

Annual Operational Plan 2021-22

Year 2 of R&D Plan 2020-25



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The FRDC's 2021-22 AOP is primarily intended as a digital product. Some contents are dynamic in nature and will be actively updated throughout the life of this plan. Information presented is true at reported date of publication.

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The Fisheries Research and Development Corporation acknowledges the Traditional Owners of Country throughout Australia and their continuing connection to land, sea and community, and pay respects to them and their cultures, and Elders, both past and present.

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Executive Summary

Australia's fishing and aquaculture community continues to respond to challenges and opportunities associated with the COVID-19 pandemic, trade disruptions, environmental shocks, and evolving community and consumer attitudes. Notwithstanding these challenges, the fishing and aquaculture sector sees significant benefits for the Australian community in increasing the environmental, social, and economic contributions from these sectors. Delivery of targeted and effective research & development (R&D), and activities to promote adoption will play an important role in supporting rapid recovery and promoting sustainable growth into the future.

The Fisheries Research and Development Corporation's (FRDC's) strategic focus is articulated within its' Research and Development (R&D) Plan, which is updated every five years. The 2021-22 financial year marks the second year under the current R&D Plan 2020-25. The Corporation's R&D Plan 2020-25 presents a change in approach, seeking to contribute to a shared strategic vision for fishing and aquaculture in 2030, developed by all sectors. A draft document titled "*Fish Forever 2030*" is the first attempt at a national articulation of a shared future for all sectors, and though still a work in progress, sets an important direction for all stakeholders. The new FRDC R&D Plan 2020-25 has been framed to contribute 18 opportunities described in *Fish Forever 2030*, to pursue outcomes in five key areas, supported by five enabling strategies to help make progress towards those outcomes faster, and easier.

Each year, FRDC's investment is guided by an Annual Operational Plan (AOP), which seeks to give effect to the current R&D Plan, detailing income, expenditure, and planned investments for the coming year. In 2021/22 the FRDC is experimenting with a new approach to annual planning, involving publication in a new digital format, to provide the reader a more comprehensible and engaging experience. This approach forms part of a larger process the FRDC is undergoing to explore how we can continue to deliver more value to stakeholders across fishing and aquaculture, through better engagement.

The FRDC's approach to investment during 2021-22 will continue to manage distribution of investment to tackle issues of national importance, whilst at the same time ensuring that jurisdictional and sector needs are met. Planning and operations will also ensure alignment with the FRDC's Statutory Funding Agreement, delivering balanced investment across timescales, risk appetite, and strategic/adaptive posture.

Investment during 2021-22 will deliver a strong focus on: capacity building; diversifying trade options; optimising production; understanding and shaping beliefs and behaviours; enhancing digital infrastructure and data inter-operability; improving collection and reporting of foundational information to inform decision-making; increasing adoption of circular economy principles; understanding and contrasting sector values; driving innovation; increasing adoption; and nurturing strategic relationships to help deliver improved impact based on shared principles and values. Over 2021/22 the FRDC will continue to evolve our approach towards consultation, to enable clear identification of problems/opportunities that need to be addressed. This will incorporate experimenting with a more programmatic approach to planned investment.

We will continue to evolve our online funding application process to enhance flexibility and user-experience, to make FRDC investment more widely accessible to a broader network of solution providers. We are also responding to improve awareness of FRDC R&D in response to stakeholder feedback in 2020 and shaping beliefs and behaviours to increase adoption. This will complement a new approach towards evaluating investment and corporate performance.

The FRDC is working hard to deliver more value to our stakeholders, though it should be noted that R&D investment alone will be insufficient to deliver a shared 2030 vision of building *collaborative, vibrant fishing and aquaculture, creating diverse benefits from aquatic resources, and celebrated by the community*. For this we will need strong collaboration across all sectors, creativity and leadership from sectors, researchers and managers, and effective partnerships with others who have aligned interests.

Introduction

Fishing and aquaculture are important for lifestyle, culture, economy, and diet. Disruptions associated with the COVID-19 pandemic, environmental events, and geopolitical trade tensions experienced during 2020-21 are likely to continue to be felt during 2021-22, reinforcing the importance of diverse market opportunities, economic opportunities, healthy ecosystems, cultural connection, food security, nutritious diets, and spending time with friends and family in the outdoors.

What is the Fisheries Research and Development Corporation?

The FRDC invests in knowledge creation, dissemination and adoption, and builds partnerships for the benefit of the Australian community so that Australia's marine and freshwater resources can be managed and used sustainably. The FRDC delivers these functions in close consultation with a diverse stakeholder-base across fishing and aquaculture, from those who produce seafood as their livelihood, to those who fish for recreational or cultural purposes, as well as processors, consumers, and the broader community. The FRDC's focus and activities also span varied environments, from the northern tropics through to temperate seas and icy Antarctic waters, and from freshwater rivers and lakes to estuaries. Delivering impact across such expansive geography can be challenging. It requires collaboration between sectors, jurisdictions, and nations to establish common goals and uncompromising efficiency, building on previous research, minimising duplication and maximising leverage opportunities.

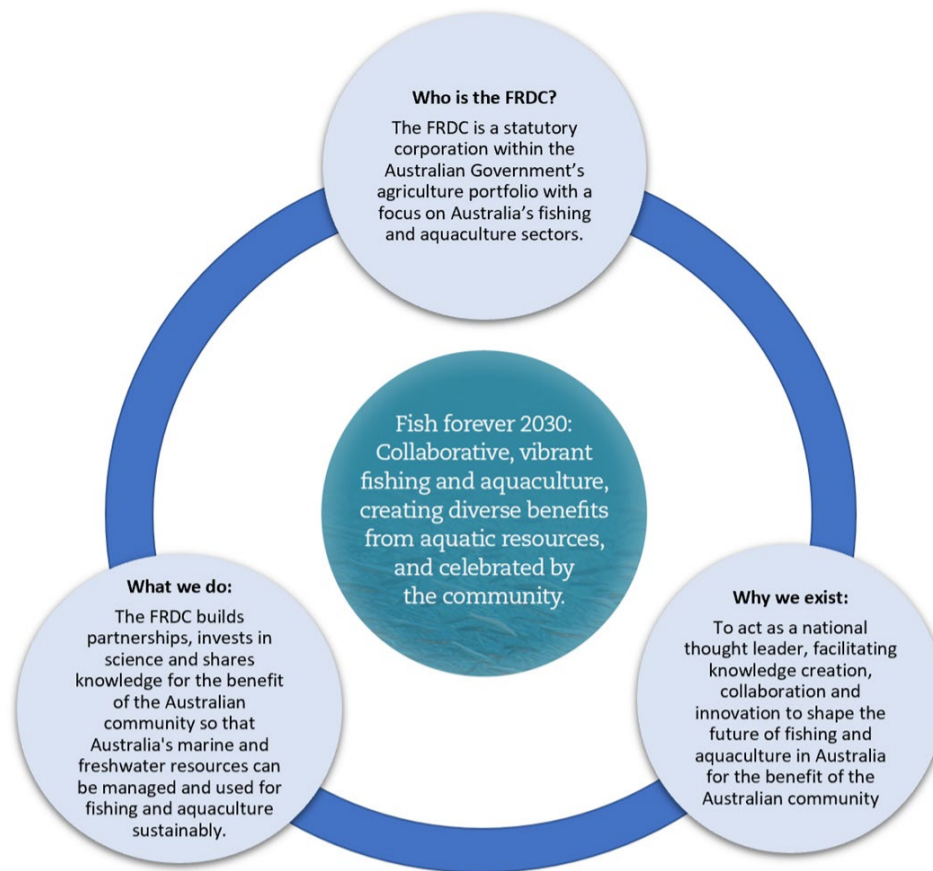


Figure 1 FRDC's purpose, mission, and role.

FRDC's R&D Planning approach

Every five years, the FRDC re-aligns organisational focus with contemporary end-user needs through the process of developing an R&D Plan. FRDC's R&D Plan 2020-25 seeks to respond to the ambition of the diverse stakeholders from across fishing and aquaculture and the broader supply chain who helped create it. The plan focuses on big, cross-sectoral issues of national importance, whilst at the same time ensuring that jurisdictional and sector needs are met. The Plan articulates outcomes in five key areas, supported by five enabling strategies that are designed to make pursuit of those outcomes faster and easier.



Figure 2 The focus of FRDC's R&D Plan 2020-25: Five outcomes, with five enabling strategies to make pursuit of outcomes faster and easier.

FRDC's R&D Plan 2020-25 can be found [here](#)

The FRDC prepares an Annual Operational Plan (AOP) each financial year to guide practical delivery of the current R&D Plan, describing what will be done next to enable the strategic intent to be achieved. Each AOP also summarises income and expenditure that will underpin planned activities.

