top 1 per cent of graduates), a Diploma in Natural Resource Management, and a Masters of Applied Finance.





Alex Ogg: Director

Appointed Director from 1 September 2021.

Alex Ogg is the principal ocean energy program director for the Australian Ocean Energy Group.

With an extensive professional background in fisheries and aquaculture, Alex pioneered open ocean pearl farming systems in Western Australia and was rewarded with exponential increases in pearl product value as Managing Director of Autore Pearling. Alex served as vice chair of the Pearl Producer's Association for a decade and was a ministerial appointee to the Pearling Industry Advisory Committee.

In an industry advocacy role as Chief Operations Officer and subsequently CEO of the Western Australian Fishing Industry Council, Alex worked closely with FRDC, serving as chair of the Western Australian Fisheries Research Advisory Board and deputy chair of the Western Australian Research Advisory Committee. Alex helped to form the national peak body, Seafood Industry Australia, acting as deputy chair of the implementation committee and remains a charter member.

Alex holds an MBA from Melbourne University, is a graduate of the Australian Institute of Company Directors and is a fellow of Melbourne Institute of Technology and the Australian Rural Leadership Foundation. He is currently a non-executive director of Regional Development Australia Great Southern and deputy chair of the Australian Microgrid Centre of Excellence, engaged in developing marine renewable energy distribution systems.



Dr Lyndal Thorburn: Director

Appointed Director from 1 September 2021. Lyndal Thorburn is a non-executive director with current roles on Charles Sturt University Council and the Regional Development Australia (ACT) Board, in addition to FRDC. With over 30 years' Board experience, she brings skills in business and risk management, science/technology commercialisation and industry development, innovation and entrepreneurship, stakeholder engagement, finance and public administration.

Prior to her appointment to FRDC, Lyndal worked as an evaluation specialist for Asia Pacific Economic Cooperation, spent 17 years in government agencies and government business enterprises, and had many years mentoring technology-based startups in market analysis, strategy and capital raising. Lyndal trained as a biologist and completed a PhD exploring regional, national and global innovation networks of Australian biotechnology firms.

Lyndal is a former member of the Australian Institute of Company Directors and is a member of the Institute of Public Accountants. A business owner, she is also a past winner of the ACT Telstra Businesswomen's Awards. Lyndal was born in Sydney but has lived for the last 40 years in regional New South Wales and has worked in Asia, Europe and the Americas.



#### Attendance at Board meetings held during the year

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 11: Attendance by directors at board meetings

Note: Meetings that were conducted as videoconferences are marked (VC).

Date	18/08/ 2022	24/11/ 2022	13/12/ 2022 (VC)	28/02/ 2023	5/04/ 2023 (VC)	1/05/ 2023 (VC)	15/06/ 2023
Current directors	·····		•••••	***************************************	·····		
John Williams (Chair)	Yes	Yes	Yes	Yes	Yes	Yes	No
Dr Christopher Calogeras (Deputy Chair) (Deputy Chair — term commenced 1 April 2023)	Yes	Yes	Yes	Yes	No	Yes	Yes
Dr Patrick Hone (Managing Director)	Yes	Yes	Yes	Yes	Yes	Yes	No
Professor Colin Buxton (Deputy Chair — term concluded 31 March 2023)	Yes	Yes	Yes	No	Yes	Yes	Yes
Dr Saranne Cooke	Yes	Yes	Yes	Yes	Yes	No	Yes
Suzanne Hullick	Yes	Yes	Yes	Yes	Yes	Yes	No
Boris Musa	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alex Ogg	Yes	No	Yes	Yes	Yes	No	Yes
Dr Lyndal Thorburn	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Staff in attendance							
Cheryl Cole (General Manager Finance and Business, Company Secretary)	Yes	Yes	Yes	Yes	Yes	Yes	Yes

#### **Board committees**

The Board's Finance and Audit Committee comprises at least two non-executive directors. The Committee provides financial oversight for FRDC reporting back to the Board, and ensures effective communication to the external and internal auditors. The Committee also oversees FRDC Risk Management Finance and Operational Risks.

During the year the Board updated the Finance and Audit Committee Charter (Policy). The Board's Finance and Audit Committee Charter (Policy) is available on FRDC's website at www.frdc.com.au/en/about/corporate-documents/corporate-policies.

Table 12 provides information about the Finance and Audit Committee members, their qualifications, knowledge, skills or experience, their attendance during 2022–23 and their remuneration paid as a member of the committee.

Table 12: Finance and Audit Committee membership 2022-23

Note: Three of four meetings were conducted as videoconferences.

Member	Qualifications, knowledge, skills or experience (formal and informal as relevant)	Number of Finance and Audit Committee meetings attended	Total annual remuneration paid as a member of the Finance and Audit Committee
Current			\$ (GST inclusive)
Dr Saranne Cooke (Committee Chair)	Biography, see page 96.	4 (of 4)	Nil
Boris Musa	Biography, see page 98.	4 (of 4)	Nil
Alex Ogg (Term commenced 28 February 2023)	Biography, see page 99.	1 (of 1)	Nil
Suzanne Hullick (Term concluded 28 February 2023)	Biography, see page 97.	3 (of 3)	Nil
Attendance as observers			Number of Finance and Audit Committee meetings attended
John Williams (Board Chair)			4 (of 4)
Dr Christopher Calogeras (Deputy Chair)			1 (of 1)
Dr Patrick Hone (Managing Director)			4 (of 4)
Staff in attendance			

The Board's Remuneration Committee operated from July 2022 until early June 2023. Its remit was to assist and advise the Board on matters relating to remuneration and setting key performance indicators for the Managing Director and to discharge the Board's responsibilities in succession planning. Membership comprised the Chair of the committee and at least two other directors, at least one of whom was the Managing Director. In practice, the Committee membership comprised the Chair, two directors and the Managing Director.

Cheryl Cole (General Manager Finance and Business, Company Secretary)

The Board evaluated and revised the Committee's remit during the year and expanded its functions to include a broader role in advising the Board on organisational, people and culture issues. The new People and Culture Committee commenced in June 2023 and comprises a Chair (normally the Chair of the corporation) and at least two other directors, neither of whom is the Managing Director. The People and Culture Committee did not hold any formal meetings during the financial year.

The Board's updated version of the revised People and Culture Committee (Policy) is available on FRDC's website — www.frdc.com.au/corporate-policies

4 (of 4)

#### Table 13: Attendance by directors at the Remuneration Committee meetings

Note: All meetings were conducted as videoconferences.

N/A: Signifies the Committee member was not eligible to attend the meeting (either they had not been appointed or their tenure had ended).

Member	11/11/2022	08/05/2023	02/06/2023
John Williams (Chair)	Yes	Yes	No
Suzanne Hullick (Term commenced 28 February 2023)	N/A	Yes	No
Dr Lyndal Thorburn	Yes	Yes	Yes
Alex Ogg (Term concluded 28 February 2023)	Yes	N/A	N/A
Dr Christopher Calogeras (Acting Chair)	N/A	N/A	Yes

Attendance as observers	Number of Remuneration Committee meetings attended
Dr Christopher Calogeras (Deputy Chair)	1 (of 1)
Dr Patrick Hone (Managing Director)	3 (of 3)
Alex Ogg	1 (of 1)

## **Record of meetings**



# Directors' interests and related entity transactions

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 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 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 the 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	2022-23
	\$
Remuneration and allowances to non-executive directors	387,632

#### Liabilities to staff

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 shown in the Statement of Financial Position in the Corporation's monthly financial statements.









#### INDEPENDENT AUDITOR'S REPORT

#### To the Minister for Agriculture, Fisheries and Forestry

#### Opinion

In my opinion, the financial statements of the Fisheries Research and Development Corporation ("the Entity") for the year ended 30 June 2023:

- (a) comply with Australian Accounting Standards Simplified Disclosures and the Public Governance, Performance and Accountability (Financial Reporting) Rule 2015; and
- (b) present fairly the financial position of the Entity as at 30 June 2023 and its financial performance and cash flows for the year then ended.

The financial statements of the Entity, which I have audited, comprise the following as at 30 June 2023 and for the year then ended:

- Statement by the Accountable Authority (Chair and Chair Finance and Audit Committee), 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 the financial statements, comprising a summary of significant accounting policies and other explanatory information.

#### 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 Entity 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 (including independence Standards) (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 Entity, the Directors are responsible under the Public Governance, Performance and Accountability Act 2013 (the Act) for the preparation and fair presentation of annual financial statements that comply with Australian Accounting Standards – Simplified Disclosures and the rules made under the Act. The Directors are also responsible for such internal control as the Directors determine is necessary to enable the preparation 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 ability of the Entity 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, Cariberra ACT 2601 36 Sydney Avenue, Forest ACT 2603 Phone (02) 6203 7300

#### 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 the Accountable Authority 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

Fiona Sheppard Executive Director

Delegate of the Auditor-General

Canberra 23 August 2023





## **CONTENTS**

Ce	ertific	ation	
St		ent by the Accountable Authority, Managing Director and Financial Officer	111
			111
	-	y financial statement	440
		ent of Comprehensive Income	112
-		ent of Financial Position	113
		ent of Changes in Equity	114
Cá	ish Fic	ow Statement	115
	vervie		
_		w of the FRDC	116
FF	DC bu	udgetary explanation of major variances	118
N	otes t	o the financial statements	
1.	Finar	ncial performance	
	1.1	Expenses	120
	1.2	Own-source income and revenue from the Australian Government	122
2.	Finar	ncial position	
	2.1	Financial assets	125
	2.2	Non-financial assets	126
	2.3	Payables	128
	2.4	Interest bearing liabilities	131
3.	Peop	ole and relationships	
	3.1	Employee provisions	132
	3.2	Key management personnel remuneration	133
	3.3	Annual total remuneration ranges paid to key management personnel	133
	3.4	Related party disclosures	134
4.	Finar	ncial instruments and fair value measurement	
	4.1	Financial instruments	138
	4.2	Fair value measurement	140
5.	Othe	er information	
	5.1	Current/non-current distinction for assets and liabilities	141

#### FISHERIES RESEARCH AND DEVELOPMENT CORPORATION (FRDC)

# STATEMENT BY THE ACCOUNTABLE AUTHORITY (CHAIR AND CHAIR FINANCE AND AUDIT COMMITTEE), MANAGING DIRECTOR AND CHIEF FINANCIAL OFFICER

In our opinion, the attached financial statements for the period ended 30 June 2023 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 J. William	23-August-2023
Mr John <b>W</b> illiams	Date
Chair	

Accountable Authority

101.11

Chair Finance and Audit Committee

Signed Lattick Whee 23-August-2023
Dr Patrick Hone Date

Dr Patrick Hone
Managing Director

MS Priti Narayan Acting Chief Financial Officer

## STATEMENT OF COMPREHENSIVE INCOME

FOR THE PERIOD ENDED 30 JUNE 2023

	-			Original PBS
		2023	2022	budget
	Notes	\$	\$	\$
NET COST OF SERVICES				
Expenses				
Employee benefits	1.1A	4,456,742	3,733,005	3,952,000
Suppliers	1.1B	1,144,200	984,627	1,110,000
Research and development	1.1C	32,997,423	30,706,530	35,850,000
Depreciation and amortisation	2.2A	351,619	358,679	370,000
Finance costs	1.1D	12,637	8,041	7,000
Write-down and impairment of assets	1.1E	-	51,626	_
Total expenses		38,962,621	35,842,508	41,289,000
Own-source income				
Own-source revenue	-			
Revenue from contracts with customers	1.2A	762,113	885,777	_
Interest	1.2B	966,953	56,172	100,000
Contributions	1.2C	9,965,953	11,413,155	10,667,000
Other revenue	1.2D	356,073	157,775	2,000,000
Total own-source revenue		12,051,092	12,512,879	12,767,000
Total own-source income		12,051,092	12,512,879	12,767,000
Net (cost of) services		(26,911,529)	(23,329,629)	(28,522,000)
Revenue from the Australian Government	1.2E	24,688,910	24,037,417	23,355,000
(Deficit)/surplus		(2,222,619)	707,788	(5,167,000)
OTHER COMPREHENSIVE INCOME				
Items not subject to subsequent reclassification to net cost of services				
Changes in asset revaluation reserve	2.2A	187,882	28,578	-
Total comprehensive (loss)/income		(2,034,737)	736,366	(5,167,000)

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

## **STATEMENT OF FINANCIAL POSITION**

AS AT 30 JUNE 2023

		2023	2022	budget
	Notes	\$	\$	\$
ASSETS				
Financial assets				
Cash and cash equivalents	2.1A	26,188,476	29,004,985	23,781,000
Trade and other receivables	2.1B	8,050,450	2,918,699	3,105,000
Total financial assets		34,238,926	31,923,684	26,886,000
Non-financial assets <sup>1</sup>				
Buildings	2.2A	907,539	690,541	520,000
Plant and equipment	2.2A	198,750	90,700	51,000
Intangibles	2.2A	225,032	323,878	284,000
Other non-financial assets	2.2B	21,431	20,417	20,000
Total non-financial assets		1,352,752	1,125,536	875,000
Total assets		35,591,678	33,049,220	27,761,000
LIABILITIES				
Payables				
Suppliers	2.3A	43,806	156,995	157,000
Projects	2.3B	7,633,871	3,611,868	3,612,000
Other payables	2.3C	155,300	68,709	68,000
Total payables		7,832,977	3,837,572	3,837,000
Interest bearing liabilities				
Leases	2.4A	944,175	721,955	561,000
Total interest bearing liabilities		944,175	721,955	561,000
Provisions				
Employee provisions	3.1A	1,534,158	1,174,588	1,214,000
Total provisions		1,534,158	1,174,588	1,214,000
Total liabilities		10,311,310	5,734,115	5,612,000
Net assets		25,280,368	27,315,105	22,149,000
EQUITY				
Asset revaluation reserve		778,225	590,343	590,000
Retained earnings		24,502,143	26,724,762	21,559,000
Total equity		25,280,368	27,315,105	22,149,000

<sup>1</sup> Right-of-use assets are included in the following line item — Buildings.

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

## STATEMENT OF CHANGES IN EQUITY

FOR THE PERIOD ENDED 30 JUNE 2023

			Original PBS	
	2023	2022	budget	
	\$	\$	\$	
RETAINED EARNINGS				
Opening balance				
Balance carried forward from previous period	26,724,762	26,016,974	26,726,000	
Opening balance	26,724,762	26,016,974	26,726,000	
Comprehensive income				
Surplus/(deficit) for the period	(2,222,619)	707,788	(5,167,000)	
Closing balance as at 30 June 2023	24,502,143	26,724,762	21,559,000	
ASSET REVALUATION RESERVE				
Opening balance				
Balance carried forward from previous period	590,343	561,765	590,000	
Opening balance	590,343	561,765	590,000	
Comprehensive income				
Other comprehensive income	187,882	28,578	_	
Closing balance as at 30 June 2023	778,225	590,343	590,000	
TOTAL EQUITY				
Opening balance				
Balance carried forward from previous period	27,315,105	26,578,739	27,316,000	
Adjusted opening balance	27,315,105	26,578,739	27,316,000	
Comprehensive income				
(Deficit)/surplus for the period	(2,222,619)	707,788	(5,167,000)	
Other comprehensive income	187,882	28,578	-	
Total comprehensive income	(2,034,737)	736,366	(5,167,000)	
Closing balance as at 30 June 2023	25,280,368	27,315,105	22,149,000	

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

## **CASH FLOW STATEMENT**

FOR THE PERIOD ENDED 30 JUNE 2023

				Original PBS
		2023	2022	budget
	Notes	\$	\$	\$
OPERATING ACTIVITIES				
Cash received				
Receipts from the Australian Government		21,966,526	26,191,415	24,855,000
Contributions		9,832,852	13,475,751	10,981,000
Interest		903,777	40,017	100,000
Net GST received		1,468,279	1,660,118	_
Other		4,574,720	472,776	-
Total cash received		38,746,154	41,840,077	35,936,000
Cash used				
Employees		(4,097,172)	(3,377,786)	(3,912,000)
Suppliers		(826,933)	(1,033,007)	(410,000)
Research and development		(36,458,202)	(33,418,594)	(35,850,000)
Interest payments on lease liabilities		(12,637)	(8,041)	(7,000)
Other		-	-	(700,000)
Total cash used		(41,394,944)	(37,837,428)	(40,879,000)
Net cash (used by)/from operating activities		(2,648,790)	4,002,649	(4,943,000)
INVESTING ACTIVITIES				
Cash used				
Purchase of property, plant and equipment		(5,226)	-	(20,000)
Purchase of intangibles		-	(20,960)	(100,000)
Total cash used		(5,226)	(20,960)	(120,000)
Net cash (used by) investing activities		(5,226)	(20,960)	(120,000)
FINANCING ACTIVITIES				
Cash used				
Principal payments of lease liabilities		(162,493)	(158,958)	(161,000)
Total cash used		(162,493)	(158,958)	(161,000)
Net cash (used by) financing activities		(162,493)	(158,958)	(161,000)
Net (decrease)/increase in cash held		(2,816,509)	3,822,731	(5,224,000)
Cash and cash equivalents at the beginning of the reporting period		29,004,985	25,182,254	29,005,000
Cash and cash equivalents at the end of the reporting period	2.1A	26,188,476	29,004,985	23,781,000

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

#### **OVERVIEW**

#### **OVERVIEW 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 FRDC's principal place of business is 25 Geils Court Deakin, ACT 2600.

The FRDC's mission is to act as a national thought leader, facilitating knowledge creation, collaboration and innovation to shape the future of fishing and aquaculture in Australia for the benefit of the Australian people. To achieve this, the FRDC plans, invests in and manages research and development for fishing and aquaculture, and the wider community, and ensures that the resulting knowledge and innovation is adopted for impact. The FRDC also undertakes monitoring of key indicators of change across fishing and aquaculture. This helps in the evaluation of impact that results from the FRDC's investments. Information collected is also of use to decision makers, to understand and respond to emerging issues.

The FRDC's strong relationships with sectors, managers and researchers are fundamental to enable the needs of key stakeholders to be identified and addressed.

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 programs is dependent on Australian Government policy, and on continuing funding from the Australian Government for the FRDC's administration and programs.

### The basis of preparation

The financial statements are required by:

a) 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), and
- b) Australian Accounting Standards and Interpretations including simplified disclosures for Tier 2 Entities under AASB 1060 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.

#### **OVERVIEW**

#### **New accounting standards**

Adoption of New Australian Accounting Standard Requirements. Two amending standards (AASB 2021-2 and AASB 2021-6) were adopted earlier than the application date as stated in the standard. This amending standards have been adopted for the 2022–23 reporting period.

The new standards, revised standards, interpretations and amending standards that were issued prior to the sign-off date and are applicable to the current reporting period, did not have a material effect on the FRDC's financial statements.

Standard/Interpretation	Nature of change in accounting policy, transitional provisions, and adjustment to financial statements
AASB 2021-2 Amendments to Australian Accounting Standards — Disclosure of Accounting Policies and Definition of Accounting Estimates (AASB 2021-2) and	AASB 2021-2 amends AASB 7, AASB 101, AASB 108, AASB 134 and AASB Practice Statement 2. The amending standard requires the disclosure of material, rather than significant, accounting policies, and clarifies what is considered a change
AASB 2021-6 Amendments to Australian Accounting Standards — Disclosure of Accounting Policies: Tier 2 and Other Australian Accounting Standards (AASB 2021-6)	in accounting policy compared to a change in accounting estimate.  AASB 2021-6 amends the Tier 2 reporting requirements set out in AASB 1049, AASB 1054 and AASB 1060 to reflect the changes made by AASB 2021-2.
	The details of the changes in accounting policies and adjustments are disclosed below and in the relevant notes to the financial statements. This amending standard is not expected to have a material impact on the FRDC's financial statements for the current reporting period or future reporting periods.

#### **Taxation**

The FRDC is exempt from all forms of taxation except Fringe Benefits Tax (FBT) and the Goods and Services Tax (GST).

### **Events after the reporting period**

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

Comparative figures have been adjusted so they conform with changes in the presentation of these financial statements at Note 3.4A Transactions with director-related entities.



#### FRDC BUDGETARY EXPLANATION OF MAJOR VARIANCES

The following information provides a comparison of the original budget as presented in the 2022–23 Portfolio Budget Statements (PBS) to the 2022–23 final outcome as presented in accordance with Australian Accounting Standards — simplified disclosures for Tier 2 Entities under AASB 1060. The Budget is not audited. Explanations of major variances are provided below.

#### **Actual result for 2022-23**

#### **Statement of Comprehensive Income**

Employee benefits were higher due to the implementation of the new workforce plan and new staff appointments.

Supplier expenses were higher than budget largely due to increased training and development costs.

Research and development contractual commitments originally forecast can vary due to the timing of completion of project deliverables.

In 2022–23 project expenses were lower than budget, largely driven by the timing of achieved project deliverables.

Interest received was higher than forecast due to increased interest investment rates.

Contributions as presented are lower than budget, as some contributions that were received for research and development activities during the year are currently disclosed in Note 2.3B project payables due to the nature of the funding arrangements, until the performance obligations have been met.

Other revenue originally forecast allowed for additional project contributions, which were lower than budget.

Revenue from the Australian Government was higher than forecast and amounts are driven by the final 2022–23 Australian Gross Value Production (AGVP) Determination from the Department of Agriculture, Fisheries and Forestry (DAFF).

The original PBS budget has been reclassified under AASB 1055 *Budgetary Reporting* (6 and 12) to represent the actual result for the following line items:

- Contributions were increased \$1.5 million to include the industry levy contributions for the Australian Fisheries Management Authority R&D levies, and the Australian Prawn Farmers Association levies,
- Revenue from Australian Government has been reduced by \$1.5 million to remove the industry levy contributions for the Australian Fisheries Management Authority R&D levies, and the Australian Prawn Farmers Association prawn levies.

The changes in the asset revaluation reserves was higher due to the annual revaluation of fixed assets adjusting to a new lease term.

## FRDC BUDGETARY EXPLANATION OF MAJOR VARIANCES

#### **Statement of Financial Position**

Cash and cash equivalents were higher, mainly driven by the timing of Australian Government Revenue payments and contributions for research and development received.

Trade and other receivables may vary due to the timing of the Department of Agriculture, Fisheries and Forestry AGVP Determination, which can result in increases to aged debtors at financial year end. The increase for 2022–23 is largely due to revenue from Australian Government final AGVP and contributions invoiced for research and development activities.

Building and interest bearing liabilities increased as a result of the new lease term for the Deakin Office ACT, commencing 1 August 2023.

Intangibles varied due to the costs and extent of works were lower than forecast.

Project payables were higher than budget and include revenue received for funding agreements for research and development activities and programs. This funding is initially recognised as a liability until such time the performance obligations are satisfactorily achieved, and the liability reduces over time.

Employee provisions were higher than budget due to higher employee leave balances than forecast, new employees appointed, and changes in leave provision parameters.

#### **Statement of Cash Flows**

The variance between actual and forecast cash and cash equivalents for the period is explained in the Statement of Comprehensive Income and Statement of Financial Position.





#### **Note 1.1: Expenses**

#### Note 1.1A: Employee benefits

	• • • • • • • • • • • • • • • • • • • •	
	2023	2022
	\$	\$
Wages and salaries	3,401,024	2,857,122
Superannuation		
Defined contribution plans	282,924	244,585
Defined benefit plans	342,885	323,319
Leave and other entitlements	429,909	307,979
Total employee benefits	4,456,742	3,733,005

#### **ACCOUNTING POLICY**

Accounting policies for employee related expenses are contained in the People and relationships section at Note 3.1A.

#### **Note 1.1B: Suppliers**

	2023	2022
	\$	\$
Goods and services supplied or rendered		
Asset purchases less than \$5,000	52,175	70,258
Audit fees (paid)	45,000	40,000
External service providers	199,466	117,428
Insurance	33,647	30,220
Information technology	397,503	397,363
Legal	25,495	33,903
Office supplies	17,425	17,032
Postage and couriers	2,205	3,532
Property	27,185	24,581
Recruitment/director selection costs	-	25,843
Telecommunications	33,604	32,710
Training	98,760	72,680
Travel	180,955	91,770
Other	19,899	12,718
Total goods and services supplied or rendered	1,133,319	970,038
Other suppliers		
Workers compensation expenses	10,881	9,669
Short-term leases <sup>1</sup>	-	4,920
Total other suppliers	10,881	14,589
Total suppliers	1,144,200	984,627

<sup>1</sup> The FRDC has no short-term lease commitments as at 30 June 2023.
The above lease disclosures should be read in conjunction with the accompanying Notes 2.2A and 2.4A.

#### **ACCOUNTING POLICY**

#### Short-term leases and leases of low-value assets

The FRDC has elected not to recognise right-of-use assets and lease liabilities for short-term leases of assets that have a lease term of 12 months or less and leases of low-value assets (less than \$10,000 per asset). The entity recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

#### Note 1.1C: Research and development

	2023	2022
	\$	\$
Projects		
Australian Government entities (related parties)	3,131,312	1,411,875
State and territory governments	6,169,895	5,366,600
Universities and educational bodies	9,820,708	11,400,476
Cooperative research centres	502,062	1,264,241
Research and development corporations	594,500	375,000
Industry (commercial, recreational and Indigenous)	6,621,975	6,118,494
Overseas research entities	12,840	_
Private providers	5,022,282	3,319,945
Stakeholder engagement and R&D activities <sup>1</sup>	1,121,849	1,449,900
Total research and development	32,997,423	30,706,530

<sup>1</sup> Stakeholder engagement and R&D activities include the dissemination of research outputs, extension activities, development and R&D support.

#### **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 to the FRDC's satisfaction, an invoice issued consistent with the contractual requirements and the invoice approved by the FRDC delegate.

#### **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.

	2023	2022
	\$	\$
Project commitments are payable as follows:		
Within 1 year	42,500,133	39,312,075
More than 1 year	24,235,513	25,342,796
More than 5 years	473,000	385,000
Total project commitments	67,208,645	65,039,870

Note: Project commitments are  $\ensuremath{\mathsf{GST}}$  inclusive.

#### Note 1.1D: Finance costs

	2023	2022
	\$	\$
Finance leases	12,637	8,041
Total finance costs	12,637	8,041

The above lease disclosures should be read in conjunction with the accompanying Notes 2.2A and 2.4A.

#### Note 1.1E: Write down and impairment of assets

	2023	2022
	\$	\$
Write down of intangible assets	_	51,626
Total write down and impairment of assets	-	51,626

## Note 1.2: Own-source income and revenue from the Australian Government

#### Own-source revenue

#### Note 1.2A: Revenue from contracts with customers

	2023	2022
	\$	\$
Australian Government entities (related parties)	762,113	885,777
Total revenue from contracts with customers	762,113	885,777

#### **ACCOUNTING POLICY**

Revenue from contracts with customers is recognised when control has been transferred to the buyer. The FRDC determines a contract is in scope of AASB 15 when the performance obligations are required by an enforceable contract and the performance obligations within the enforceable contract are sufficiently specific to enable the FRDC to determine when they have been satisfied. The FRDC determines there to be an enforceable contract when the agreement creates enforceable rights and obligations. Performance obligations are sufficiently specific where the promises within the contract are specific to the nature, type, value and quantity of the services to be provided and the period over which the services must be transferred.

The FRDC receives revenue from the Australian Government under which it manages a suite of research activities. These activities are listed at Note 2.3B. FRDC has specific funding agreements with the Australian Government that include enforceable rights and performance obligations. The FRDC initially recognises the funding received as a liability to recognise the contract liability. Once the performance obligations have been satisfied as per the funding agreement deliverables over time, it is then recognised as revenue.

The transaction price is the total amount of consideration to which the FRDC expects to be entitled in exchange for transferring promised goods or services to a customer. The consideration promised in a contract with a customer may include fixed amounts, variable amounts, or both. All consideration promised in contracts with customers is included in the transaction price.

Receivables for services, 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

	2023	2022
	\$	\$
Deposits	966,953	56,172
Total interest	966,953	56,172

#### **Note 1.2C: Contributions**

	2023	2022
	\$	\$
Australian Prawn Farmers Association	382,544	272,382
Australian Fisheries Management Authority	1,125,326	1,059,033
Australian Capital Territory	-	36,500
New South Wales	546,350	2,430,596
Northern Territory	269,169	252,937
Queensland	862,667	692,500
South Australia	1,035,655	1,628,726
Tasmania	3,640,874	3,184,038
Victoria	378,874	326,334
Western Australia	1,724,494	1,530,109
otal contributions	9,965,953	11,413,155

#### ACCOUNTING POLICY

Contributions are recognised as income when the FRDC recognises an asset in relation to a contribution or a right to receive a contribution, after recognising any other related amounts.