Determining priorities

The FRDC has a highly collaborative process for determining priorities for investment. Working closely with our Representative Organisations, and stakeholders across fishing and aquaculture through Research Advisory Committees (RACs), Industry Partnership Agreements (IPAs) and Coordinating Programs to identify requirements for RD&E.

RACs, IPAs and Coordinating Programs meet at least twice a year to provide advice on priority problems and opportunities to be addressed over the coming year. This will enable discussions that seek to describe interdependencies between priorities, the outputs they will deliver, and the results they will work together to achieve.

The FRDC also holds an annual stakeholder workshop to bring together our stakeholders from across fishing and aquaculture to discuss shared strategic needs and identify gaps. The FRDC uses advice gathered through these processes to inform investment decisions.

It is also recognised that some areas of need are less likely to be driven by stakeholders across fishing and aquaculture due to their ‘slow burn’ strategic nature, disruptive potential, uncertainty, and/or diffuse benefit. Making progress on focus areas with these characteristics will require higher risk tolerance, different approaches, culture, processes and governance models, and stronger FRDC leadership.

Strategic alignment

Government research priorities

The Australian Government describes the following Science and Research Priorities and Rural RD&E Priorities:

Science & Research Priorities:

- Food
- Soil & Water
- Transport
- Cybersecurity
- Energy
- Resources
- Advanced manufacturing
- Environmental change
- Health

Rural RD&E Priorities:

- Adoption of R&D
- Advanced technology
- Biosecurity
- Soil, water and managing natural resources

Proposed focus areas described within this AOP align with the Australian Government’s Rural Research, Development & Extension Priorities, and Science and Research Priorities. Total expenditure is summarised below.

Table 1 FRDC’s total expenditure against [National Science and Research Priorities](#) in 2021-22

Priorities	\$	%
Advanced manufacturing	3,169,650.00	11.0%
Cybersecurity	576,300.00	2.0%
Energy	28,815.00	0.1%
Environmental change	4,379,880.00	15.2%
Food	11,007,330.00	38.2%
Health	1,757,715.00	6.1%
Resources	28,815.00	0.1%
Soil and water	7,751,235.00	26.9%
Transport	115,260.00	0.4%
Total	28,815,000	100%

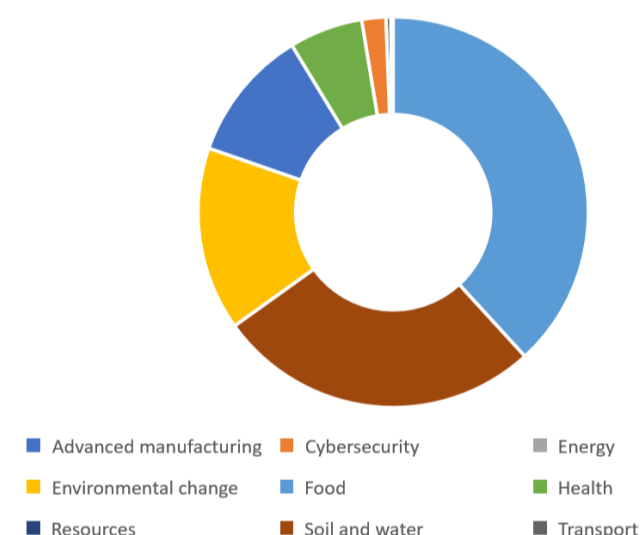
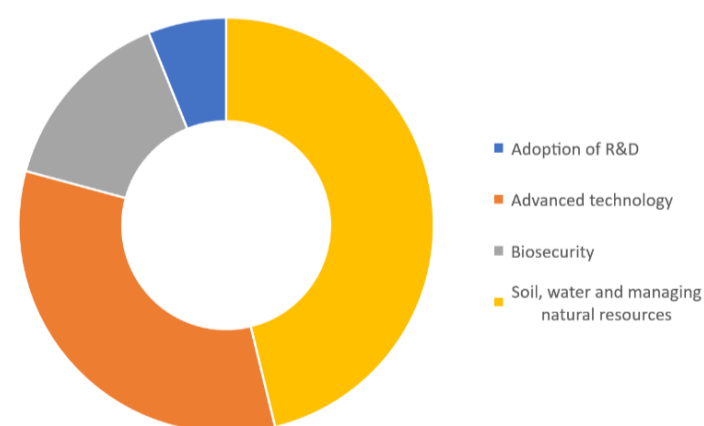


Table 2 FRDC’s total expenditure against [Rural Research, Development and Extension Priorities](#) in 2021-22

Priorities	\$	%
Adoption of R&D	1,757,715.00	6.1%
Advanced technology	9,508,950.00	33.0%
Biosecurity	4,235,805.00	14.7%
Soil, water and managing natural resources	13,312,530.00	46.2%
TOTAL	28,815,000	100%



Investment focus areas described within this AOP also leverage key national strategic planning initiatives, including the [National Agriculture Innovation Agenda](#), and [National Fishing Plan](#).

Draft Fish Forever 2030 Opportunities

The draft Fish Forever 2030 document identifies 18 strategic opportunities that if achieved, will assist in the realisation of a shared vision for fishing and aquaculture: *Collaborative, vibrant fishing and aquaculture, creating diverse benefits from aquatic resources, and celebrated by the community*. These are described within Table 3. Alignment of the FRDC’s proposed focus areas to opportunities identified in *Fish Forever 2030* is summarised within Figure 4. Circle size denotes the number of discrete outputs addressing each opportunity.

Table 3 Eighteen opportunities described within the draft document Fish Forever 2030.

Outcome 1: Growth for enduring prosperity

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



Opportunity 1: By 2030 commercial **seafood production is valued at \$6B**, and Australia is recognised as a market leader in the production of sustainable, nutritious and responsibly produced seafood.



Opportunity 2: By 2030 **expenditure on recreational fishing** exceeds \$3B, and average **satisfaction** with experience is rated as 'high'.



Opportunity 3: By 2030 **cultural fishing** is more widely practiced and celebrated among **First Nations people**, who are also enjoying more **economic opportunities** in fishing and **aquaculture**, and occupying more **decision-making** roles.



Opportunity 4: By 2030 investment in shared **biosecurity control** nationally is **risk-based**, and improved effectiveness is reducing risks.



Opportunity 5: By 2030 ALL assessed Australian **fish stocks** are classified as **sustainable or recovering** (green or yellow).



Opportunity 6: By 2030 investment in **regenerative activities** has tripled, and the 2031 State of the Environment Report describing 30% improvement in condition of waterways and marine environments.



Opportunity 7: By 2030 **cost** of effective fisheries and aquaculture regulation as a proportion of GVP has halved.



Opportunity 8: By 2030 all fisheries management **decisions are evidence based**.

Outcome 2: Best-practice and production systems

Diverse benefits from aquatic resources to be consistent with shared principles



Opportunity 9: By 2030 Australia's fishing and aquaculture sectors are operating in a **circular economy** to achieve zero nett waste and carbon neutrality.



Opportunity 10: By 2030 best practice in **animal welfare** is widely applied across all sectors.



Opportunity 11: By 2030 Australian fisheries and aquaculture is recognised for providing **healthy and safe workplaces and experiences**, and achieving zero deaths.

Outcome 3: A culture that is inclusive, forward thinking and capable

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



Opportunity 12: By 2030 all **decision-making processes** across fishing and aquaculture are diverse, inclusive and equitable just like our community.



Opportunity 13: By 2030 the frequency of **inter-sectoral conflict** across fishing and aquaculture is halved.



Opportunity 14: In 2030, the primacy of Australia's First Nations people as custodians of sea country is recognised, and all **sectors are valued equitably**.

Outcome 4: Fair and secure access to aquatic resources

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



Opportunity 15: By 2030 three Australian regions are being managed under an integrated, rights-based **multi-use framework**.



Opportunity 16: By 2030 80% of Australian fisheries are being managed in a **shared approach** between managers and resource users, each with specific responsibilities relating to information and decision-making.

Outcome 5: Community trust, respect and value

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



Opportunity 17: In 2030 75% of **Australians are positive** about the future of fishing and aquaculture.



Opportunity 18: By 2030 **traceability technology** is deployed throughout the Australian Seafood value chain, demonstrating provenance, sustainability and safety.