#### Note 1.2D: Other revenue

	2023	2022
	\$	\$
Project funds received	156,561	95,000
Project refunds of prior years expenditure	197,183	59,561
Other	2,329	3,214
Total other revenue	356,073	157,775

#### Note 1.2E: Revenue from the Australian Government

	2023	2022
	\$	\$
Department of Agriculture, Fisheries and Forestry		
Corporate Commonwealth entity payment item of 0.50% of AGVP <sup>1</sup>	16,579,915	16,164,770
Matching of industry contributions <sup>2</sup>	8,108,995	7,872,647
Total revenue from the Australian Government	24,688,910	24,037,417

- 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 and aquaculture 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

Revenues from the Australian Government are recognised when they are entitled to be received by the FRDC.

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 FRDC) is recognised as revenue from Government by the corporate Commonwealth entity unless the funding is in the nature of an equity injection or a loan.



#### **Note 2.1: Financial assets**

#### Note 2.1A: Cash and cash equivalents

	2023	2022
	\$	\$
Cash on hand or on deposit	26,188,476	29,004,985
Total cash and cash equivalents	26,188,476	29,004,985

#### **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 three 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

	2023	2022
	\$	\$
Goods and services receivables		
Goods and services <sup>1</sup>	2,701,276	1,141,057
Total goods and services receivables	2,701,276	1,141,057
Department of Agriculture, Fisheries and Forestry		
Receivables	4,658,838	1,174,341
Total receivables from the Department of Agriculture, Fisheries and Forestry	4,658,838	1,174,341
Other receivables		
GST receivable from the Australian Taxation Office	627,160	587,146
Interest from the Commonwealth Bank	63,176	16,155
Total other receivables	690,336	603,301
Total trade and other receivables	8,050,450	2,918,699
Trade and other receivables are expected to be recovered		
No more than 12 months	8,050,450	2,918,699
Total trade and other receivables	8,050,450	2,918,699

<sup>1</sup> Credit terms for goods and services are within 30 days (2021–22: 30 days).

#### **ACCOUNTING POLICY**

#### Financial assets

Trade receivables, loans and other receivables that are held for the purpose of collecting the contractual cash flows where the cash flows are solely payments of principal and interest, that are not provided at below-market interest rates, are subsequently measured at amortised cost using the effective interest method adjusted for any loss allowance.

#### Note 2.2: Non-financial assets

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

	Buildings	Plant and equipment	Intangibles	Total
	\$	\$	\$	\$
As at 1 July 2022				
Gross book value	1,195,837	90,700	1,036,330	2,322,867
Accumulated depreciation, amortisation and impairment	(505,296)	-	(712,452)	(1,217,748)
Total as at 1 July 2022	690,541	90,700	323,879	1,105,120
Additions				
Purchase or Internally developed	-	5,226	-	5,226
Right-of-use assets	389,113	-	-	389,113
Revaluations recognised in other comprehensive income <sup>1</sup>	-	187,882	-	187,882
Impairments recognised in net cost of services	-	-	-	-
Depreciation and amortisation	-	(85,058)	(98,847)	(183,905)
Depreciation on right-of-use assets	(167,714)	_	-	(167,714)
Remeasurement of right-of-use assets	(4,401)	-	-	(4,401)
Total as at 30 June 2023	907,539	198,750	225,032	1,331,321
Total as at 30 June 2023 represented by				
Gross book value	1,580,550	198,750	1,036,330	2,815,630
Accumulated depreciation, amortisation and impairment	(673,011)	-	(811,298)	(1,484,309)
Total as at 30 June 2023	907,539	198,750	225,032	1,331,321
Carrying amount of right-of-use assets	907,539	-	-	907,539

#### Revaluations of non-financial assets

#### 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).

<sup>1</sup> As at 30 June 2023, Jones Lang LaSalle Public Sector Valuations conducted a revaluation of plant and equipment. A revaluation increment of \$187,882 for 2022–23 (2021–22: increment of \$28,578) was applied to the asset revaluation reserve and included in the equity section of the Statement of Financial Position

#### Lease right-of-use (ROU) assets

Lease ROU assets are capitalised at the commencement date of the lease and comprise of the initial lease liability amount, initial direct costs incurred when entering into the lease less any lease incentives received. These assets are accounted for by Commonwealth lessees as separate asset classes to corresponding assets owned outright, but included in the same column as where the corresponding underlying assets would be presented if they were owned.

Following initial application, an impairment review is undertaken for any ROU lease asset that shows indicators of impairment and an impairment loss is recognised against any ROU lease asset that is impaired. Lease ROU assets continue to be measured at cost after initial recognition in Commonwealth agency, general government sector (GGS) and whole of government financial statements.

#### Revaluations

Following initial recognition at cost, property, plant and equipment (excluding ROU assets) 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:

	2023	2022
Buildings (including ROU assets)	Lease term	Lease term
Leasehold improvements	Lease term	Lease term
Plant and equipment	up to 5 years	up to 5 years

#### **Impairment**

All assets were assessed for impairment at 30 June 2023. 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 FRDC 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 (2021–22: 10 years).

All software assets were assessed for indications of impairment as at 30 June 2023.

#### Note 2.2B: Other non-financial assets

	2023	2022
	\$	\$
Prepayments	21,431	20,417
Total other non-financial assets	21,431	20,417

#### **Note 2.3: Payables**

#### Note 2.3A: Suppliers

	2023	2022
	\$	\$
Trade creditors and accruals	43,806	156,995
Total suppliers	43,806	156,995

Settlement is usually made within 30 days.

#### Note 2.3B: Projects

2023		2022
	\$	\$
Projects		
Australian Government entities	-	110,763
State and territory governments	-	242,000
Universities and educational bodies	238,200	95,700
Industry (commercial, recreational and Indigenous)	29,700	_
Contract liability <sup>1</sup>	7,277,822	3,094,782
Other	88,149	68,623
Total projects	7,633,871	3,611,868

1 The contract liabilities from contracts with customers are associated with funding provided for research and development activities under Funding Agreements with the Department of Agriculture, Fisheries and Forestry, NSW Department of Primary Industries , Australian Maritime Safety Authority, Department of Agriculture and Fisheries QLD and Department Primary Industries SA as detailed below.

#### Department of Agriculture, Fisheries and Forestry

- Developing Australia's Seaweed Farming Refer to DAFF RCTI HAP026788
- Assist with data generation to support Australian Pesticides and Veterinary Medicines Authority (APVMA) application
- Development of on-farm biosecurity plan implementation support programs for the aquaculture industry
- Aquatic Animal Health Training Scheme 2019–2022
- Indigenous Engagement Strategy
- Marine and freshwater finfish / Bacteria / Trimetsulpha 4-IIGB21V and parasites / Chloramine-T — 4-IIBJFYC
- Peracetic Ag Vet 6 4-G1AHKTN
- Tuna Champions Phase 2
- Finfish Parasites Toltrazuril 4-GWT37U6

The FRDC recognised a contract liability in 2022–23 totalling: \$3,085,738

#### NSW Department of Primary Industries

- NSW seafood product development program
- Research project to investigate and develop a framework to establish Aboriginal commercial fishing, aquaculture
- Research and development for Harvest Strategies in NSW
- · Climate Change Vulnerability, Adaptation and Mitigation

The FRDC recognised a contract liability in 2022–23 totalling: \$1,807,404

#### Australian Maritime Safety Authority

Seafood Industry Safety Initiative (SISI) funding support

The FRDC recognised a contract liability in 2022–23 totalling: \$490,000

#### Department of Agriculture and Fisheries QLD

· Queensland aquaculture and Climate Change Vulnerability, Adaptation and Mitigation

The FRDC recognised a contract liability in 2022–23 totalling: \$704,300

#### **Department of Primary Industries SA**

Science Support Initiatives and Snapper Science Program

The FRDC recognised a contract liability in 2022–23 totalling: \$1,190,380

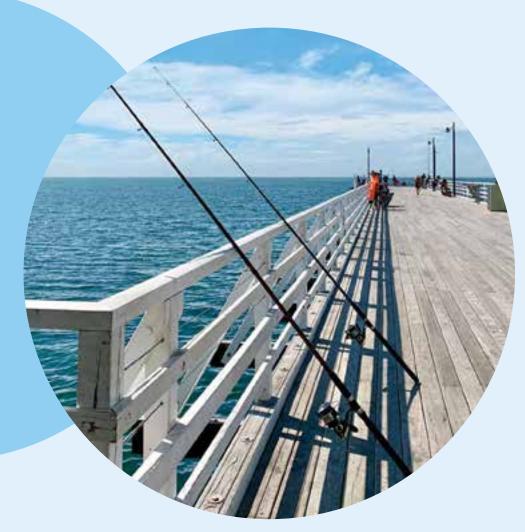
#### **ACCOUNTING POLICY**

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.

As per AASB 15 *Revenue from Contracts with Customers*, contract liabilities are recognised at their nominal amounts, being the amounts at which the liabilities are not yet settled. They relate to payments received for funding provided for research and development activities, of which specific performance obligations were not met at the end of the reporting period.

#### Note 2.3C: Other payables

	2023	2022
	\$	\$
FBT payable	1,454	835
PAYG payable	93,361	67,874
Other	60,485	-
Total other payables	155,300	68,709



#### FINANCIAL POSITION

# Note 2.4: Interest bearing liabilities

#### Note 2.4A: Leases

	_	
	2023	2022
	\$	\$
Lease liabilities <sup>1</sup>	944,175	721,955
Total leases	944,175	721,955
Total cash outflow for leases for the period ended \$175,130 (2021–22: \$166,999).		
	2023	2022
	\$	\$
Maturity analysis — contractual undiscounted cash flows		
Within 1 year	177,523	174,131
Between 1 to 5 years	872,790	562,984
Total leases	1,050,313	737,115

The FRDC in its capacity as lessee has leased office accommodation located at:

- Fisheries Research House, 25 Geils Court, Deakin, Australian Capital Territory, which
  expires 31 July 2023, has been renegotiated for a further three years to 31 July 2026,
  with a 3-year right of renewal to 31 July 2029. Lease payments are paid on a monthly
  basis and subject to a 4 per cent annual increase in accordance with the new lease
  agreement.
- Wine Australia, corner of Botanic and Hackney Roads, Adelaide, South Australia
  was renewed 1 August 2021 and expires on 31 July 2026, with an option to renew
  on 1 August 2026. Lease payments are paid on a monthly basis and subject to a
  CPI annual increase in accordance with the lease agreement.

The above lease disclosures should be read in conjunction with the accompanying Notes 1.1B and 2.4A.

#### ACCOUNTING POLICY

For all new contracts entered into, the FRDC considers whether the contract is, or contains a lease. A lease is defined as 'a contract, or part of a contract, that conveys the right to use an asset (the underlying asset) for a period of time in exchange for consideration'.

Once it has been determined that a contract is, or contains a lease, the lease liability is initially measured at the present value of the lease payments unpaid at the commencement date, discounted using the interest rate implicit in the lease, if that rate is readily determinable, or the FRDC's incremental borrowing rate.

Subsequent to initial measurement, the liability will be reduced for payments made and increased for interest. It is remeasured to reflect any reassessment or modification to the lease. When the lease liability is remeasured, the corresponding adjustment is reflected in the right-of-use asset or profit and loss depending on the nature of the reassessment or modification.

# Note 3.1: Employee provisions

Note 3.1A: Employee provisions

	2023	2022
	\$	\$
Leave	1,534,158	1,174,588
Total employee provisions	1,534,158	1,174,588

#### **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.

#### 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 FRDC'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 liability for long service leave has been determined by reference to the requirements of the short-hand method. 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 FRDC 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 senior general managers. Key management personnel remuneration is reported in the table below:

	2023	2022
	\$	\$
Short-term employee benefits	1,692,652	1,536,697
Post-employment benefits	258,338	241,720
Other long-term employee benefits	53,858	42,902
Total key management personnel remuneration expenses <sup>1</sup>	2,004,847	1,821,319

- The total number of key management personnel that are included in the above table is 14 (2021–22: 19). They are made up of:
  - one non-executive director (Chair)seven non-executive directors

  - · one Managing Director
  - · five senior general managers.

# Note 3.3: Annual total remuneration ranges (including superannuation) paid to key management personnel

	2023	2022
\$0 to \$220,000	8	14
\$220,001 to \$245,000	5	4
\$370,001 to \$395,000	0	1
\$395,001 to \$420,000	1	0
Total number of key management personnel	14	19



# 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, senior general managers and other Australian Government entities.

The non-executive directors and the Managing Director of the FRDC during the year were:

Mr John Williams	Chair
	(Chair Remuneration Committee)
Dr Christopher Calogeras	Director (Appointed 1 September 2021)
	(Deputy Chair — term commenced 1 April 2023)
Professor Colin D. Buxton	Director (Re-appointed 1 September 2021)
	(Deputy Chair — term ended 31 March 2023)
Dr Saranne Cooke	Director (Re-appointed 1 September 2021)
	(Chair Finance and Audit Committee)
Dr Patrick Hone	Managing Director
Mrs Suzanne Hullick	Director (Appointed 1 September 2021)
	(Member Finance and Audit Committee — term ended 28 February 2023)
	(Member Remuneration Committee — term commenced 28 February 2023)
Mr Boris Musa	Director (Appointed 1 September 2021)
	(Member Finance and Audit Committee)
Mr Alex Ogg	Director (Appointed 1 September 2021)
	(Member Remuneration Committee — term ended 28 February 2023)
	(Member Finance and Audit Committee — term commenced 28 February 2023)
Dr Lyndal Thorburn	Director (Appointed 1 September 2021)
	(Member Remuneration Committee)



#### Note 3.4A: Transactions with director-related entities

The FRDC's practice is to disclose all transactions with an entity with whom a director or senior general managers has an association. This means that where directors or senior general managers have disclosed a material personal interest, all the transactions with that entity will be disclosed. 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 below 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. These transactions have not been separately disclosed in this note.

The directors disclosed material personal interests during the directors' related period.