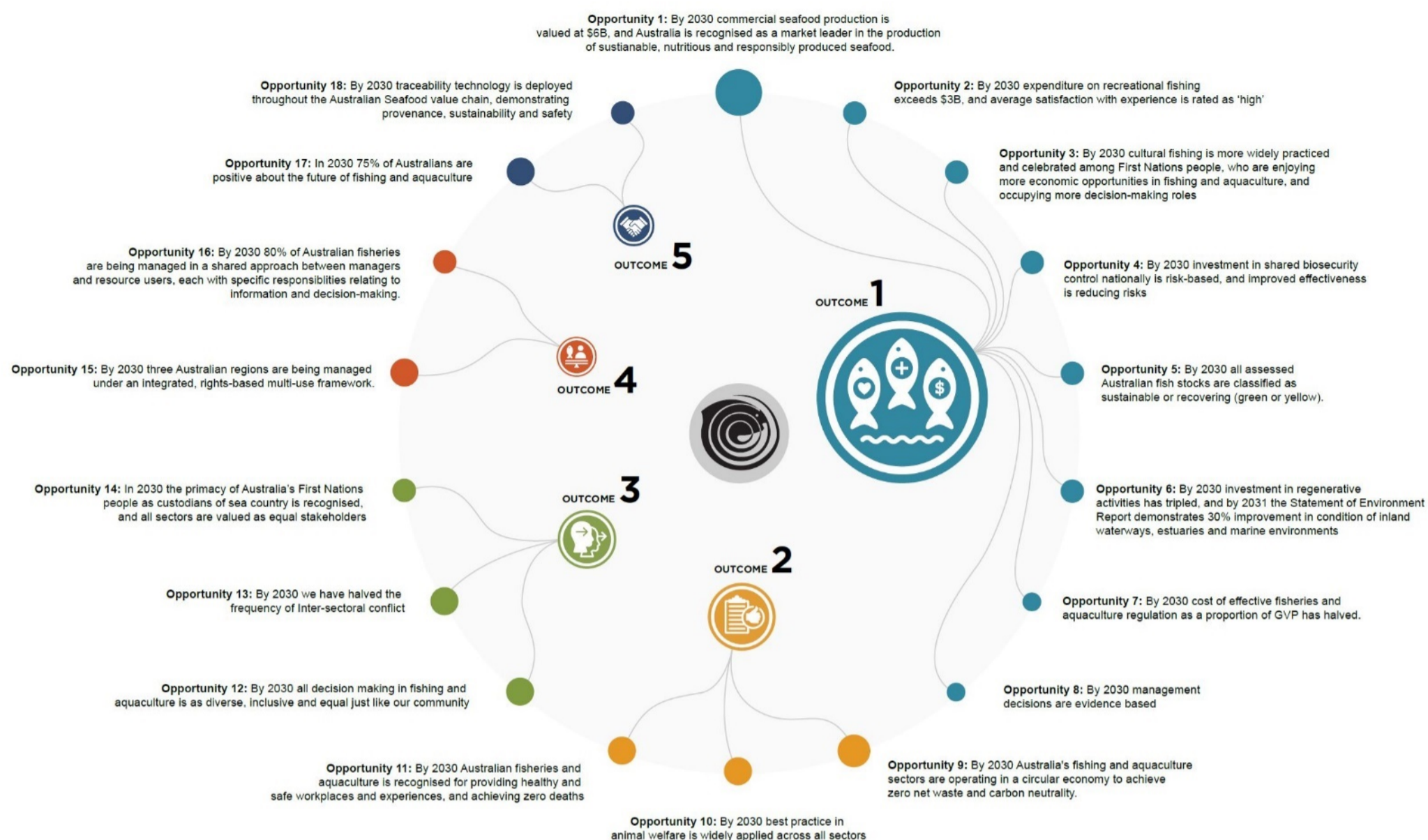


Figure 3 Alignment of FRDC's proposed focus in 2021-22 to draft Fish Forever 2030 opportunities. Sizing of circles relate to the number of discrete outputs under each outcome addressing each opportunity.

Operating Environment

Over the last 12 months significant events at national and international scales have triggered disruptions, impacts and opportunities for fishing and aquaculture in Australia. Evolving global markets, changing dynamics associated with the COVID-19 pandemic, hazards associated with a changing climate, and technological disruption all have a compounding effect on complexity, uncertainty, and associated risk. This presents clear challenges when it comes to planning, requiring an adaptive strategy.

However there is also growing evidence of [collaborative ambition](#), and recognition of the important role of [innovation](#) to enable increased productivity, sustainability and resilience, through prioritising health of aquatic systems to support vibrant economies.

Economic drivers

Key economic drivers include the emergence of COVID-19 and the intensification of geopolitical trade disruptions. In its [February 2021 Economic Outlook](#) the Reserve Bank of Australia reported faster than expected recovery from COVID-19 impacts, because of comparatively favourable health outcomes, easing of activity restrictions earlier than predicted, and substantial policy support. Nevertheless, the next phase of domestic recovery remains uncertain and is expected to be uneven for some time yet.

For fishing and aquaculture, [recent research](#) reinforces that there is no single COVID-19 story across sectors. While in some cases the effects of the pandemic have been negative and even catastrophic, on a global scale Australia has navigated the pandemic comparatively well. This was largely due to sectors and the Government working together. Disruption effects will continue to be felt into the future, highlighting the importance of data availability to inform the sector's responses in the long and short-term. Despite the economic uncertainty, a [recent survey](#) of commercial stakeholder's sentiments shows only a very slight negative shift regarding the near future in comparison with [2018](#) and [2015](#) reports.

International trade is a key component of the Australian seafood industry, with seafood exports in 2019/20 totalling \$1.4 billion or around half of the total value of production. In recent years, exports have been dominated by trade with China, which alone comprised 54% of the Australian seafood export market. Lack of market diversification has therefore been identified as a significant risk for Australian seafood exporters.

During 2020, trade tensions with China intensified, with several Australian fisheries such as rock lobster losing their primary trading partner. While trade with China may not return to historical levels for some time, likely years, support for the seafood sector will be focused on a national team approach to geopolitics in which remaining markets are not constrained, values are not compromised and new opportunities are sought. This approach is summarised as the 3Ps approach; pro-active, principled, and patient.

The Australian Government has committed \$72.7 million to help Australian agribusinesses expand their export markets in 2021 as part of the Agri-business Expansion Initiative through the Agricultural Trade and Market Access Cooperation Program (ATMAC). The FRDC is also supported by the [Seafood Trade Advisory Group \(STAG\)](#), which works with some industry and Government to resolve export trade and market access barriers, and to provide market intelligence for Australian seafood exporters.

These times of global trade disruption have seen domestic seafood consumption increase, providing additional opportunities to connect with Australian consumers on matters relating to provenance, sustainability and quality, and to continue nurturing of Australia's love for seafood.

The [Australian fisheries and aquaculture outlook 2021](#) predicts slow recovery for fishing and aquaculture at 1.6% annual growth to \$3.21 billion (real dollars) by 2025/26, downgrading the forecast in early 2020 by \$1.9 billion over the period 2020/21-2024/25. Recovery is anticipated to be largely driven by growth in aquaculture, including resurgence of some sectors (pearls, Southern Bluefin Tuna), growth projections from expanding sectors (prawns, Barramundi), and the emergence of new opportunities (seaweeds, shellfish). Rate and magnitude of recovery will be influenced by:

- Evolving relationships with stakeholders and within sectors as mergers and acquisitions occur creating larger companies creating a greater proportion of sector production.
- Capacity to become world competitive through ongoing reduction of costs and increasing efficiency.
- Ability to demonstrate sustainability throughout the supply chain as this is now the price of entry into the market that has greater scrutiny from consumers, who demand increased requirements for sustainability credentials that assess the environmental footprint of production.
- Growing visibility as sectors expand production and the need for increased transparency and accountability to allay community concerns about the industry and its practices.
- Adapting to increasing environmental pressures such as climate change, water scarcity and pollution.
- Adopting opportunities presented through growth of circular economies that do more with less to make the most of the available resources.
- Acknowledging the rise of plant-based protein and cell cultured seafood products

Economic performance of recreational and Indigenous sectors of the fishing and aquaculture community remains poorly understood, both in terms of response to shocks including COVID-19 and baseline information, providing opportunity for improvement.

Social drivers

Growing popularity of media content exploring sustainability of primary production sectors points to growing consumer interest in the impact of their food choices. Issues including food waste, provenance, animal welfare, fair work conditions and material footprint are increasingly on the minds of increasingly choosy customers and will likely play a role in shaping purchasing behaviours into the future.

[Research has shown](#) that social support for fisheries and aquaculture is underpinned by a suite of identified determinants that are influenced by communication, perception, alignment with social norms, government processes, unity of vision and action within fisheries and alignment with influential personalities. However, COVID-19 has introduced a new dimension, by influencing behaviour in the form of altering personal freedoms and associated day-to-day norms, and possibly even mindsets. The impact and influence of COVID-19 on societal behaviour will likely be long term and remain poorly understood. Implications of changing social drivers for fishing and aquaculture therefore also remain uncertain, and this is particularly so regarding sectors for which data is limited. With respect to Indigenous communities, [recent research](#) confirms the deep, multi-faceted cultural, social and economic values provided by fishing. Impacts of the pandemic and other sources of disruption on those values remain unclear. For the recreational fishing sector, reports of significant increases in expenditure and participation during the pandemic have important implications in terms of resource management and require further validation.

Environmental drivers

Environmental changes over recent years have contributed to change in the operating environment by providing both risk and opportunity. A seven-year drought culminated in nationwide bushfires in the summer of 2020, affecting regional and urban populations, inland fish communities and associated recreational fishing. Heavy rainfalls and flooding along the east coast have impacted businesses such as oyster farms and prawn farms in early 2021. Climate change threatens inland and oceanic fisheries in complex ways, with habitat loss and increasingly extreme conditions including sustained high temperatures and ecological imbalances. However, opportunities for the Fishing and Aquaculture Community are uniquely rich in such conditions as well. Research and innovations are rapidly showcasing the important role aquatic plants, animals, and the environment itself must have in stabilising climate and shoring up long-term food security for Australia and the world.

AOP 2021-22 Finance

Planned activities during 2021-22 will continue to promote recovery from the disruption associated with COVID-19, environmental events and geopolitical trade tensions. This will require further use of approaches well suited to dealing with uncertainty in planning and investment.

The FRDC's approach to investment will seek to respond to national, jurisdictional and sector needs as part of a balanced portfolio.

Income summary

FRDC revenue is based on a co-funding model between the Australian Government and the commercial fishing and aquaculture industries. Funds are collected by the Commonwealth, state, and territory governments as part of their fisheries and aquaculture management activities. As stipulated in the PIRD Act, the FRDC's primary revenue source is based on:

- A. the Australian Government providing unmatched funds equivalent to 0.5 per cent of the average gross value of Australian fisheries production (AGVP) for the current year plus the two preceding years,
- B. commercial fishers and aquaculture operators providing contributions via government, and
- C. the Australian Government matches this amount up to a maximum of 0.25 per cent of AGVP.

There is also no legislative impediment to fishers and aquaculturists contributing to the FRDC above the maximum level at which the Australian government will provide a matching contribution.

Industry contributions: The FRDC is forecast to receive \$9.44m as contributions from commercial fishers and aquaculture operators via jurisdictions in 2021-22. Slow industry recovery predicted in the [Australian fisheries and aquaculture outlook 2021](#) from trade disruption will affect FRDC's income in 2021-22 and in future years. This may be moderated through the method by which the FRDC's revenue is calculated (using a 3-year rolling average of the GVP for the current year and two preceding years). However, if the period of recovery proves to be more protracted, this will have longer lasting implications for the Corporation's income. The financial income targets provided in Table 4 are consistent with the FRDC's Portfolio Budget Statement, which pre-dates the [outlook for Australia's fishing and aquaculture](#) developed by ABARES.

Government contributions: The FRDC is forecast to receive \$15.36m in revenue from the Australian Government in 2021-22 as unmatched funds equivalent to 0.5% of the AGVP. An additional \$7.67m in revenue is anticipated from the Australian Government as matching contribution to industry contributions, up to a maximum of 0.25% of AGVP, bringing total revenue from the Australian Government to \$23.03m in 2020-21.

A full budget for this AOP is provided at Appendix 1, and comprehensive income statement is provided at Appendix 2.

Table 4 Financial income targets 2020-2025

Revenue	2020-21	2021-22	2022-23	2023-24	2024-25
	\$m	\$m	\$m	\$m	\$m
Australian Government 0.5% AGVP	14.93	15.36	16.86	17.80	18.45
Australian Government Industry matching	7.46	7.67	8.43	8.90	9.23
Total revenues from the Australian Government	22.39	23.03	25.29	26.70	27.68
Contributions revenue from Industry	9.49	9.44	9.72	10.01	10.31
Projects revenue from other parties	0.91	1.10	1.00	1.00	1.00
Other revenue*	1.12	1.10	1.15	1.20	1.20
Total Revenue	33.91	34.67	37.16	39.91	40.19

* Includes project funds

Expenditure summary

The FRDC's focus and investments for 2021-22 will continue to respond to dynamics associated with the COVID-19 pandemic, trade disruptions, environmental shocks, and continually evolving community and consumer attitudes. Table 5 provides a high-level summary of forecasted expenditure for 2021-22. Note that retained earnings and project slippage are not considered in forecast expenditure and may affect actual results.

The FRDC's approach to investment will continue to manage distribution of investment to tackle issues of national importance, whilst at the same time ensuring that jurisdictional and sector needs are met. Planning and operations will also ensure alignment with the FRDC's Statutory Funding Agreement, delivering balanced investment across timescales, risk appetite, and strategic/adaptive posture.

The FRDC will continue to invest to enable pursuit of outcomes in five key areas described within the R&D Plan 2020-25. FRDC investments span multiple years, and as a result, existing commitments will comprise a significant proportion of FRDC expenditure in 2021-22 (approximately 43%). Investment will deliver a strong focus on: capacity building; diversifying trade options; optimising production; understanding and shaping beliefs and behaviours; enhancing digital infrastructure and data inter-operability; improving collection and reporting of foundational information to inform decision-making; increasing adoption of circular economy principles; understanding and contrasting sector values; driving innovation; increasing adoption; and nurturing strategic relationships to help deliver improved impact based on shared principles and values.

Retained earnings

The FRDC Board has implemented a policy to ensure that the FRDC's retained earnings are based on the financial needs of the organisation and FRDC's approach to risk management. The policy is commensurate with levels of uncertainty within the current operating environment, whilst seeking to maximise impact delivered through investment.

Table 5 Expenditure Overview 2021-22

FORECAST EXPENDITURE	2021-22
	\$M
TOTAL R&D	28,815,000
Communications & Adoption	850,000
Corporate costs (includes ICT)	4,956,894
TOTAL EXPENDITURE	34,621,894

Table 6 Investment Allocation

Public good allocation to outcomes	2021-22 / \$m	2022-23 / \$m	2023-24 / \$m	2024-25 / \$m
Committed investment	9,552,206	3,718,621	1,137,512	675,515
Potential new investment	6,735,424	9,862,391	13,105,279	14,085,064
Industry Non-IPA				
Committed investment	3,255,111	1,819,958	558,855	40,759
Potential new investment	6,446,845	2,275,011	3,740,294	4,414,515
Industry Partnership Agreements				
Australian Abalone Growers' Association				
Committed investment	113,338	13,169	-	-
Potential new investment	249,841	199,791	212,960	212,960
Australian Barramundi Farmers' Association				
Committed investment	38,500	-	-	-
Potential new investment	479,520	167,200	167,200	167,200
Abalone Council of Australia Ltd				
Committed investment	535,217	322,532	428,699	-
Potential new investment	539,308	258,268	152,101	580,800
Australian Council of Prawn Fisheries				
Committed investment	167,997	24,568	5,307	-
Potential new investment	2,114,834	560,866	580,127	585,435
Australian Prawn Farmers Association				
Committed investment	64,444	-	-	-
Potential new investment	862,238	334,400	334,400	334,400
Australian Southern Bluefin Tuna Industry Association				
Committed investment	358,984	249,293	80,833	-
Potential new investment	537,687	155,507	323,967	404,800
Oysters Australia				
Committed investment	171,861	101,694	30,000	-
Potential new investment	1,089,083	251,506	384,480	414,480
Pearl Consortium				
Committed investment	254,823			
Potential new investment	0	0	0	0
Southern Ocean				
Committed investment	646,715	293,244	-	-
Potential new investment	793,561	322,756	616,000	616,000
Industry Partnership Agreements (Cont'd.)				
Southern Rock lobster Limited				
Committed investment	535,026	223,025	148,565	-
Potential new investment	1,289,390	639,375	713,835	862,400
Tasmanian Salmonid Growers' Association				
Committed investment	2,222,363	1,998,572	967,858	1,451,787
Potential new investment	-0	0	0	0
TSGA - Huon				
Committed investment	797,690	62,256	50,000	50,000
Potential new investment	0	508,498	574,800	574,800
TSGA - Petuna				
Committed investment	510			
Potential new investment	711,725	246,400	246,400	246,400
TSGA - Tassal				
Committed investment	17,027			
Potential new investment	2,559,503	880,000	880,000	880,000
Western Rock lobster Council Inc				
Committed investment	1,141,831	959,888	364,692	328,500
Potential new investment	5,025,478	800,112	1,395,308	1,431,500
TOTAL COMMITTED INVESTMENT	19,962,796	9,919,279	3,772,321	2,546,561
TOTAL POTENTIAL NEW INVESTMENT	26,242,693	16,971,116	24,645,313	26,514,986

Key activities for 2021-22

This section outlines key focus areas, outputs, services, communication activities and collaboration activities for the reporting period. Together, they align with the FRDC's purpose and strategic intent, and pursue a 2030 vision of building *collaborative, vibrant fishing, and aquaculture, creating diverse benefits from aquatic resources, and celebrated by the community*. Focus areas are derived from consultation undertaken on each R&D Plan outcome, and will continue to be adapted in response to changing stakeholder needs, new knowledge, and changing dynamics.