Director	Organisation and position held	Nature of interest
Professor C. D. Buxton	Institute for Marine and Antarctic Studies University of Tasmania* Adjunct Professor 1 July 2022 to current	Research projects or work undertaken by the organisation
	National Fishing Advisory Council Chair 1 July 2022 to June 2023	Research projects or work undertaken by the organisation
	Marine Farming Planning Review Panel  Member  1 July 2022 to June 2023	Research projects or work undertaken by the organisation
Dr C. Calogeras	C-AID Consultants Director 1 July 2022 to current	Research projects or work undertaken by the organisation
	Atlantis Fisheries Consulting Group Associate Northern Fisheries and Lead Indigenous Services Division 1 July 2022 to current	Research projects or work undertaken by the organisation
	Seafood Industry Australia  Member (non-voting)  1 July 2022 to current	Research projects or work undertaken by the organisation
Dr S. Cooke	Charles Sturt University Deputy Chancellor 1 July 2022 to current	Research projects or work undertaken by the organisation

Director	Organisation and position held	Nature of interest
Dr P. Hone	CEO's Committee for the Council of Rural Research and Development Corporations  Member  1 July 2022 to current	Research projects or work undertaken by the organisation
	National Marine Science Committee  Chair  1 July 2022 to current	Research projects or work undertaken by the organisation
	Women In Seafood Australasia Ltd Member 1 July 2022 to current	Research projects or work undertaken by the organisation
Mrs S. Hullick	Women In Seafood Australasia Ltd Turning the Tide Steering Committee Member 1 July 2022 to current	Research projects or work undertaken by the organisation
Mr B. Musa	Australian Barramundi Farmers Association (ABFA) Non-executive Director and Treasurer FRDC Project Number 2020-127 "ABFA IPA: RD&E project investment and management via ABFA strategic plan 2021–2025" 1 July 2022 to current	Research projects or work undertaken by the organisation
Mr A. Ogg	Seafood Industry Australia Member 1 July 2022 to current	Research projects or work undertaken by the organisation
	Australian Ocean Energy Group  Member  1 September 2021 to current	Research projects or work undertaken by the organisation
Dr L. Thorburn	Charles Sturt University Graduate member of the University Council 1 July 2022 to 30 June 2023	Research projects or work undertaken by the organisation
Mr J. Williams	Chair's Committee for the Council of Rural Research and Development Corporations  Member  1 July 2022 to current	Research projects or work undertaken by the organisation

The senior general managers disclosed material personal interests during the senior general managers related period.

Senior General Managers	Organisation and position held	Nature of interest
Ms C. Cole	Women In Seafood Australasia Ltd	Research projects or work
	Member	undertaken by the organisation
	1 July 2022 to current	
Ms K. Dunstan	Women In Seafood Australasia Ltd	Research projects or work
	Member	undertaken by the organisation
	1 July 2022 to current	

The following transactions occurred during the directors' and senior general managers related period with these entities.

	2023		2022	
Transactions with related parties	Expenditure	Income	Expenditure	Income
School of Humanities and Social Sciences, Faculty of Arts				
and Education — Deakin University	324,176	-	-	-
Southern Rock Lobster Ltd	-	-	82,500	_
Institute for Marine and Antarctic Studies — University of Tasmania	5,078,115	51,500	5,850,601	7,439
C-AID Consultants	132,105	-	228,043	_
Council of Rural Research and Development Corporations	13,544	524	7,773	-
National Marine Science Committee	10,000	22,906	5,000	_
Australian Barramundi Farmers Association	117,664	-	-	110,000
Seafood Industry Australia	715,147	-	155,100	-
Charles Sturt University	-	2,116	-	-
Atlantis Fisheries Consulting Group	14,300	-	-	-
Women In Seafood Australasia	23,100	-	-	-

All transactions were conducted under normal terms and conditions and include GST.

# Note 3.4B: Other related party disclosures

#### DEPARTMENT OF AGRICULTURE, FISHERIES AND FORESTRY

- Developing Australia's Seaweed Farming Refer to DAFF RCTI HAP026788
- Assist with data generation to support Australian Pesticides and Veterinary Medicines Authority (APVMA) application
- Development of on-farm biosecurity plan implementation support programs for the aquaculture industry
- Aquatic Animal Health Training Scheme 2019–2022
- Indigenous Engagement Strategy
- \* Marine and freshwater finfish / Bacteria / Trimetsulpha 4-IIGB21V and parasites / Chloramine-T 4-IIBJFYC
- Peracetic Ag Vet 6 4-G1AHKTN
- Tuna Champions Phase 2
- Finfish Parasites Toltrazuril 4-GWT37U6

The FRDC has received new funding from the Department of Agriculture, Fisheries and Forestry in 2022–23 totalling: \$2,823,700 (2021–22: \$1,050,000).

#### AGRICULTURAL INNOVATION AUSTRALIA

The FRDC is one of 15 members of Agricultural Innovation Australia (AIA), a company limited by guarantee. The constitution of AIA prohibits the distribution of any assets and income to its members. FRDC has no ownership or controlling interest in AIA that would require recognition or disclosure within FRDC's Financial Statements. In 2022–23, FRDC paid membership fees of \$65,000 to AIA (2021–22 \$65,000).

#### FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENT

#### **Note 4.1: Financial instruments**

#### Note 4.1A: Categories of financial instruments

	2023	2022
	\$	\$
Financial assets at amortised cost		
Cash and cash equivalents	26,188,476	29,004,985
Trade and other receivables	2,764,452	1,157,212
Total financial assets at amortised cost	28,952,928	30,162,197
Total financial assets	28,952,928	30,162,197
Financial liabilities		
Financial liabilities measured at amortised cost		
Suppliers and other payables	43,806	156,995
Projects	7,633,871	3,611,868
Total financial liabilities measured at amortised cost	7,677,677	3,768,863
Total financial liabilities	7,677,677	3,768,863

#### **ACCOUNTING POLICY**

#### Financial assets

As per AASB 9 *Financial Instruments*, the FRDC classifies its financial assets in the following category:

• financial assets measured at amortised cost.

The classification depends on both the FRDC's business model for managing the financial assets and contractual cash flow characteristics at the time of initial recognition. Financial assets are recognised when the FRDC becomes a party to the contract and, as a consequence, has a legal right to receive or a legal obligation to pay cash and derecognised when the contractual rights to the cash flows from the financial asset expire or are transferred upon trade date.

#### Financial assets at amortised cost

Financial assets included in this category need to meet two criteria:

- 1. the financial asset is held in order to collect the contractual cash flows, and
- 2. the cash flows are solely payments of principal and interest (SPPI) on the principal outstanding amount. Amortised cost is determined using the effective interest method.

#### Effective interest method

Income is recognised on an effective interest rate basis for financial assets that are recognised at amortised cost.

#### FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENT

#### Impairment of financial assets

Financial assets are assessed for impairment at the end of each reporting period based on expected credit losses, using the general approach which measures the loss allowance based on an amount equal to lifetime expected credit losses where risk has significantly increased, or an amount equal to 12-month expected credit losses if risk has not increased.

The simplified approach for trade, contract and lease receivables is used. This approach always measures the loss allowance as the amount equal to the lifetime expected credit losses.

A write-off constitutes a derecognition event where the write-off directly reduces the gross carrying amount of the financial asset.

#### 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'.

#### Financial liabilities at amortised cost

Financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs. These liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective interest basis.

Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

#### Note 4.1B: Net gains or losses on financial assets

	2023	2022
•	\$	\$
Financial assets at amortised cost		
Interest revenue	966,953	56,172
Net gains on financial assets at amortised cost	966,953	56,172

There are no gains or losses on financial liabilities.

#### FINANCIAL INSTRUMENTS AND FAIR VALUE MEASUREMENT

## Note 4.2: Fair value measurement

#### **ACCOUNTING POLICY**

FRDC engaged Jones Lang LaSalle Public Sector Valuations (JLL) to conduct an asset revaluation of all plant and equipment assets as at 30 June 2023. 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 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

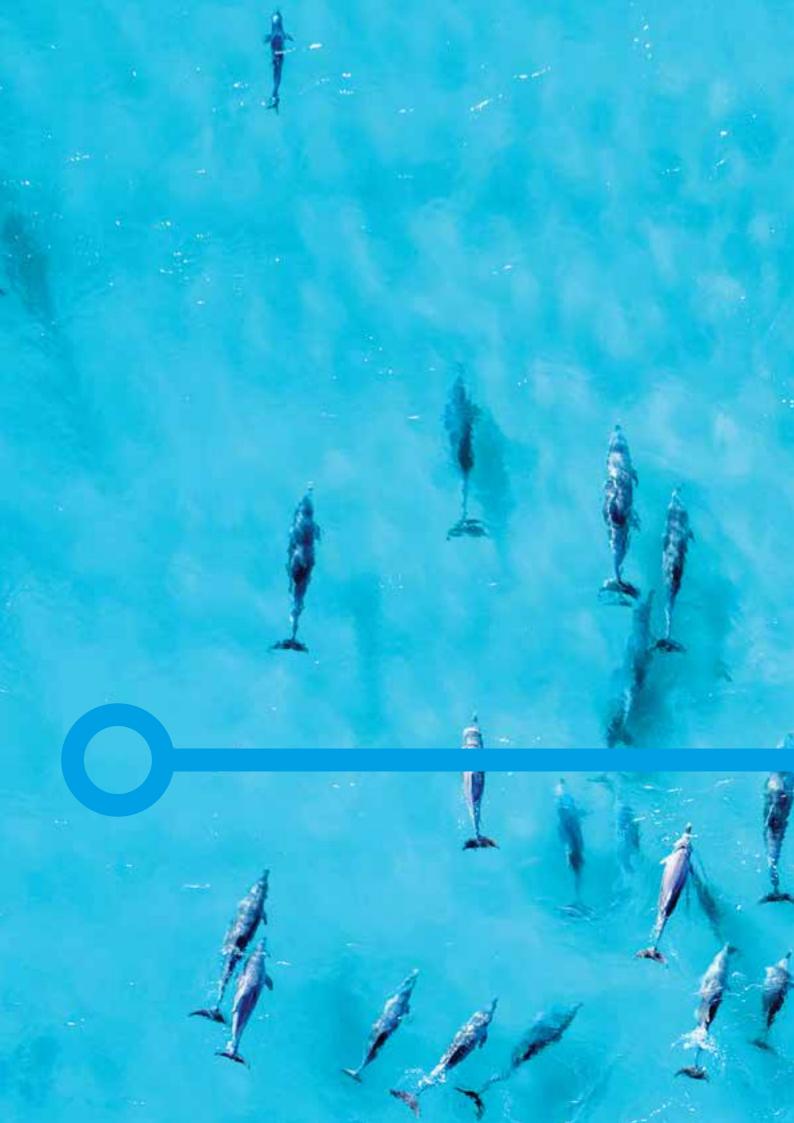
	Fair value measurements at the end of the reporting period	
	2023	2022
	\$	\$
Non-financial assets		
Leasehold improvements	189,000	82,650
Plant and equipment	9,750	8,050

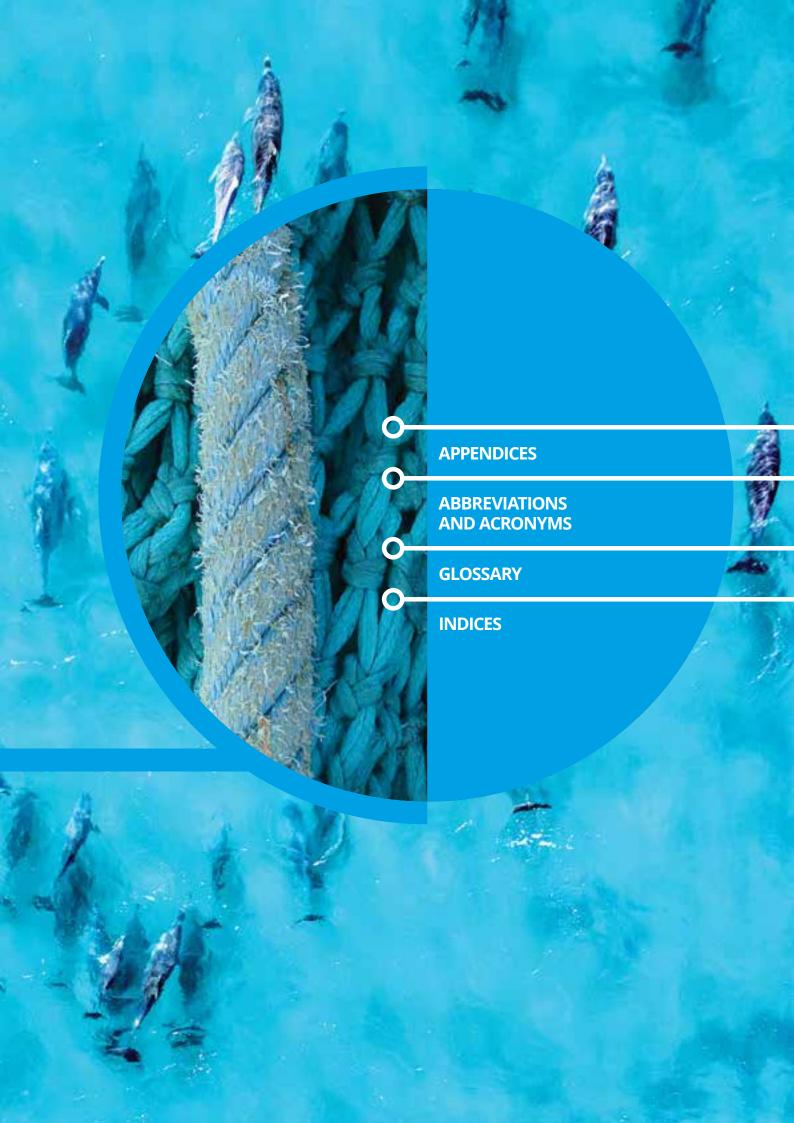
# **OTHER INFORMATION**

# Note 5.1: Current/non-current distinction for assets and liabilities

# Note 5.1A: Current/non-current distinction for assets and liabilities

	2023	2022
	\$	\$
Assets expected to be recovered in:		
No more than 12 months		
Cash and cash equivalents	26,188,476	29,004,985
Trade and other receivables	8,050,450	2,918,699
Other non-financial assets	21,431	20,417
Total no more than 12 months	34,260,357	31,944,101
More than 12 months		
Buildings	907,539	690,541
Plant and equipment	198,750	90,700
Intangibles	225,032	323,878
Total more than 12 months	1,331,321	1,105,119
Total assets	35,591,678	33,049,220
Liabilities expected to be settled in:		
No more than 12 months		
Suppliers	43,806	156,995
Projects	7,633,871	3,611,868
Other payables	155,300	68,709
Leases	164,886	167,654
Employee provisions	416,998	389,849
Total no more than 12 months	8,414,861	4,395,075
More than 12 months		
Leases	779,289	554,301
Employee provisions	1,117,160	784,739
Total more than 12 months	1,896,449	1,339,040
Total liabilities	10,311,310	5,734,115







# Appendix A: FRDC's principal revenue base

As stipulated in the PIRD Act, and shown in Figure 5, 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 R&D providers and other sources such as government, both as cash and in-kind contributions that are invested in projects nominated as priority areas.
- 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 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 viii.