R&D Investments and outputs

Investment focus areas and planned outputs are presented for each R&D Plan Outcome. Where outputs are >50% related to an enabling strategy, they are colour-coded to reflect this. Although multiple enabling strategies may be relevant to multiple outcomes, only the primary enabling strategy is outlined in the table below to avoid duplication.

Outcome 1: Growth for enduring prosperity

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



Table 5 Focus areas and Problems, opportunities, and outputs to be addressed during this reporting period under Outcome

R&D Plan Focus areas:	Problems/opportunities & outputs
<p>FRDC will explore opportunities to invest in, manage and promote adoption of R&D to:</p> <ul style="list-style-type: none"> • 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 driven by a changing climate and increased global movement of goods; • promote a circular economy to design waste out of the system, keep products and materials in use and promote repair of natural systems; • improve understanding of and increase community benefits from fishing and aquaculture; • build economic security and better connect Indigenous communities with fisheries and aquaculture initiatives, providing economic opportunities for regional and remote areas where desired; • improve understanding of the cause and extent of impacts to aquatic systems and mechanisms to improve them; • build necessary skills, networks, and expertise, including application of knowledge, innovation, and practices of Indigenous Australians (Traditional Knowledge) to understand, restore and create healthy aquatic ecosystems; and, • build partnerships to develop system-wide understanding and identify ways to maintain and maximise benefits from aquatic systems. 	<ul style="list-style-type: none"> • Develop and progress implementation of strategy to increase adoption of FRDC-funded R&D (Enabling Strategy II) • Solutions that pair artificial intelligence and existing datasets to create decision support tools for business continuity and growth (WRLC) (Enabling Strategy I) • Increasing use of emerging technologies in fisheries and aquaculture (AAGA, OA, APFA) (Enabling Strategy I) • Opportunities for improving capability and capacity of the fishing and aquaculture workforce, including direct connection to training, career paths and job progression opportunities (Enabling Strategy IV) • Identify opportunities to optimise fishing and production practices and operations, including utilisation of automation and alternative energy (SRL, AAGA) • Tools to resolve provenance of fisheries and aquaculture products (ACPF) • Explore opportunities to enable Indigenous-led ventures • Outputs that assist in the maintenance of ecosystem services from aquatic systems • Identifying circular economy opportunities in fishing and aquaculture • Options for full utilisation of fisheries and aquaculture products (i.e. making use of waste) (ACA) • Market and consumer research to understand success factors around use of brands (IRG & ABFA) • Determine critical financial, social, and economic data elements and infrastructure to meet future needs (HDR) (Enabling Strategy I) • Knowledge regarding sources of variability in target species (SO, WRLC) • Options for optimising farming operations to increase survival (SBTIA) • Solutions for sector-level biosecurity preparedness and border protection (ABFA, APFA) • Selective breeding to enhance and improve production in farming systems (AAGA, OA) • Knowledge to improve health and nutrition outcomes in aquaculture (AAGA) • Enhancing Aquaculture Broodstock – sourcing, quality & supply (APFA) • Innovations to improve food safety (OA)

Outcome 2: Best practices and production systems

Diverse benefits from aquatic resources to be consistent with shared principles



Table 6 Problems, opportunities, and outputs to be addressed during this reporting period under Outcome 2

R&D Plan Focus areas:	Problems/opportunities & outputs
<ul style="list-style-type: none"> • better understand and increase wellbeing, equity, and safety of participants 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; • develop improved decision-making tools better able to respond to biological variability, and increased revenue volatility and risks. 	<ul style="list-style-type: none"> • Develop and progress implementation of strategy to increase adoption of FRDC-funded R&D (Enabling Strategy II) • Explore vehicles to deliver improved cross-sector collaboration, effectiveness & impact on shared strategic issues. • Develop solutions to reduce waste, increase lifespan of products, and increase regenerative activities. • Exploring solutions to reduce interactions with Threatened, Endangered and Protected species (WRLC) • Improve intelligence to inform decision-making across F&A (Enabling Strategy V) • Identification and extension of best safety practices (Enabling Strategy II) • Environmental sustainability & compliance initiatives (APFA) • Knowledge to improve understanding of societal values & expectations and align activities across fishing and aquaculture • Engage through cross-RDC Climate Initiative to advance solutions to support resilience to a changing climate • Options for harvest and dispatching that deliver improved quality and welfare outcomes (ABFA) • R&D to define benefits of partial special protection • Knowledge regarding feasibility of behavioural approaches for the uptake of best practice in fisheries and aquaculture operations (HDR) (Enabling Strategy II)

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



Table 7 Problems, opportunities, and outputs to be addressed during this reporting period under Outcome 3

R&D Plan Focus areas:	Problems/opportunities & outputs
<ul style="list-style-type: none"> • Understand and address factors that hold back positive cultural and behavioural change; • promote greater inclusiveness, creative thought, and solution-seeking; • encourage openness to new ideas, approaches and ways of thinking and behaving, recognising that needs may differ among sectors; and, • strengthen collaboration across sectors to enable the full benefit of collaborative partnerships. 	<ul style="list-style-type: none"> • Develop and progress implementation of strategy to increase adoption of FRDC-funded R&D (Enabling Strategy II) • Advance strategy to enhance innovation and entrepreneurship across fishing and aquaculture (Enabling Strategy III) • Develop and commence implementation of a strategy to build capability, capacity and culture change across fishing and aquaculture (Enabling Strategy IV) • Development of a digital employment and training solution for Australia's seafood sector • Improve the culture and raise the profile of safety amongst fishing and aquaculture participants to enable them to operate safely. • Experiment with approaches to improve definition of priority problems/opportunities to deliver outcomes (IRG) • RD&E to understand and report on cultural dynamics of F&A (Enabling Strategy V) • Case studies that document benefits of diversity in decision-making

Outcome 4: Fair and secure access to aquatic resources

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



Table 8 Problems, opportunities, and outputs to be addressed during this reporting period under Outcome 4

R&D Plan Focus areas:	Problems/opportunities & outputs
<ul style="list-style-type: none"> • 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, including: <ul style="list-style-type: none"> ○ harvest strategies that are flexible to 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. 	<ul style="list-style-type: none"> • Develop and progress implementation of strategy to increase adoption of FRDC-funded R&D (Enabling Strategy II) • Explore case studies to enable advancement of integrated management • R&D to understand and compare values of aquatic resource users • Reported statistics on level of adoption of harvest strategies & co-management across F&A (Enabling Strategy V) • Explore opportunities for meaningful 2-way engagement with Indigenous communities on matters relating to access (IRG) • Case studies demonstrating cross-sector collaboration on shared issues • Efforts to promote development and adoption of frameworks and management styles that allow flexibility across F&A (Enabling Strategy II) • Global review of how fisheries and aquaculture have been accounted for in the Blue Economy and cross-sector ocean governance (HDR)

Outcome 5: Community trust, respect & value

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



Table 9 Problems, opportunities, and outputs to be addressed during this reporting period under Outcome 5

R&D Plan Focus areas:	Problems/opportunities & outputs
<ul style="list-style-type: none"> • motivate action across sectors in pursuit of 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 management of fisheries and aquaculture to ensure fair distribution of economic and societal benefits; and, • improve seafood traceability and integrity from capture through to end-user. 	<ul style="list-style-type: none"> • Develop and progress implementation of strategy to increase adoption of FRDC-funded R&D (Enabling Strategy II) • Develop and incorporate cross-sector insights, metrics, and analytics into tracking of community and sector values (Enabling Strategy V) • Case studies and extension activities to share insights from successful cross-sector collaboration on shared issues (Enabling Strategy II)

Delivering services to meet stakeholder needs

Stakeholders are at the centre of everything the FRDC does. During 2020 the FRDC commenced a review of its services, systems, business functions and processes, to ensure they are fit for purpose, and easy to use. The following is a description of the suite of services that the FRDC will offer during 2021-22, to help stakeholders from across fishing and aquaculture to solve problems, develop ideas, and make faster, better decisions.

Table 10 FRDC services to be delivered during this reporting period.