Details of all FRDC revenue (including investments, royalties and sales of products, information and services) are in the financial statements starting on page 109.

#### Figure 5: Proportions of FRDC's principal revenue base

A: PUBLIC-GOOD FUNDING BY AUSTRALIAN GOVERNMENT
Australian Government pays 0.50 per cent of AGVP of the commercial sector

B: CONTRIBUTION BY THE
COMMERCIAL SECTOR
Commercial fishers and aquaculturists contribute
at least 0.25 per cent of AGVP

C: AUSTRALIAN GOVERNMENT MATCHING OF CONTRIBUTION BY COMMERCIAL SECTOR Same amount as B, up to a maximum of 0.25 per cent of AGVP

#### D: ADDITIONAL INVESTMENTS

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

#### E: MARKETING INVESTMENT

These funds are invested separately from R&D investments and are to be used for marketing only

# Rationale for FRDC's revenue base

The high component of public good in the operating environment of the fishing industry, has significance for 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 FRDC on the basis that R&D 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 spill over benefits to the wider community.

# Appendix B: FRDC's legislative foundation and ministerial powers

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.

FRDC's objects, deriving from section 3 of the PIRD Act and are incorporated in FRDC's vision and planned outcomes. As reflected in Figure 3 on pages 22-23, FRDC's five R&D 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 R&D planning, implementation and reporting, and to many of the organisations with which it does business. Importantly, the alignment ensures the R&D outputs resulting from FRDC's investments fully address the legislative objects.

# **Enabling legislation**

FRDC's enabling legislation is the *Primary Industries Research and Development Act* 1989 (PIRD Act).

FRDC's Board is responsible to the Minister for Agriculture, Fisheries and Forestry and, through him, to the Parliament of Australia.

The objects, functions and statutory powers of R&D corporations are specified in the PIRD Act, the text of which is available via FRDC website.

In the interests of clarity, the following statements of FRDC's objects, functions and statutory powers mirror the wording of the PIRD Act but are specific to FRDC and its business environment. Similarly, the statements of FRDC's functions and statutory powers have been made shorter and simpler than the wording of the Act.

#### **Objects**

The objects of 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:
  - 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 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 R&D 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 R&D activities that are consistent with the annual operational plan,
- monitor and evaluate fisheries R&D activities that are funded and report on them to the Parliament; the Minister for Agriculture, Fisheries and Forestry statutory levy payers and FRDC representative organisations,
- facilitate the dissemination, adoption and commercialisation of the results of fisheries R&D.

#### **Statutory powers**

Subject to the PIRD Act, 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 R&D activities by other persons,
- entering into agreements for the carrying out of R&D activities by FRDC and other persons,
- making applications, including joint applications for patents,
- dealing with patents vested in 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, Fisheries and Forestry. They relate to:

- directing FRDC in writing as to the performance of its functions and the exercise of its powers,
- · approving the R&D plan and the annual operational plan,
- requesting and approving variation to the R&D 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 Managing Director) in relation to matters not provided for by the PIRD Act,
- · appointing the Chairperson,
- appointing directors, other than the Chairperson and Managing Director, from persons nominated by a selection committee,
- declaring one or more specified organisations to be representative organisations in relation to FRDC,
- determining the gross value of production of the fishing industry for the purposes of establishing the maximum payments by the Australian Government to FRDC,
- establishing written guidelines covering the payment by FRDC to an eligible industry body, or member of an eligible industry body, for expenses reasonably incurred in connection with consultation with FRDC,
- causing, at least once in each financial year, a coordination meeting to be held of all R&D corporations,
- · granting leave of absence to the Chairperson, and
- terminating the appointment of the Chairperson or a director other than the Managing Director.

Additional powers under the PGPA Act relating to corporate governance and reporting are available from the Minister for Agriculture, Fisheries and Forestry.

# **Appendix C: Freedom of information statement**

Australian Government agencies subject to the *Freedom of Information Act 1982* (FOI Act) are required to publish information for 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 FRDC's agency plan is available from the FRDC website — www.frdc.com.au/About-us/Freedom-of-information.

#### Role, structure and functions

FRDC's role is described on page 5 of this annual report; its structure and functions and legislation under which it is established are described in Appendix A.

#### Documents available for inspection

R&D Plan (FRDC's current 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*
R&D funding applications	Files
Annual report	File, publications and FRDC website*
FRDC News	File, publications, iPad and FRDC website*
Administration	Files, unpublished documents
Mailing lists	Database

<sup>\*</sup> 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 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 — 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)
Delivery	Cost of postage or delivery
Photocopying	10 cents a page
Supervised inspection	\$6.25 per half hour
Transcript	\$4.40 per page
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 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 D: RD&E investments completed in 2022–23

Projects completed during 2022–23.

Project number	Title	R&D Plan Outcomes
2021-076	Abalone Viral Ganglioneuritis R&D Needs Workshop.	1, 3
2019-176	National Carp Control Plan: Determination of the susceptibility of Silver Perch, Murray Cod and Rainbow Trout to infection with CyHV-3.	5
2020-130	Workshop to examine the viability of establishing a peak seafood industry body for South Australia.	5
2018-075	Aquaculture-Community Futures: North West Tasmania.	1, 2, 3, 4, 5
2019-026	Measuring, interpreting and monitoring economic productivity in commercial fisheries.	1
2018-181	The End of an Era: Acknowledging the socio-cultural history and contribution of Australian small-scale fisheries.	5
2019-206	AQUAPLAN Development Workshop.	1, 2, 5
2020-074	Understanding White Spot Syndrome Virus transmission in Moreton Bay — epidemiological modelling of surveillance data.	1, 2, 5
2018-113	Controlled advance of out of season Atlantic Salmon ( <i>Salmo salar</i> ) brood stock spawning through manipulation of environmental cues using recirculating aquaculture systems (RAS) technology (Huon Aquaculture Company).	1, 2
2019-106	Minor use permit for oxytetracycline in non-salmonid finfish	2
2017-014	Informing the structural reform of South Australia's Marine Scalefish Fishery.	1, 2, 4, 5
2019-156	The use of dietary intervention with Ulva to improve survival associated with the incidence of summer mortality on farmed abalone.	1, 2
2020-058	Communications Program — increasing community understanding, trust and acceptance for the Western Rock Lobster industry.	5
2018-034	Effects of climate change and habitat degradation on Coral Trout.	2, 4
2020-120	Assessing the effectiveness of Indigenous Reference Group R&D projects to deliver change.	1, 2, 3, 4, 5
2019-147	Risk factors and management strategies associated with summer mortality in Australian abalone.	1, 2
2018-198	In depth sequencing the genome of the Silverlip Pearl Oyster ( <i>Pinctada maxima</i> ).	2
2016-232	Pearl Consortium IPA: Understanding stress and its impact on pearl quality in the Silverlip Pearl Oyster ( <i>Pinctada maxima</i> ) using transcriptomic, proteomic and metabolomic tools.	1, 2
2019-003	Harvest and slaughter methods for farmed Barramundi to minimise fish stress and achieve premium market quality and improved fish welfare outcomes.	1, 2
2018-042	Improving outcomes of fisher Interactions with sharks, rays and chimaeras.	1
2018-128	Seafood Trade Advisory Group — developing, implementing and communicating the Australian seafood industry trade agenda 2019–21.	1, 3
2017-119	Developing novel remote camera approaches to assess and monitor the population status of Australian sea lions.	2
2017-206	Assessment of the Inflamark method as a sensitive and cost-effective measure of oxidative stress in cultured fish.	2
2021-038	Shark depredation in Australian fisheries: Understanding the scope of the issue and identify potential mitigation options.	2, 3, 4, 5
2020-096	National Pacific Oyster Breeding Program: Completing Pacific Oyster Mortality Syndrome (POMS) resistance in spat and transition to selection for traditional commercial traits.	1



Project number	Title	R&D Plan Outcomes
2019-011	Optimising compliance outcomes in recreational fisheries.	2, 3,
2019-010	Revisiting biological parameters and information used in the assessment of Commonwealth fisheries: A reality check and work plan for future proofing.	1
2017-004	Investigate oceanographic and environmental factors impacting on the Eastern Tuna and Billfish Fishery.	1, 2, 3, 4, 5
2021-128	Australian Seafood Industries — research to guide business improvement.	1
2015-239	Oysters Australia IPA: Pacific Oyster Mortality Syndrome — resistant oyster breeding for a sustainable Pacific Oyster industry in Australia.	1, 2
2019-076	Strategic management of the Australian Prawn Farmers Association RD&E portfolio.	1, 2, 3, 4, 5
2016-808	Future Oysters CRC-P: Income from Australian Seafood Industries; FRDC Oysters Australia, South Australian Department of Primary Industries and Regions (PIRSA) contributions; and uncommitted extension funds management project.	2
2021-019	Future proofing the northern Australia aquaculture industry need for skilled staff to 2050.	1, 2, 3, 5
2018-174	Women in Seafood Australasia — understanding, supporting and promoting effective participation by women within the Australian seafood industry.	3
2018-117	Western Australian based Institute for Spiny Lobster Research Business Plan.	1, 2
2018-074	Assessing the spawning characteristics and reproductive biology of Pearl Perch ( <i>Glaucosoma scapulare</i> ) in Queensland.	2, 4
2019-067	Investigate changes in acceptance of wild-caught Barramundi in the food service and hospitality market sectors.	1
2018-086	Assessment of the capability of Shrimp MultiPath White Spot virus tests:  A multiplexed screening platform for pathogen diagnostics in prawns.	1, 2
2022-110	2023 evoke <sup>AG</sup> bursary.	5
2020-049	Monitoring and mitigating interactions between small pelagic fisheries and dolphins: Literature review and analysis of fishery data.	2, 5
2020-078	Circular Economy Opportunities for Fisheries and Aquaculture in Australia.	2, 3, 5
2022-098	evoke <sup>AG</sup> 2023 attendance.	2
2021-129	Understanding of spatial extent, infection window and potential alternative hosts for the oyster disease QX in Port Stephens.	1
2018-098	Vaccination for emergency and long-term control of nodavirus in Australian marine aquaculture.	1, 2
2022-087	QX Seminar and RD&E Prioritisation Workshop.	1, 2
2022-054	Bursary to attend the 2022 Microplastics and Seafood: Human Health Symposium in the United Kingdom — Bronwyn Gillanders.	1, 3, 5
2022-055	Bursary to attend the 2022 Microplastics and Seafood: Human Health Symposium in the United Kingdom — Nina Wootton.	1, 3, 5
2022-056	Bursary to attend the 2022 Microplastics and Seafood: Human Health Symposium in the United Kingdom — Erik Poole.	1, 3, 5
2017-186	Oil and Gas: National coordination — seismic and other issues.	1, 2
2020-020	Determining the spatial distribution and abundance indices for Moreton Bay Bugs, Thenus parindicus and Thenus australiensis in Queensland to improve stock assessment and management.	2, 4
2019-022	Digital literacy for Queensland commercial fishers stage 1 — improving business efficiencies.	3, 4, 5
2018-050	Where did the Snapper go? Determining factors influencing the recovery of Snapper stocks on the west coast of Australia.	2, 4

Project number	Title	R&D Plan Outcomes
2017-224	Southern Rock Lobster Clean Green program, revision, digitisation and extension across the supply chain.	1, 2, 5
2017-086	Improved risk management of paralytic shellfish toxins in Southern Rock Lobster.	2, 3, 4
2018-177	If you don't know where you are going, you'll end up someplace else — future proofing the Australian Mud Crab industry through improved strategic direction.	1, 2, 5
2019-215	Seventh National Abalone Convention 2019.	1, 2, 3, 5
2021-099	National Seafood Industry Leadership Project 2022.	3
2018-180	Benchmarking for health and productivity in aquaculture.	2
2020-099	Measuring consumer perceptions within Australian prawn category and wild prawn strategy formulation.	1
2021-020	Stable isotopes: A rapid method to determine lobster diet and trace lobster origin?	1, 5
2016-134	Evaluation of R&D projects completed in years ending June 2016 to June 2020.	1
2022-111	External review of the FRDC's Indigenous fishing and aquaculture coordination program.	1, 4, 5
2022-016	Australian Fisheries and Aquaculture Statistics 2021.	1, 2, 3, 4, 5
2018-020	Cumulative impacts across fisheries in Australia's marine environment.	1, 5
2016-807	Future Oysters CRC-P: Species diversification to provide alternatives for commercial production.	1, 2, 3
2013-030	Extension of Marine Stewardship Council certification for Western Australian fisheries.	5
2020-055	Australian Society for Fish Biology: Scientific networking, early career development, international engagement and 50th year celebrations.	1, 2, 3, 4, 5
2017-215	Storm Bay Biogeochemical Modelling and Information System: Supporting sustainable aquaculture expansion in Tasmania.	1, 2, 3, 4
2016-260	Assess causes and implications of anomalous low lobster catch rates in the shallow water areas near the centre of the Western Rock Lobster fishery.	1
2019-056	Assessing the population biology of Black Jewfish ( <i>Protonibea diacanthus</i> ) in Queensland.	2, 4

#### **ABBREVIATIONS AND ACRONYMS**

AASB Australian Accounting Standards Board
AGVP average gross value of production
AIA Agricultural Innovation Australia

AOP annual operational plan
CEO chief executive officer
COVID-19 Coronavirus disease

CRC cooperative research centre

CRC-P cooperative research centre project

CRC SAAFE Cooperative Research Centre for Solving Antimicrobial Resistance in Agribusiness Food and Environments

CSIRO Commonwealth Scientific and Industrial Research Organisation

DAFF Department of Agriculture, Fisheries and Forestry

DCCEEW Department of Climate Change, Energy, the Environment and Water

EON Extension Officer Network

FBT fringe benefits tax

FOI Act Freedom of Information Act 1982

FRDC Fisheries Research and Development Corporation

GST goods and services tax
GVP gross value of production

ICT information and communications technology

IPA Industry Partnership Agreement

m million

MoU memorandum of understanding NCCP National Carp Control Plan

NSW New South Wales PAYG pay as you go

PBS Portfolio Budget Statements

PGPA Act Public Governance, Performance and Accountability Act 2013

PhD Doctor of Philosophy

PIRD Act Primary Industries Research and Development Act 1989

R&D research and development RAC Research Advisory Committee

RD&E research, development and extension

RDC research and development corporation

SARDI South Australian Research and Development Institute
SDG [United Nations] Sustainable Development Goal

WHS work health and safety

This index shows the page numbers on which 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. FRDC's reporting is, accordingly, appropriate to its legislative basis, functions and size.

Where this annual report has not addressed a compliance subject (either because it is not applicable [n/a] or activity did not occur during the year), the subject entry is followed by a '—' rather than a page number.

Table 14: Primary Industries Research and Development Act 1989 (PIRD Act)

\* FRDC does not invest in marketing.

Section	Title	Comply	Page
Section 10	R&D corporation is a body corporate etc.	Yes	145–146
Section 11	Functions	Yes	145
Section 12	Powers	Yes	146
Section 19	R&D plans	Yes	5, 25–27
Section 20	Approval of R&D plans	Yes	5, 84
Section 21	Variation of R&D plans	n/a	_
Section 24	Consultation	Yes	14, 17–20
Section 25	Annual operational plans	Yes	25–27
Section 27	Compliance with R&D plans and annual operational plans	Yes	5, 24–27, 84
Section 28	Annual report	Yes	throughout
Section 28 (a)	R&D activities coordinated or funded, wholly or partly during the year	Yes	throughout
Section 28 (a)	(ia) Marketing activities coordinated or funded, wholly or partly, during the year	n/a	_
s28 (a)	(ii) Amount spent in relation to R&D and marketing activities *	Yes	vii, ix, 2, 21
s28 (a)	(iib) Particulars of the impact of R&D and marketing activities on industry *	Yes	vii, ix, 2, 21
s28 (a)	(iii) Revisions of the R&D Plan that have been approved by the Minister	n/a	_
s28 (a)	(iv) Agreements entered into under s13 and 14 of the PIRD Act and activities in relation to the agreements entered into during or prior to the period	Yes	89
s28 (a)	(v) Applying for patents for inventions, commercially exploiting patented inventions and granting licences under patented inventions	n/a	_
s28 (a)	(vi) Any companies in which the Corporation has an interest	n/a	_
s28 (a)	(vii) Activities relating to the formation of a company	n/a	_
s28 (a)	(viii) Significant acquisitions and dispositions of real property (land and buildings)	n/a	_
s28 (b)	Assessment of the extent to which operations during the period have achieved its objectives as stated in its R&D plan; and implemented the AOP	Yes	2-4, 7, 30-66
s28 (c)	Assessment of the extent to which RDC has contributed to the attainment of the objects of the PIRD Act	Yes	21

Table 14: Primary Industries Research and Development Act 1989 (PIRD Act) (continued)

Section	Title	Comply	Page
s28 (d)	Sources and expenditure of funds, including commodity, cross- commodity, and regional classifications; and funds derived from transfer under s144	Yes	viii
Section 29	Accountability to representative organisations	Yes	3, 5, 14, 17
Section 33	Expenditure of money of R&D corporations	Yes	109–141
	Spending must be in accordance with funding agreement	Yes	2, 8–15
Section 33A	R&D money must not be spent on marketing	Yes	24, 155
Section 34	Commonwealth to be paid levy expenses from R&D corporation	Yes	x, 90
Section 35	Commonwealth to be reimbursed for refunds of levy	Yes	90
Section 40	Separate accounting records	Yes	109–141
Section 47	Times and places of meetings	Yes	100
Section 53	Minutes	Yes	102, 103
Section 76	Duties	Yes	94
Section 87	Employees	Yes	19, 20, 86
Section 141	Selection committee activity for Board/Chair appointments	n/a	_
Section 143	Minister may give directions	Yes	91

#### Table 15: Public Governance, Performance and Accountability Act 2013 (PGPA Act)

Section	Description	Comply	Page
s39(1) (b)	Annual performance statements	Yes	7
s43(4)	Annual financial statements and the Auditor-General's report	Yes	109–141
s46(3)	Annual report complies with any requirements prescribed by the rules	Yes	iii, 109, 111

## Table 16: Section 17B of the PGPA Act: Contents of annual report

The annual report for a corporate Commonwealth entity for a reporting period must include the following.

PGPA rule reference	Description	Comply	Page
17BB	Report approved and signed by accountable authority including how and when approval was given and that accountable authority is responsible for the preparation and contents of the annual report	Yes	111
17BC	Report complies with guidelines for presenting documents to Parliament	Yes	throughout
17BD	Report has regard to the interests of the Parliament and other users. Information included is relevant, reliable, concise, understandable and balanced	Yes	throughout
17BE (a)	Details of the legislation establishing the body	Yes	145–146
17BE (b)(i)	Summary of the objects and functions of the entity as set out in legislation	Yes	22–23, 145–146
17BE (b)(ii)	The purposes of the entity as included in the entity's corporate plan for the reporting period	Yes	5–6, 145–146
17BE (c)	The names of the persons holding the position of responsible Minister or responsible Ministers during the reporting period, and the titles of those responsible Ministers	Yes	iii, 3, 5–6, 21
17BE (d)	Directions given to the entity by the Minister under an Act or instrument during the reporting period	Yes	91
17BE (e)	Any government policy order that applied in relation to the entity during the reporting period under section 22 of the Act	Yes	91

Table 16: Section 17B of the PGPA Act: Contents of annual report (continued)

PGPA rule reference	Description	Comply	Page
7BE (f)	Particulars of non-compliance with: (a) a direction given to the entity by the Minister under an Act or instrument during the reporting period, or	n/a	_
	(b) a government policy order that applied in relation to the entity during the reporting period under section 22 of the Act		
7BE (g)	Annual performance statements in accordance with paragraph 39(1)(b) of the Act and section 16F of the rule	Yes	3, 7
7BE (h), (i)	A statement of significant issues reported to the Minister under paragraph 19(1)(e) of the Act that relates to non-compliance with finance law and action taken to remedy non-compliance	n/a	_
17BE (j)	Information on the accountable authority, or each member of the accountable authority, of the entity during the reporting period	Yes	111
17BE (k)	Outline of the organisational structure of the entity (including any subsidiaries of the entity)	Yes	85
17BE (ka)	Statistics on the entity's employees on an ongoing and non-ongoing basis, including the following:  (a) statistics on full-time employees,  (b) statistics on part-time employees,  (c) statistics on gender,  (d) statistics on staff location	Yes	86
17BE (I)	Outline of the location (whether or not in Australia) of major activities or facilities of the entity	Yes	167
17BE (m)	Information relating to the main corporate governance practices used by the entity during the reporting period	Yes	84–103
17BE (n), (o)	For transactions with a related Commonwealth entity or related company where the value of the transaction, or if there is more than one transaction, the aggregate of those transactions, is more than \$10,000 (inclusive of GST):  (a) the decision-making process undertaken by the accountable authority to approve the entity paying for a good or service from, or providing a grant to, the related Commonwealth entity or related company, and (b) the value of the transaction, or if there is more than one transaction, the number of transactions and the aggregate of value of the transactions	Yes	89, 90, 145–146
17BE (p)	Any significant activities and changes that affected the operation or structure of the entity during the reporting period	n/a	_
17BE (q)	Particulars of judicial decisions or decisions of administrative tribunals that may have a significant effect on the operations of the entity	Yes	91
17BE (r)	Particulars of any reports on the entity given by:  (a) the Auditor-General (other than a report under section 43 of the Act), or  (b) a Parliamentary Committee, or  (c) the Commonwealth Ombudsman, or  (d) the Office of the Australian Information Commissioner	Yes	106-107
17BE (s)	An explanation of information not obtained from a subsidiary of the entity and the effect of not having the information on the annual report	n/a	_
17BE (t)	Details of any indemnity that applied during the reporting 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	103

Table 16: Section 17B of the PGPA Act: Contents of annual report (continued)

PGPA rule reference	Description	Comply	Page
17BE (taa)	The following information about the audit committee for the entity:  (a) a direct electronic address of the charter determining the functions of the audit committee,  (b) the name of each member of the audit committee,  (c) the qualifications, knowledge, skills or experience of each member of the audit committee,  (d) information about each member's attendance at meetings of the audit committee,  (e) the remuneration of each member of the audit committee	Yes	95-103
17BE (ta)	Information about executive remuneration	Yes	87
17BE (u)	Provide an index identifying where requirements of 17BE are to be found	Yes	159

#### Table 17: Government policy and associated reporting requirements

Section	Comply	Page
Australian Government Cost Recovery Policy	Yes	90
Australian Government Foreign Exchange Risk Management Guidelines	Yes	91
Australian Government priorities  Rural Research Priorities  Strategic Research Priorities	Yes	21
Australian Government Commonwealth Procurement Rules	Yes	90-91
Australian Government Commonwealth Property Management Framework	Yes	91
Australian Government Protective Security Policy Framework (PSPF)	Yes	91
Australian Government's Public Sector Workplace Relations Policy 2020	Yes	91
Comcover Risk Benchmarking Survey	Yes	89
Commonwealth Disability Discrimination Act 1992 (National Disability Strategy 2010–2020)	Yes	88
Commonwealth Fraud Framework 2017	Yes	89, 91
Environment Protection and Biodiversity Conservation Act 1999 (Section 16A)		_
Freedom of Information Act 1982, quarterly and annual lodgements	Yes	91, 147
National Code of Practice for the Construction Industry and the Commonwealth's Implementation Guidelines	n/a	_
OLSC [Office of Legal Services Coordination] Legal Expenditure annual return	Yes	91
Work Health and Safety Act 2011	Yes	92



## abalone, protection of, 60 Abalone Council of Australia, 17 Abalone Industry Reinvestment Fund, Tas, v, 81 Abalone Symposium 2023, NZ (2022-100), 32, 43 Abacus Fisheries, 56 Aboriginal Tasmanians, iv, 4 Aboriginal & Torres Strait Islander people adoption policies (2022-076). 43 in fishery management (2021-098), 43 Narunga in Guuranda/Yorke Peninsula, SA, 44 Yarning, 47 see also Indigenous access to aquatic resources, 45-46 Addison Law Firm, 88 Adelaide, SA, 77 adoption for transformative change, strategy, 23, 54, 57 advanced analytics, strategy, 23, 54-55 advanced manufacturing, strategic research priority, 21, 23 agribusiness, v Agri-Climate outlooks (2022-059), 11, 37, 68, 80 Agricultural Data Exchange, 68 Agricultural Innovation Australia (AIA), 68, 80 agricultural innovation, national priorities, 21–22 Agricultural Innovation Policy Statement, 25 Agricultural Trade and Market Access Cooperation Program, 73 agriculture, collaboration with, 6, 11, 26 AgriFutures, 80 Alaska Pollock (Gadus chalcogrammus), 74 alternative fuels (2021-089), 60, 66 animal welfare, 36 in prawn farming (2022-074), 37 Antimicrobial Resistance in Agribusiness Food & **Environments** CRC for solving (SAAFE), v, 11, 38, 79 Apollo Bay Seafood Festival 2023 (2022-113), 49 aguaculture, conference and trade show, v engagement and literacy (2022-051), 49 digitising information for, 55 AOUAPLAN 2022-2027, iv. 19 aguatic animal health (2021-048, 2021-130). 32

assessment of surveillance (2019-193), 33

Aquatic Animal Health & Biosecurity Coordination

Asparagopsis red seaweed, production, 3, 35

Austral, northern Snapper fishery (2021-089), 60

hatchery network (2022-132), 38

Atlantic Salmon (Salmo salar), exports, 73

Program, 19

aquatic plant names, 64, 73, 75

artificial reefs (2021-055), 32, 33

farming, Tasmania, 62

technical support and advice (2022-125), 33, 37

Austral Fisheries, alternative fuel research, 66 financial disclosure (2022-108), 33, 34 Australian Abalone Growers Association, 17 Australian Agricultural Data Exchange, v, 3, 11 projects 2020-126 and 2022-197, 39, 56 Australian Barramundi, algal bloom, information on (2021-130), 32Australian Barramundi Farmers Association, 17, 58 Australian Bureau of Statistics, 73 Australian Bureau of Agricultural & Resource Economics & Sciences (ABARES), 47 Australian Capital Territory, 16 Australian Centre for Oceans Resources & Security, 69 Australian Council of Prawn Fisheries, 17, 56 Australian Eggs, 80 Australian Farm Institute, ESG framework, 68 Australian Fish Names Standards AS 5300, 64, 73-74 Australian Fisheries and Aquaculture Statistics 2021 (2022-016), 38 Australian Fisheries Management Forum, 3, 16, 79, Digital Strategy (2022-097), 33, 68 Harvest Strategy Guidelines (2021-135 and 2010-061), 81 Australian Food & Wine Collaboration Group, 11, 73 Australian Government, see Commonwealth Australian Meat Processor Corporation, 80 Australian National Audit Office, 2, 12, 76 Australian Oceans Policy, 79 Australian Pesticides & Veterinary Medicines Authority, 32 Australian Pork Limited, 80 Australian Prawn Farmers Association, 17 prawn provenance (2021-142), 49 Australian Prawn Farmers levy, x Australian Recreational and Sport Fishing Industry Confederation Inc., see Recfish Australian Recreational Fishing Foundation, 3, 5 Australian Research Data Commons, 4, 11 Food Security Data Challenges (2022-176), 33, Australian Rural Leadership Foundation, 4, 42 30th anniversary (2022-026), 43 Australian Rural Leadership Program (2019-197), 11, 62, 69 Australian Southern Bluefin Tuna Industry Association, 17 Australian Standard for Aquatic Plant Names, AS 5301, 64, 73, 75 Australian Sustainability Traceability Grants Program, 68