Stakeholder issues	How we help/services we offer
I don't know what opportunities exist to help me solve the problems I'm facing.	<ul style="list-style-type: none"> • FRDC investment rounds • Investment through Agriculture Innovation Australia • Investment through Capability and Capacity for Culture Change strategy (Enabling Strategy IV) • Investment through Innovation & entrepreneurship strategy (Enabling Strategy III)
I need to learn more about what others are experiencing, or solutions they are using successfully?	<ul style="list-style-type: none"> • FISH Magazine, Message in a Bottle newsletter • Travel bursaries • Event sponsorship, including Australian Marine Sciences Association, World Fisheries Conference, Outlook, ABARES Science Awards • Initiatives to catalyse adoption for transformation (Enabling Strategy II)
I want to know how more connected and accessible datasets and use of AI might help unlock value and potential.	<ul style="list-style-type: none"> • Drive data-driven decision-making (Enabling Strategy I) <ul style="list-style-type: none"> ○ OzAg Data Exchange ○ Grow-Ag ○ FRDC Trade Dashboard • Case studies to demonstrate the role that digitisation can play in unlocking value
I need to acquire new skills and capabilities to thrive within my evolving landscape	<ul style="list-style-type: none"> • Strategy to build Capability, Capacity and Culture Change (Enabling Strategy IV) such as: <ul style="list-style-type: none"> ○ National Seafood Industry Leadership Program ○ Australian Rural Leadership Program ○ Nuffield Scholarships ○ Women in Seafood Australasia
Where can I find solid, consistent evidence as basis for making decisions?	<ul style="list-style-type: none"> • Publication of foundational information (Enabling Strategy V) <ul style="list-style-type: none"> ○ Trade information ○ Status of Australian Fish Stocks ○ Whichfish ○ Community and consumer research ○ Australian Fisheries Statistics ○ FishNames/ PlantNames ○ Further development of intelligence reporting
Where can I find good advice to help resolve barriers to trade and market access?	<ul style="list-style-type: none"> • SafeFish • Seafood Trade Advisory Group
Where can I find information about workplace health and safety?	<ul style="list-style-type: none"> • SeSAFE • Fish Safe Australia • Clean and Green Business Framework
National co-ordination of efforts on key strategic issues	<ul style="list-style-type: none"> • Indigenous Reference Group • Aquatic Animal Health & Biosecurity Coordinating Program

Communication Activities

FRDC has a specialist communications unit which provides mass audience communication to stakeholders and the community about FRDC investment and fishing and aquaculture issues.

FRDC Communications is informed by stakeholder engagement and integrated with FRDC knowledge management (Enabling Strategies I and V described within Figure 2). The FRDC is currently refining a strategy for driving adoption of R&D in consultation with end-users, as a distinct element of all communication activities (Enabling Strategy II).

FRDC communication goals are to:

- raise awareness of the FRDC brand;
- showcase the value and returns for investment in FRDC;
- disseminate research outputs in layman's terms; and,
- encourage uptake, innovation and adoption.

FRDC target audiences for communications are the fishing and aquaculture community including fishers, aquaculturists, managers, researchers, Non-Government Organisations (NGOs), supply chain participants, as well as the general community.

Major communication activities and products include:

- FISH Magazine
- Media releases engagement
- Digital communications including websites e.g. FRDC website
- Stakeholder briefings, bulletins, and newsletters
- Targeted communications to stakeholder groups
- Social media
- Annual Reporting
- Conferences
- Sponsorships

FRDC will provide communication for both mass audiences and targeted stakeholder sectors. The FISH magazine will continue to be the major mass audience communication product. Stakeholder surveys highlight the important value the magazine provides across the fisheries and aquaculture sector. As new data analytics and digital platforms are developed, more interactive and targeted communications products will be developed to compliment traditional communication activities such as the FISH magazine.

Collaboration activities

The FRDC remains the sole National body responsible for planning and investment in R&D across fisheries and aquaculture, and aims to support leadership in an operating environment that is very fragmented.

FRDC stakeholders have collaborated to undertake extensive mapping of the fisheries and aquaculture innovation system, enabling identification of key drivers of fragmentation and resource bottlenecks (See Appendix 6). The costs of fragmentation are significant as R&D investment impacts are less able to ripple through to end-users that may benefit from the knowledge and opportunities created. In addition, system-scale or cross-sectoral problems can at times remain unaddressed, and synergistic outcomes are less readily achieved.

The FRDC will continue to collaborate and influence across fisheries and aquaculture and the broader Research and Development Corporation (RDC) system, and address fragmentation of investment in R&D.

Example external collaborative initiatives that the FRDC will engage in during this reporting period are summarised in Table 11 below.

Table 11 Example external collaborative initiatives that the FRDC will engage with during this reporting period.

Partnership	Organisations	FRDC Role	Outcomes
Global Seafood Sustainability Initiative	public-private partnership on seafood sustainability with 90+ stakeholders industry-wide	Collaborate with participants to drive sustainable seafood outcomes.	Align global efforts and resources to address seafood sustainability challenges
International Coalition of Fisheries Associations	coalition of the national fish and seafood industry trade associations from the world's major fishing nations, who collectively harvest >85% of world's seafood	Collaborate to develop shared approach on issues relevant to the long-term sustainable use of living marine resources	Global collaboration on key strategic issues for the benefit of global food security and prosperity
Climate Initiative	Council of Rural RDCs	Help establish and progress	Collaborate and co-invest to improve resilience of Australia's Agri system to climate impacts
High Level Panel, for Sustainable Ocean Economy	Collaborative commitment of 14 nations	Contribute towards implementation of action agenda	building momentum towards a sustainable ocean economy, where effective protection, sustainable production and equitable prosperity go hand in hand.
Global Ag-tech Ecosystem (GATE)	NSW DPI	Participant to promote increased adoption of agricultural R&D to increase productivity.	Fishing and aquaculture is better able to uptake ag-tech as a key pathway for growth.
Native Fish Recovery Strategy	Murray-Darling Basin Authority	Enable discussion and collaboration on issues of shared interest regarding recovery of inland fisheries.	Healthy native fish communities within connected catchments

Evaluation Framework

This AOP meets requirements under 35(1)(b) of the Public Governance, Performance and Accountability Act (2013), and aligns with the principles-based approach to accountability and reporting outlined within the [Companion to Rural Research & Development Corporations Funding agreement](#).

The FRDC's Performance Management Framework has been developed to provide a coordinated approach for monitoring, evaluation and reporting that will enable the Corporation to better meet the needs of its diverse stakeholder groups. The framework sets out a forward-looking, results-based process for evaluating performance across key functions undertaken by the FRDC during the life of FRDC's R&D Plan 2020-25. Specifically, the framework aims to drive:

- **Monitoring of performance** – of the FRDC progress against R&D Plan outcomes;
- **Demonstration of impact** – to determine the extent to which R&D Plan outcomes have been achieved, and the impact of the FRDC's investments;
- **Accountability** – to the Australian Government and FRDC stakeholders;
- **Compliance** – with requirements under key legislation and the FRDC's Statutory Funding Agreement;
- **Continual improvement** – regarding the effectiveness, efficiency and appropriateness of investments, partnerships, communication, and internal systems and processes

Performance management framework: eight elements of performance

The eight elements of performance management listed below make up the core components of FRDC's performance management framework, and expand on the Commonwealth input, output, outcome, and impact reporting framework. These are further broken down into 26 facets (Figure 5). Data collection for each will occur on a frequency that is appropriate for intended use, and applicably balances costs of evaluation and project delivery.

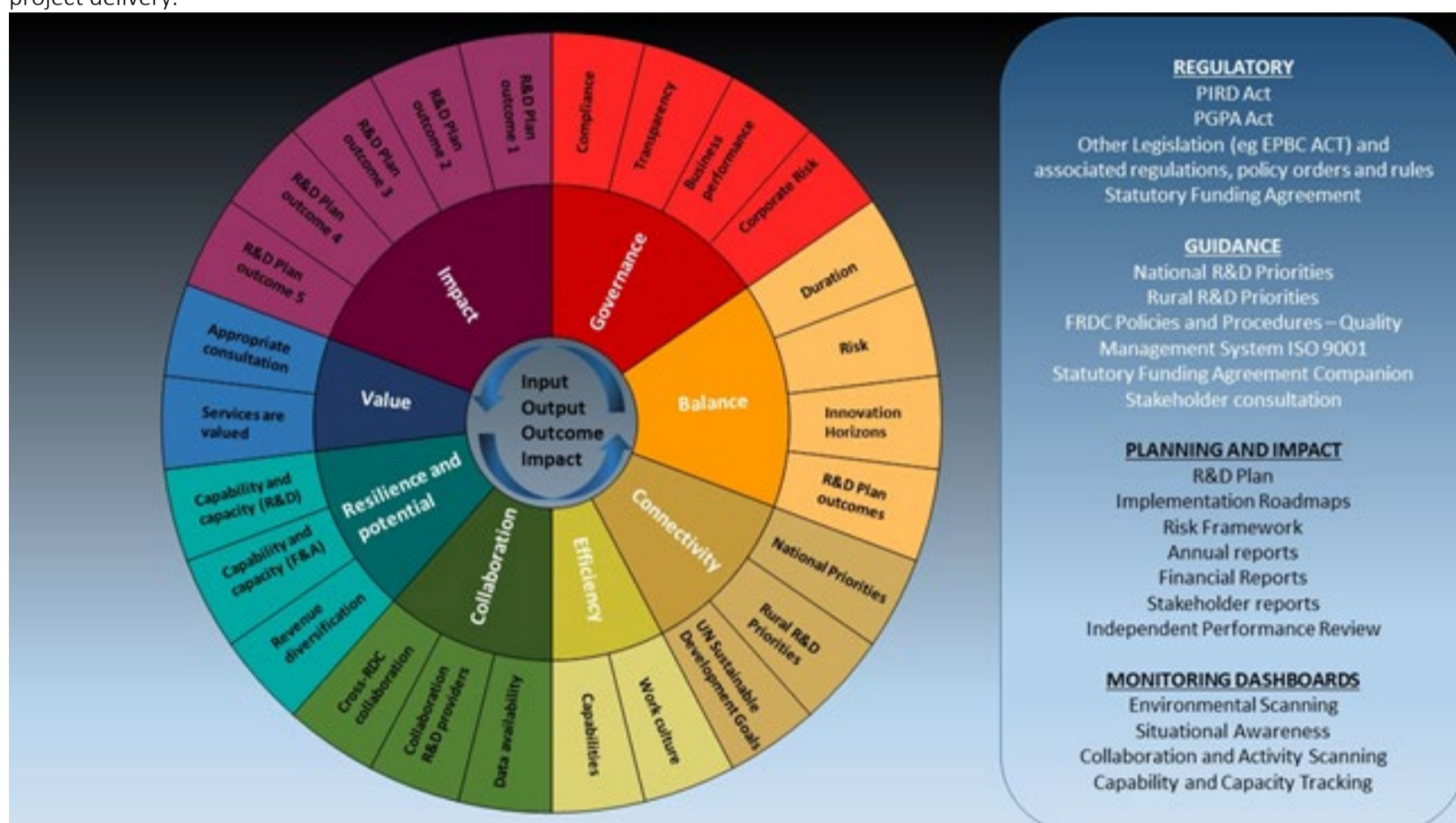


Figure 4 FRDC's Performance Management Framework: inner ring denotes eight elements of performance, and outer ring describing 26 facets grouped under each element. Key information, intelligence and planning elements are listed on the right. White indicates regulatory and guidance inputs to FRDC. Black indicates information, intelligence and planning outputs from FRDC.

The FRDC reports annually on performance to the Department of Agriculture, Water and Environment and to the Australian Parliament via its Annual Report. In 2021/22 the FRDC will also be developing a digital performance reporting dashboard to enable visual tracking of key indicators relevant to delivery of the R&D Plan 2020-25.

Governance Framework

The FRDC Board

The FRDC's Board sets the overarching direction and strategy for the organisation, and ensures that the necessary governance (systems, policies and procedures) are in place to enable investment in priority areas and specific RD&E activities.

The Board will meet a minimum of five times annually, not including special meetings. Operating through COVID revealed the opportunity to undertake some Board functions remotely. However, remote operation through the pandemic also served as a clear reminder that digital meetings cannot replace face-to-face interactions entirely, and there will be a continued need to meet in person with stakeholders to share knowledge and discuss strategic issues. As a consequence of this, during 2021-22 the FRDC Board will seek to meet remotely wherever possible when dealing with general board matters, and will separately schedule time to meet in various locations with stakeholders throughout the year to develop a clear understanding of stakeholder needs.

Key Governance Measures

Element	Scope
Enabling legislation	The <i>Primary Industries Research and Development Act 1989</i> sets out the legislative framework and rules for the establishment and operation of the FRDC.
Governance legislation	The <i>Public Governance, Performance and Accountability Act 2013</i> (PGPA Act) specifies requirements for good governance, performance and accountability.
Quality management system	Systematic, ISO-certified processes CAS/NZS ISO 9001:2008 designed to meet or exceed the expectations of stakeholders and incorporates management of FRDC policies.
Board governance	Key functions include overseeing corporate governance, systems and processes used to direct and control FRDC operations and investment decisions. This is enhanced by the Board's spread of skills and experience and ongoing development in directorship.
Statutory Funding agreement	The FRDC's funding agreement with the Australian Government specifies terms and conditions on which money is paid by the Commonwealth, and expended. The funding agreement companion document describes performance principles to guide RDC performance, accountability and reporting.
Strategic planning and priority-setting	FRDC works with jurisdictions and sectors to undertake planning and priority setting for R&D in consultation with government, AFMF, sectors, stakeholders and research partners.
Delegation	The Board oversees the policy and issues an instrument that delegates specific powers of the board to FRDC employees.
Portfolio Investment	FRDC investment is overseen by the Board. The Board can approve funding where deemed appropriate, or on a risk-based system.
Performance monitoring	Includes monitoring and evaluating progress against the R&D Plan, and corporate performance.
Reporting to stakeholders	The FRDC is required under the PIRD Act to consult and report to the Government and the statutory appointed Representative Organisations, and reports to stakeholders on R&D investment activities and issues through a number of formal and informal approaches.

Organisational structure & function

The FRDC comprises five business units: Strategy and Innovation, R&D Investment, Finance & Business, Communications and Adoption, and Information and Communications Technology, all led by the FRDC's Managing Director. Governance and oversight is provided by a Board of up to nine directors, who are appointed by the Minister for their expertise and led by the FRDC Board Chair.

The FRDC will continue to optimise its workforce to better meet stakeholder needs. Further exploration of resource requirements to drive development and delivery of Enabling Strategies during 2021/22 will help clarify workforce requirements to deliver the R&D Plan 2020-25. We are also exploring shared resourcing to assist in management of human resources.

Progress will continue to be made to evolve key systems and functions in an effort to provide more value to our stakeholders, with particular focus on:

1. updating internal ICT systems
2. evolving online application process to make FRDC investment more widely accessible to a broader network of solution providers.
3. increasing the levels of interoperability of internal and external digital systems
4. redesign stakeholder facing digital platforms to provide more accessible and targeted stakeholder information and services

Investment Allocation

The FRDC's Board seeks to ensure that the necessary policies, systems and procedures are in place to enable the organisation to invest in R&D addressing stakeholder needs, and activities to promote adoption. This involves delegating to the FRDC management those matters that it is best suited to manage – with the Board providing the necessary governance and oversight. In addition, the Board approves the AOP and available investment (Table 6: Investment Allocation) which includes both current commitments, such as contracted projects, and new investment, allowing management to invest in activities, projects and programs – within Board agreed delegations that align with the priorities of stakeholders, the AOP and R&D Plan. In doing so management will:

- develop applications as per the Investment in R&D policy and associated procedures
- evaluate applications submitted using additional external review where required
- assess the level of risk of an investment and determine whether an application should be elevated to be assessed by the Board
- prepare an evaluation sheet for the appropriate FRDC delegate (as per the delegation policy) or Board to make a decision on the investment request
- jointly monitor activities of FRDC's partners and stakeholders (including budget allocations) to ensure that agreed priorities, needs and outcomes are being realised, and budgets are not exceeded within agreed levels of project slippage

The objective is to provide a more adaptable approach to investment, wherein the FRDC can assess investment requests at any time throughout the year (See Figure 1 Appendix 5). Variances in investment may occur within a given year depending on allocation of available funds and due to timing of contracting activities.

Focus areas under each outcome will be progressively updated during 2021-22 as the Research Advisory Committees in each jurisdiction and Industry partners meet during the period to determine their investment priorities. The FRDC's investment strategy will be adapted in response.

Board oversight takes the form of:

- being provided updates on achievements against the R&D Outcomes on a rotational timeframe (one per board meeting per year)
- a summary of the proposed investment areas for the given period in the AOP
- an update on the current budget, including available funds for a period of four years in the AOP

Applications will be assessed using a risk-based approach against the following:

- Reputational – is there a risk to the reputation/brand of its stakeholders, could activities generate negative publicity?
- Political – does the proposed activity contravene government policy – the activity is requested by a political party.
- Ethical – potential for deaths of threatened and endangered or protected species, any material implications for Work Health and Safety (WHS), animal welfare, or human welfare.

Appendix 1: Portfolio Budget Statement

Annual Operational Plan 2021-22 Budget

REVENUE	\$	\$
<i>Opening retained earnings brought forward at 1 July</i>		22,149,000
Total revenues from the Australian Government		
Australian Government 0.5% AGVP	15,356,730	
Matching of industry contributions 0.25% AGVP	7,678,365	
<i>Total revenue from the Australian Government</i>		23,035,095
Contributions revenue from the jurisdictions		9,437,866
Projects revenue from the Australian Government		1,100,000
Other revenue		1,000,000
Interest		100,000
TOTAL REVENUE		34,672,961
EXPENDITURE		
TOTAL R&D Projects Expenditure		28,815,000
Communications		850,000
Corporate costs (includes ICT)		4,956,894
TOTAL EXPENDITURE		34,621,894
NET RESULT FOR THE YEAR		51,067
CLOSING BALANCE		22,200,067

Appendix 2: Comprehensive income statement (showing net cost of services) for the period ended 30 June.