Australian Sustainable Seaweed Alliance, 3, 35, 79

В	C
Baniwanga Aboriginal Corporation, 47	Canada, 51, 62
Barramundi ( <i>Lates calcarifer</i> ), 35	capability and capacity building, 6, 23, 26, 78
algal bloom in farms (2021-130), 32, 37	for international trade (2022-080), 33
'Exercise FlyWheel' simulation (2021-048), 58	Steering Committee (2022-065), 42
Bega Beef Co-op, 81	Independent Chair (2021-137), 42
Bega Cheese Limited, 81	strategy, 54, 61
'Bega Circular Valley 2030', 81	carbon footprint, 11 Know & Show your Carbon Footprint (2022-105),
Bega Valley Innovation hub, 81	33
Bega Valley Shire Council, 81	carp (Cyprinus carpio), see National Carp Control
behavioural change (2022-027), 42	Plan
Bergen, Norway, 5th Symposium on Climate	carp virus (Cyprinid herpesvirus 3), v, 76
Change, 35	Cawthron Institute, NZ, 65
participation in (2022-181), 46 billfishes (2022-173), 38	Centrostephanus rodgersii, Longspined Sea Urchin,
	National Workshop, Tasmania (2022-075), v, 3,
biosecurity, national priority, 21–22, 61 discussion paper, 'Have Your Say', 20	42, 77, 81
planning, Clarence River prawn farms	charter fishing, v
(2022-072), 33	Check-up PLUS, performance in data management, 88
Black Jewfish, iv	Chile, 62
Black Tiger Prawn ( <i>Penaeus monodon</i> ), ovarian	China, market conditions, 73
maturation (2022-069), 32 Black Soldier Fly technology (2019-172), 80	Clarence River Fishermen's Cooperative Ltd
Blue Economy CRC, 11	(2022-184), 46
Blue Swimmer Crabs, fishery, SA (2019-011), 58	Clarence River prawn farms, biosecurity planning
Peel-Harvey fishery, WA (2019-011), 58	(2022-072), 33
Blue-X, innovation consultancy, 60, 66	ciguatera toxin detection (2019-160), 65
Board of FRDC, 94–105	circular economy, 6, 11, 25, 78 2022-2025 Program (2021-133), 33, 66
Chair, iii, 2, 4, 95	opportunities for fisheries (2020-078), 66
committees, 100-102	CITES, Convention on International Trade in
Deputy Chair, 94–95	Endangered Species,
Directors, 96-99, 103	Conference, Panama (2022-084), 34
governance, 3	'Climate Atlas', 68, 80
insurance, 103	climate change,
liabilities, 103	adaptation handbook (2021-104), 37, 66
Managing Director, 2, 97 meetings and attendance, 100–102	managing impacts, 36, 37
People & Culture Committee Policy, 3	opportunities, 36
Performance Assessment, 3	Symposium, Bergen, Norway (2022-181), 34
remuneration policy, 103	climate-related invasive marine species, 20
Brisbane, seafood conference in, iv	climate resilience, national priority, 21–22, 26, 78
bursaries, 4, 42, 43, 46	strategy, 60, 66, 77
Microplastics & Seafood Symposium, UK	wild-catch (2021-089), 60
(2022-054 and 2022-055), 34	Commercial Dive Fishery, Tas (2022-039), 38
Scottish Fishermen's Federation (2022-201), 34,	commercial licences, valuation of (2022-021), 38
46, 67 International Seaweed Symposium, Hobart, Tas	Commonwealth
(2022-114), 38	Agricultural Trade & Market Access Cooperation Program, 73
Butterfish/Gynburra/Dusky Morwong (2021-050),	contribution to FRDC, x
44	seaweed research, 3
	Standing Committee on Agriculture, inquiry, 20
	Science & Rural RD&E priorities, 21
	Commonwealth Fisheries Association, 3, 5
	Commonwealth Scientific and Industrial Research Organisation, see CSIRO
	communication, effective, 61
	'communities of practice', 57
	1 7 =

community trust, 23, 48, 79 evoke<sup>AG</sup> 2023, Adelaide, 77 Our Pledge (2017-242), 72 attendance (2022-098), 43 bursary (2022-110), 43 Community Trust in Rural Industries (2019-042), export of premium food, national research priority, 21-22 conferences and symposia, iv, v, 3, 4, 5, 32-34, 38, 40, 42, 43, 77 exports, 73 conflict resolution, 61 extension, connection to Country (2019-143 and 2015-205), 47 adoption and impact (2022-180), 42 for recreational fishing (2021-124), 42 consumer confidence, 74 Management project (2022-2024), 42 Council of Rural R&D Corporations, 16 COVID-19, 8, 73 F CRC SAAFE, see antimicrobial resistance Far South Coast Dairy Development Group, 81 CSIRO, 3, 68, 80, 81 festivals, and events, 49, 77, 80 Cumulative Effects Assessment framework, iv First Nations, see Indigenous cultural fishery assessment, Two Eyed Seeing FISH magazine, discontinued, 77 (2021-107), 39, 46, 49 Fisheries Management Training Course Bursaries cyber security, strategic research priority, 21, 76 (2022-195), 46, 69 CyHV-3, Cyprinid herpesvirus 3, v, 76 Fisheries Observer and Monitoring 10th International Conference (2021-140), 34 fisheries, collaboration with 6, 26 Dairy Australia, 73 fishery enhancement, 32 Darwin, NT, northern Snapper fishery, 60 harvest strategies (2010-061), 81 Data Code Certification, food security, 56 Fishing and Aquaculture Workforce Capability Framework (2022-153), 42, 68 data management and governance framework (2021-088), 33, 38, 49 Fishing Levy Regulations, x Department of Agriculture, Fisheries and Forestry Food Agility CRC, 56 (DAFF), x, 2, 3, 35, 76, 79 food safety Agriculture Senior Officials Committee, 76 ciguatera fish poisoning, protection from, 65 Australian Agriculture Data Exchange in Australian shellfish (2021-053), 39, 49 (2022-197), 39, 49, 56 Environment and Invasives Committee, 76 food, strategic research priority, 21 Have Your Say, biosecurity discussion paper, 20 food security National Agriculture Grant, 11 National Biosecurity Committee, 76 data ingestion & storage (2022-176), 56 Department of Climate Change, Energy, the Food Security Data Challenges, 4, 11 Environment & Water (DCCEW), 3, 35 foot-and-mouth diseases, 20 digital agriculture, national priority, 21-22 forestry, collaboration with 6, 26 digital transformation, 6, 26 foundational information & support services, 54 digitisation, strategy, 23, 54, 61 disease emergency, preparation for (2021-048), accreditation, Standards Development Organisation (2021-139), 49 Dusky Morwong/Butterfish/Gynburra (2021-050), Aquatic Plant Names Committee, 73, 75 Auditor-General's Report, 106-141 Annual Operational Plan (AOP), 2, 6, 25, 27 benefit cost analysis, 72 Edinburgh, UK, symposium, 40 Board, see Board of FRDC education about compliance (2019-011), 58 Capability & Capacity Steering Committee, 68 electrocoagulation in prawn farms effluent Check-up PLUS survey, 88 (2022-019), 42 Comcover Risk Management survey, 88 Emerging National Rural Issues, 11 compliance index, 153-156 employment and training (2022-183), 32, 43 Communications Officers, 20, 77 energy, strategic research priority, 21 consultants, 51, 60, 90 low carbon energy systems, 60 contracts, 89 environmental change, strategic research priority, coordination programs, 18–19 corporate governance, 88 environmental, social & governance reporting, 68 Corporate Social Responsibility, working group, environmental stewardship, 61 cost allocation policy, 24 equitable access to aquatic resources, 6, 67 cost recovery policy, 90

estuarine pot, anti-theft prototype (2021-056), 42

FRDC (continued)	FRDC (continued)
cross-sectoral collaboration, 11	remuneration of key personnel, 87
data management, 88	reporting, 6
Delegations Policy, 3	reports, 3
Directors' report, 2–4	Research Advisory Committees (RACs), 3
disability policy, 88	Research Portfolio Manager, 20
EEO, 88	revenue, 2
electronic FRDC News, 77	revenue base, 144
expenditure, 2	risk management, 89
extension and adoption programs, 10	social media platforms, 77
Extension Officer Network (EON), 8, 10, 14, 18,	social responsibility, 4
69, 77	sponsorships, 49
fees and charges, 148	staff, 19–20, 85–87
Finance & Audit Committee Policy, 3	changes 2022–23, 20
Finance & Risk Systems, 12	Stakeholder Research Program 2022–25
First Nations stakeholders, 14–15	stakeholders, annual planning workshop, 5, 1
Fish Names Committee, 73–74	engagement with, 8-9, 14, 16, 20, 69, 76, 7
Fish Names database, 74	survey 2022, 19
Freedom of Information, 91, 147	transparency, 13
funding, 3–4	Standards Development Policy, 3
governance, 94–103	Standards Project Manager, 73
government policy, 91	Statutory Funding Agreement, 6, 8–13, 27
Greenhouse Gas Emissions, 91	strategic planning, 13, 25–27
Human Dimensions Research Coordination	submissions to inquiries, 20
Program, 18	trade database, 73
impact on the environment, 89	webinars, 8–9, 58
impact reporting, 13	websites, 4, 18, 20, 73, 74, 77, 89
Indigenous Reconciliation Statement, 93	work health and safety, 92
Indigenous Reference Group, 3, 14	workforce plan 2023–26, 2, 19
industrial democracy, 88	workshops, 3
Industry Partnership Agreements (IPAs), 3, 89	Fremantle Boat and Seafood Festival 2023
investment, 13	(2022-103), 49
achievements, iv, viii–xi	Future Green Solutions, 80
strategy, 24 judicial reviews, 91	G
key performance indicators 2022–23, 7	Gambierdiscus microalgae, 65
Legal Services report, 91 legislative foundation, 5, 145	genetics, 32
9	genetic health (2022-008), 32, 46
'lighthouse projects', 55 managers, 20	Goolwa PipiCo, 51
Managing Director, 2, 97	grow <sup>AG</sup> platform, 11, 80
ministerial directions, 91	Gulf St Vincent, SA, 62
Monitoring & Evaluation Framework, 6	Gynburra/Dusky Morwong/Butterfish (2021-050)
MoU, Research to Rights, iv, 4, 15, 67	44
non-financial resources, 12	
People and Culture Plan, 2023-26, 19	H
performance indicators, 7, 84	harvest strategies
project timeframes, improving, 15	guidelines (2021-125), 38
Protective Security Policy, 91	harvest control (2022-006), 42
quality management, 91	health, strategic research priority, 21
R&D Plan 2020–25, 5, 6, 25	HealthCheck (2016-060), 68
enabling strategies, 5, 54–65	Heard Island, Patagonian Toothfish fishery
outcomes, 5, 31, 36, 41, 45, 48	(2022-012), 42
results, 2022–23, 7	Hobart, Seaweed Symposium (2022-114), 38
strategic opportunities, 6	Wooden Boat Festival 2023 (2022-112), 49
R&D Programs, viii, ix	Horticulture Innovation Australia Ltd, 73
RD&E expenditure, 2	
operational results, 30–51	
projects completed 2022–23, 149–151	
1-	

I	M
impact minimisation, 36	Macquarie Perch, captive breeding (2022-116), 32,
impact pathway thinking (2022-094), 42	37
Indigenous brands (2020-121 and 2016-244), 51	Mangrove Jack, understanding stock (2021-017), 34
Indigenous communities, 6, 47, 51	Maningrida traditional owners, 47
Economic Participation (CRC), 11, 15	Margo Consulting, 66
engagement with, 14, 15	marine spatial planning (2019-111), 40
fishing (2022-76), v, 67 increasing opportunities for (2019-143 and	Marine Atlas, Tasmania (2019-111), 40
2015-205), 26, 47 traditional fisheries, 36	Marine Bioproducts CRC, investment in (2021-136) 34
Indigenous rangers, 69	Marine Protected Areas, 67
Indigenous Land and Sea Corporation, iv, 4, 67 Council, 15	McDonald Islands, Patagonian Toothfish fishery (2022-012), 42
•	Meat & Livestock Australia, 73
Indigenous Reference Group, 3, 5, 18, 67 Indigenous Rights, Approaches to incorporating	medicine, traditional, 47
(2022-036), 67	Melbourne, Vic, v, 77
Industry Partnership Agreements (IPAs), 3, 17	methane emissions, reduction, 3
information and support strategy, 63	Microplastics & Seafood Symposium, UK, bursaries (2022-054 and 2022-055), 34
innovation and entrepreneurship strategy, 23, 54, 59	Minister for Agriculture, Fisheries and Forestry, iii, 3, 5, 16
inland rivers, NSW, cultural assessment (2021-107),	ministerial powers, 146
39	Moana, NZ, 51
inland saline aquaculture (2022-089), 34 Institute for Marine & Antarctic Studies, iv, 68,80	Murray Cod, farmed, nutrition of (2022-049), 32
	N
Intergovernmental Negotiating Committee on Plastic Pollution, 78	Nano Bubble Injector, 35
International Abalone Symposium 2023,	Nano Bubble Technologies, 35
sponsorship of (2022-100), 32	nanobubble technology (2019-139), 35
International Coalition of Fisheries Associations, 78	Narunga people, South Australia, 44
Resolution Marine Plastics, 78	National Archives of Australia
International Freight Assistance Mechanism, 73	Information Management Standard, 88
International Tropical Rock Oyster Workshop	National Carp Control Plan (NCCP), v, 3, 76, 77, 79
(2022-186), 42	National Centrostephanus Workshop, 3, 81
invasive marine species, climate-related, 20 isoeugenol, minor use in finfish, (2021-101), 32	National Collaborative Research Infrastructure Strategy, 56
J, K	National Environmental Science Program, Marine 8
kelp regeneration, 60	Coastal Hub, 15
Know & Show your Carbon Footprint (2022-105), 33, 68, 80	Multi-fishery collaboration (2022-068), 79 National Farmers' Federation, 56, 79
KPMG, 81	National Fisheries Compliance Strategy, 79
L	National Fisheries Digital Data Framework (2017-134), 72
Land and Sea Aboriginal Corporation Tasmania, iv,	National Fisheries Plan, 25, 79
4, 15, 67 leadership and capability growth, 4, 61	National Harvest Strategy Guidelines, Review (2021-135), 81
Longspined Sea Urchin ( <i>Centrostephanus rodgersii</i> ) commercialisation of (2022-107), 32	National Marine Science Committee, Chair, 79 Plan, 25
National Workshop (2022-075), v, 3, 42, 60, 77 roe, as export product, 60	National Seafood Industry Leadership, program, 6: Project 2022 (2021-099), 40, 69
	National Social & Economic Survey of Recreational Fishers (2018-161), v, 3, 47

New South Wales (NSW) Bega Valley, 81 industry contribution, x Northern Fish Trawl, co-management (2021-049), 46 Port Stephens, 35 Taste of Seafood Festival (2022-053), 49 Two Eyed Seeing, cultural assessment (2021-107), 39, 46, 49 trawl, ecological risk of (2020-026), 37 New South Wales Government, 81 Department of Primary Industries, 2, 79 Seafood Innovation Program (2022-058), 33 New Zealand, 32, 51, 65	Port Stephens fisheries, NSW, 35 prawns, animal welfare in wild prawn (2022-064), 37 Black Tiger ( <i>Penaeus monodon</i> ), ovarian maturation (2022-069), 32 behaviour metrics (2022-079), 34, 37 farmed, x, 32–34, 37 animal welfare (2022-074), 37 provenance (2021-142), 49 leadership in farming (2022-061), 42 planning, Clarence River prawn farms (2022-072), 33 Tiger fishery adaptation strategy (2022-096), 37 trace elements in provenance (2016-261), 72
Seafood Industry Conference 2022, 4, 5, 43 nodavirus, in Queensland Groper, iv Northern Prawn Fishery (2022-096), 37	Primary Industries Education Foundation Australia, 4 membership (2022-073), 33, 42, 69
Northern Territory (NT), Baniwanga Aboriginal Corporation, 47	Primary Industries Research & Development Act 1989, see PIRD Act protein alternatives, 6, 26, 67
Barramundi fishery, Aboriginal perspectives (2021-098), 43, 46 industry contribution, x Larrakia people, 47 Maningrida traditional owners, 47 sharks, humane dispatch of (2022-028), 37 stakeholders, visits to, 16 Wadjigan people, 47 Nuffield Scholarship (2016-407), 4, 62	Q Queensland (Qld) Department of Agriculture & Fisheries, 2, 44, 80 industry contribution, x Mud Crab bycatch reduction (2021-119), 33 prawn farms, digital technology (2020-111), 33 rock oysters, aquaculture (2021-047), 32 trawl, ecological risk of (2020-026), 37
Ocean Business Leaders' summit, v Ocean Decade, United Nations, 78 Australia, Leaders Summit 2023 (2022-081), 43 oceanographic data collection, commercial vessels	Queensland east coast Otter Trawl Fishery (2023-009), 37 Spanish Mackerel, management of (2021-111), iv, 46 Queensland Groper, nodavirus in, iv
(2022-007), 38 Oceans Plan, v	Ready Set Go! Exercise (2021-048), 58
Oceans Policy Science Advisory Group, 79 Our Pledge (2017-242), 72	RDC Knowledge Translation & Commercialisation Group, 80
owner-operated fishing businesses (2018-205), 72 oxytetracyline, minor use in crustaceans (2021-101), 32 Oysters Australia, 17	RD&E, adoption of, 6 Recfish Australia, 3, 5 recreational fishing, iv committee, 18
Palmers Island, white spot disease (2022-184), 46 Panama City, Panama, 19th CITES Conference, 34 paralytic shellfish biotoxin, iv partially protected marine areas (2021-064), 46 Patagonian Toothfish longline fishery (2022-012), 42 Pearl Consortium, 17 Peel-Harvey Blue Swimmer Crab fishery, WA (2019-011), 58 PIRD Act, x, 5, 21–22, 145 Plastic Particles and Seafood, Symposium, Edinburgh, 40 plastic pollution, 78 plastics, in oceans and waterways, inquiry, 20 in seafood (2021-117), 40 Portfolio Budget Statements (PBS), 7	compliance (2019-011), 58 in Tasmania (2021-116), 49 integrating experience into decision making (2022-170), 46, 49 Management Project 2022–2024 (2021-124), 42 survey, v women in (2022-033), 42 World Conference, v, 3 Recreational Fishing Foundation, 18 regional network, for R&D adoption, 26 remote sensing for tuna ranching (2022-102), 34 Research Advisory Committees (RACs), 3, 17 research and development corporations (RDCs), 11 Cross-RDC Knowledge Transfer & commercialisation, 11 Research to Rights, MoU, iv, 4, 15, 67 resilience, 6

resources, strategic research priority, 21	Snapper Science Program, 81
equitable sharing, 26, 67	soil and water, strategic research priority, 21
security of access, 26, 67	South Australia (SA)
Ridge Partners, 51	Blue Swimmer Crab fishery(2019-011), 58
robots, 60	environmental risk for vibrio outbreaks
Rock Lobster, surveys, 79	(2021-097), 34
exports, 73	Guuranda/Yorke Peninsula, 44
Rock Oysters, Qld, aquaculture (2021-047), 32	industry contribution, x Snapper, closing fishery, 62
Rock Oyster, Tropical, Workshop (2022-186), 42	Snapper Science Program, 3, 81
rural industries, community trust in, 11	Southern Bluefin Tuna, disease risks (2022-018)
rural issues, emerging, 11	33
Rural R&D for Profit (2019-172), 80	South Australian Department of Primary Industries
rural RDCs, 16, 50, 68, 79, 80	and Regions (PIRSA), 2, 56
Council, 16	South Australian Government, 81
S	South Australian Research & Development Institute
SAAFE (antimicrobial) CRC (2022-196), 38	(SARDI), 3, 56, 62, 81
SafeFish 2021 to 2025 (2021-018), 73	South Australian Traditional owners, 44
Safety in Seafood (2021-103), 37	South East Australian Marine Ecosystem Survey (2022-091), 34, 37
SAFS, Status of Australian Fish Stocks, 64, 68, 79 sixth edition (2021-123), 33	Southern Bluefin Tuna ( <i>Thunnus maccoyii</i> ), disease risks (2022-018), 33
Salmon Open House event, 80	satellite tagging (2022-101), 37
sawfish capture, Northern Australia (2022-068), 37,	Southern Fishery and Ecosystem Solutions, 44
42, 79	Southern Ocean, 17
scalefish fisheries management (2023-002), 38	Southern Rock Lobster (Jasus edwardsii),
Science & Innovation Awards for Young People (2022-057, 2023–25), 43, 69	protection of, 60 provenance, iv
Scottish Fishermen's Federation, travel bursary	Southern Rocklobster Ltd, 17
(2022-201), 34, 67	Spanish Mackerel, Qld, iv
Sea Country research, workshop on, 15	Spencer Gulf/West Coast, SA, 62
Seafood Careers, interactive online platform, 68	Spencer Gulf & West Coast Fishermen's
Seafood Directions Conference, iv, 3, 77	Association, 56
Seafood Industry Australia, 4, 5, 60, 66, 68, 73	Seafood on Spencer (2022-092), 49
Seafood Industry Conference 2022, NZ, 4, 5 bursaries (2022-052), 43	Spencer Gulf Prawns, financial disclosure (2022-108), 33, 34
seafood industry, workforce, 4	stakeholders, 5
Seafood on Spencer (2022-092), 49	engagement capability, 76
Seafood Trade Advisory Group (2022-088), 42, 73	visits to, 16
sea urchin, v, 32	workshops, 77
Longspined, National Workshop (2022-075), v, 3,	Standards Australia, 73
42, 60, 81	Standards Development Organisations,
seaweed industry, 79	FRDC accreditation (2021-021), 64 managing FRDC accreditation (2021-139), 49
research, 3	Statistics, Australian Fisheries and Aquaculture
National Hatchery Network, 3	2021 (2022-016) 38
seaweed cultivation (2022-132), 35 wild harvest, southern Australia (2021-112), 33,	Status of Australian Fish Stocks, see SAFS
38	stock assessment, SE Australia (2022-032), 34, 38
Seaweed Symposium, Hobart, Tas (2022-114), 38	Stock Assessment Toolbox (2018-148), 72
security of access to aquatic resources, 67	Storm Bay, Tas, projects, iv, 77
shark depredation (2021-111 and 2021-038), iv, 44	SunShot Industries, 60, 66
sharks, humane dispatch of (2022-028), 37	support services, strategy, 23
sharks and rays, release of, iv	surface water abstraction, effect on tropical specie
skate bycatch, Patagonian Toothfish fishery	(2021-114), 34
(2022-012), 42	sustainability, reporting on, 26, 77, 78
Snapper ( <i>Chrysophrys auratus</i> ) fisheries (2019-044), 62	Sustainable Development Goals, see United Nation
Snapper Recovery Package, 81	Sustainable Ocean Economy, High Level Panel, v
s. apper necessory racinage, or	Sydney Fish Market, 65

т	V
Taskforce for Nature Related Financial Disclosure	vaccine (betanodavirus subunit), iv
(2022-108), 33, 34, 68	vaccines for aquaculture, 79
Tasmania (Tas)	veterinarians, aquatic, 58
Abalone Industry Reinvestment Fund, v, 81	Victoria (Vic), industry contribution, x
Commercial Dive Fishery (2022-039), 38	vongole productivity (2022-041), 37
industry contribution, x	
Land & Sea Aboriginal Corporation, iv, 4, 15, 67	W
Marine Atlas (2019-111), 40 National Centrostephanus Workshop, 81	waste, agricultural, 80
salmon farming, 62	websites,
Seaweed Symposium, Hobart (2022-114), 38	Aquatic Plant Names database, 75 Fish Names database, 74
Storm Bay, iv	FRDC, 4, 18, 20, 73, 74, 77, 89
Wrasse and Morwong (2022-009), 38	grow <sup>AG</sup> , 11, 80
Tasmanian Department of Natural Resources &	Salmon Hub, 80
Environment, v, 4, 67, 81	seafood industry, work in 4
Tasmanian Salmonid	Western Australia (WA)
Growers Association, 17	effects of coastal development (2022-104), 34,
Science Alliance, 80	46
Tasmanian Wild Sea Urchin, commercialisation of (2022-107), 32	Fremantle Boat & Seafood Festival 2023 (2022-103), 49
toltrazuril, minor use in finfish, (2021-120), 32	Peel-Harvey Blue Swimmer Crab fishery
Torres Strait, traditional fishing (2022-045), 42	(2019-011), 58 industry contribution, x
trade, international, 73	Western Australian Department of Primary
TransTasman Rock Lobster Industry Congress (2022-109), 32, 43	Industries & Regional Development, 80
transport, strategic research priority, 21	Western Australian Fishing Industries Council, v
trawl, ecological risk of, Qld and NSW (2020-026), 37	review effects of coastal development (2022-104), 67
tropical fish traps (2022-164), 42	Western Rocklobster Council Inc., 17
tuna, tropical (2022-173), 38	financial disclosure (2022-108), 33, 34
Turn the Tide program, 4, 69	Western Rock Lobster Communication, Education
Two Eyed Seeing, cultural fishery assessment	& Engagement (2022-063), 49
(2021-107), 39, 46, 49	Western Rock Lobster industry, economics of (2022-060), 32
U	Whichfish (2019-087), 68
Ultimate Fishing Expo, Melbourne, 77	white spot disease, Palmers Island, (2022-184), 46
underutilised species (2016-224), 72	White Spot Syndrome Virus, education about
United Kingdom, Plastics Symposium, Edinburgh, 40	(2022-082), 33
United Nations	wild-catch fisheries, digitising information for, 55
Environment Assembly, 40	Wooden Boat Festival, Hobart 2023 (2022-112), 49
Decade of Ocean Science, 78	women in seafood RD&E, iv
Sustainable Development Goals, 4, 6, 25, 68	Women in Seafood Australasia, 4, 68
United States, 51	women, building capability and capacity (2022-033),
Universities,	40
Adelaide, SA, 3, 81	worker wellbeing and safety, 36
Auckland U of Technology, NZ, 32	workforce, baseline dataset (2022-034), 34, 68
Charles Sturt, NSW, 81 Charles Darwin, NT, 47	capability framework (2022-153), 68
Flinders, SA, 3	continued development, 78
Monash, Vic, 47	World Aquaculture conference 2023, Darwin, NT
of Technology, Sydney, NSW, 65	sponsorship of (2022-133), v, 3, 32, 43
Tasmania, iv, 56, 65, 80	supporting attendees (2022-186), 42
Western Australia, 80	World Recreational Fishing Conference 10, v, 3
Wollongong, NSW, 69	study tour bursary application (2022-106), 32, 43

# XYZ

Yellowtail Kingfish (*Seriola lalandi*), 35 zero waste for fishing and aquaculture, 78

#### **ABOUT THIS REPORT**

This report describes the extent to which FRDC implemented its approved AOP 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 Indigenous, commercial and recreational fishing and aquaculture sectors and in the R&D community.

Fisheries Research and Development Corporation Annual Report, 2022–23

• An electronic version is at the FRDC website — www.frdc.com.au, and

Australian Government Transparency Port — https://www.transparency.gov.au/annual-reports/fisheries-research-and-development-corporation/reporting-year/2022-23

Published by: Fisheries Research and Development Corporation

Postal address: Locked Bag 222, Deakin West ACT 2600

Canberra Office: Fisheries Research House, 25 Geils Court, Deakin, Australian Capital Territory

Adelaide office: Corner of Botanic and Hackney Roads, Adelaide, South Australia

Telephone: 02 6122 2100; from overseas + 61 2 6122 2100

E-mail: frdc@frdc.com.au Website: www.frdc.com.au

© Fisheries Research and Development Corporation 2023

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Fisheries Research and Development Corporation (FRDC).

This publication (and any information sourced from it) should be attributed to the FRDC Annual Report 2022–23, Canberra, October 2023. CC BY 3.0]

#### **CREATIVE COMMONS LICENCE**



All material in this publication is licensed under a Creative Commons Attribution 3.0 Australia Licence, save for content supplied by third parties, logos and the Commonwealth Coat of Arms.

Creative Commons Attribution 3.0 Australia Licence is a standard form licence agreement that allows you to copy, distribute, transmit and adapt this publication provided you attribute the work. A summary of the licence terms is available from creativecommons.org/licenses/by/3.0/au/deed.en. The full licence terms are available from creativecommons.org/licenses/by/3.0/au/legalcode.

Inquiries regarding the licence and any use of this document should be sent to: frdc@frdc.com.au

PHOTO CREDITS. Courtesy of FRDC or in the public domain unless credited as follows with names as attributed on various websites. Inside front cover Ned Curtis. Page v (groper) Nasser Halaweh, (urchin) Alison Perkins; page 1 (scales) Bruce Miller; page 3 (aquaculture) Randy Larcombe; page 9 (fish) Alexander Vasenin; page 11 (fish) Mantas Vidutis; page 15 & 109 (foam) Captain Tucker; page 20 Coordinador copy; page 35 (Asparagopsis) Biodiversity Data Journal; page 43 (abalone) Paxson Woelber; page 44 (Dusky Morwong) Peter Southwood, (shark) Stormy Dog; page 61 (child) Alex Proimos; page 52–53 Australian Council of Prawn Fisheries [ACPF], page 53 (birds) John Haslam; page 56 (all) ACPF; page 58 (Barramundi) Oraola; page 60 (boats) gnangarra, (urchins) John Turnbull; page 64 (fish) Elder Yoldi; page 65 (market) Inpet; page 67 (right) Randy Larcombe; page 71 (fisher) John Martin Davies; page 75 John Turnbull; page 76 (carp) NCCP; page 78 (boats) BPUltimate98, (pollution) Starr; page 81 & 143 (ropes) Daplaza; page 119 Cabrils; page 123 NJM2010; page 124 Griffwiki; page 130 Kgbo; page 133 Robert McPherson.

Design: Angel Ink. Print: Bytes 'n Colours.