	2020-21 Estimated actual \$'000	2021-22 Budget \$'000	2022-23 Forw ard estimate \$'000	2023-24 Forw ard estimate \$'000	2024-25 Forw ard estimate \$'000
EXPENSES					
Employee benefits	3,119	3,385	3,520	3,661	3,807
Suppliers	1,119	1,181	1,241	1,305	1,372
Grants	32,989	28,815	31,066	32,584	33,594
Depreciation and amortisation	364	385	385	385	385
Finance costs	8	6	5	4	2
Other	780	850	893	937	984
Total expenses	38,379	34,622	37,110	38,876	40,144
LESS:					
OWN-SOURCE INCOME					
Own-source revenue					
Interest	100	100	150	200	200
Contributions	8,293	8,238	8,521	8,813	9,113
Other	1,528	2,000	2,000	2,000	2,000
Total own-source revenue	9,921	10,338	10,671	11,013	11,313
Total own-source income	9,921	10,338	10,671	11,013	11,313
Net cost of (contribution by) service	28,458	24,284	26,439	27,863	28,831
Total funds from other sources					
Commonwealth contribution	23,988	24,335	26,495	27,905	28,876
Total revenue from Government	23,988	24,335	26,495	27,905	28,876
Surplus/(deficit) attributable to the Australian Government	(4,470)	51	56	42	45
Total comprehensive income/(loss) attributable to the Australian Government	(4,470)	51	56	42	45

(a) Revenue from Government includes a Commonwealth contribution under the PIRD Act and levies collected from industry by the Department of Agriculture, Water and the Environment for R&D activities.

(b) Applies to leases under AASB 16 Leases. Right of USE (ROU).

Prepared on Australian Accounting Standards basis.

Appendix 3: Budgeted departmental balance sheet (as at 30 June)

	2020–21 Estimated actual \$'000	2021–22 Budget \$'000	2022–23 Forw ard estimate \$'000	2023–24 Forw ard estimate \$'000	2024–25 Forw ard estimate \$'000
ASSETS					
Financial assets					
Cash and cash equivalents	21,772	22,150	22,053	22,017	22,034
Trade and other receivables	1,460	1,163	1,349	1,474	1,549
Total financial assets	23,232	23,313	23,402	23,491	23,583
Non-financial assets					
Land and buildings	790	615	440	265	90
Property, plant and equipment	139	109	85	45	5
Intangibles	672	722	722	722	722
Other	15	15	15	15	15
Total non-financial assets	1,616	1,461	1,262	1,047	832
Total assets	24,848	24,774	24,664	24,538	24,415
LIABILITIES					
Payables					
Suppliers	200	200	200	200	200
Projects	250	250	250	250	250
Total payables	450	450	450	450	450
Interest bearing liabilities					
Leases	937	772	606	438	270
Total interest bearing liabilities	937	772	606	438	270
Provisions					
Employee provisions	750	790	790	790	790
Total provisions	750	790	790	790	790
Total liabilities	2,137	2,012	1,846	1,678	1,510
Net assets	22,711	22,762	22,818	22,860	22,905
EQUITY*					
Parent entity interest					
Reserves	562	562	562	562	562
Retained earnings	22,149	22,200	22,256	22,298	22,343
Total parent entity interest	22,711	22,762	22,818	22,860	22,905
Total Equity	22,711	22,762	22,818	22,860	22,905

* Equity is the residual interest in assets after deduction of liabilities.

Prepared on Australian Accounting Standards basis.

Appendix 4: Cash Flow Statement (for period ended 30 June)

	2020–21 Estimated actual \$'000	2021–22 Budget \$'000	2022–23 Forw ard estimate \$'000	2023–24 Forw ard estimate \$'000	2024–25 Forw ard estimate \$'000
OPERATING ACTIVITIES					
Cash received					
Receipts from Australian Government	24,490	24,579	26,739	28,149	28,876
Other operating receipts	9,995	10,281	10,075	10,444	11,038
Interest	100	100	150	200	200
Net GST received	156	-	-	-	-
Total cash received	34,741	34,960	36,964	38,793	40,114
Cash used					
Employees	3,064	3,345	3,520	3,661	3,807
Suppliers	413	481	541	1,305	1,372
Projects	34,153	28,815	31,066	32,584	33,594
Lease liability – interest payments	8	6	5	4	2
Other operating payments	1,481	1,550	1,593	937	984
Total cash used	39,119	34,197	36,725	38,491	39,759
Net cash from (used by) operating activities	(4,378)	763	239	302	355
INVESTING ACTIVITIES					
Cash used					
Purchase of property, plant and equipment	220	220	170	170	170
Total cash used	220	220	170	170	170
Net cash from/(used by) investing activities	(220)	(220)	(170)	(170)	(170)
FINANCING ACTIVITIES					
Cash used					
Lease liability – principal payments	41	165	166	168	168
Total cash used	41	165	166	168	168
Net cash from/(used by) financing activities	(41)	(165)	(166)	(168)	(168)
Net increase (decrease) in cash	(4,639)	378	(97)	(36)	17
Cash and cash equivalents at the beginning of the reporting period	26,411	21,772	22,150	22,053	22,017
Cash and cash equivalents at the end of the reporting period	21,772	22,150	22,053	22,017	22,034

Prepared on Australian Accounting Standards basis.

Appendix 5: Applying for funding

Challenges and opportunities across fishing and aquaculture are not all the same, and so how we address them shouldn't be either.

The FRDC invests in a variety of activities, including traditional research projects, incubation and acceleration processes to test and develop ideas, events to connect people, activities to build capability and capacity, as well as large collaborative challenges. A variety of approaches are employed to progress investments, including competitive calls, select tenders, direct tenders, commissioning, seed and series funding. And a variety of application types are used, tailored to activity type, including research applications, pitch competitions, competitive bursaries, and event sponsorships. The FRDC's planning and investment cycle is summarised below.



Figure 1 FRDC's planning, funding and activity cycle

Submitting an application

Priorities form the basis of a perpetual needs directory on the FRDC's website and in Fishnet. Solution providers can submit proposals at any time for consideration. Priorities may be added to the directory as they come to hand.

Wherever possible, the FRDC administers a competitive funding process to ensure that the best ideas selected for development. When priorities are added to the needs directory, a set closing date will be outlined. This ensures that applications can be assessed competitively.

Where appropriate, the FRDC may progress a tender approach. In these instances more specific information relating to the requirements associated with the body of work to be undertaken is provided.

How we assess applications

Proposals are objectively evaluated against criteria to determine whether they are desirable by end-users, technically feasible, financially viable, and ethical. Advice from Research Advisory Committees, Partnership Agreements and Coordinating Programs will play an important role in confirming desirability, and independent reviews will assist in evaluating against other criteria.



Proposals that demonstrate broad collaboration, including through leveraged funding, are also viewed favourably.

Successful proposals become contracted investments and are actively managed to ensure they deliver required outputs in a timely manner.

What the FRDC will not support

- Agri-political activities, or other undertakings that are not consistent with objects of the PIRD Act or FRDC's Statutory Funding Agreement.
- Fisheries re-stocking activities
- Fishery or enterprise-level certification
- Stock assessments
- Training where other funding sources are more appropriate
- Capital items
- Marketing or promotion
- Activities that have already been delivered

How to apply?

The FRDC has continued to evolve how we invite ideas and proposals, to increase flexibility and enhance user-experience. Applicants are still able to submit standard project applications when seeking to undertake traditional science, however the FRDC now also offers the ability to submit less detailed applications when seeking a bursary or event sponsorship, innovation pitches when seeking to develop an idea, and tailored application types for delivery of services and/or collaborative partnerships.

The aim is to balance the information required to the level of risk/complexity and widen the appeal of FRDC investment to include people with different ways of thinking and solving problems.

In the short term the FRDC will continue to use its online application process [FISHNET](#) for inviting proposals. In the longer term the FRDC will expand the application system to better suit the activity or need.

Appendix 6: A map of fishing and aquaculture

System thinking is a useful way to see and talk about the complex reality we live in each day, and can help ensure the right decisions are made, avoiding wasted time, money, and other resources.

In 2019/20 the FRDC worked with a cross-section of stakeholders from across fishing and aquaculture to develop a system map of fishing and aquaculture in Australia.

The map describes key drivers affecting fishing and aquaculture in Australia, and the relationships between them. Building this map sparked deep discussion among the diverse sectors of how our shared world works. The system map provided the groundwork for stakeholders to identify the most critical drivers, which if changed, would alter the entire operating landscape for fishing and aquaculture in Australia, and informed development of the R&D Plan 2020-25. It continues to be a useful resource when seeking to develop solutions to issues affecting fishing and aquaculture.

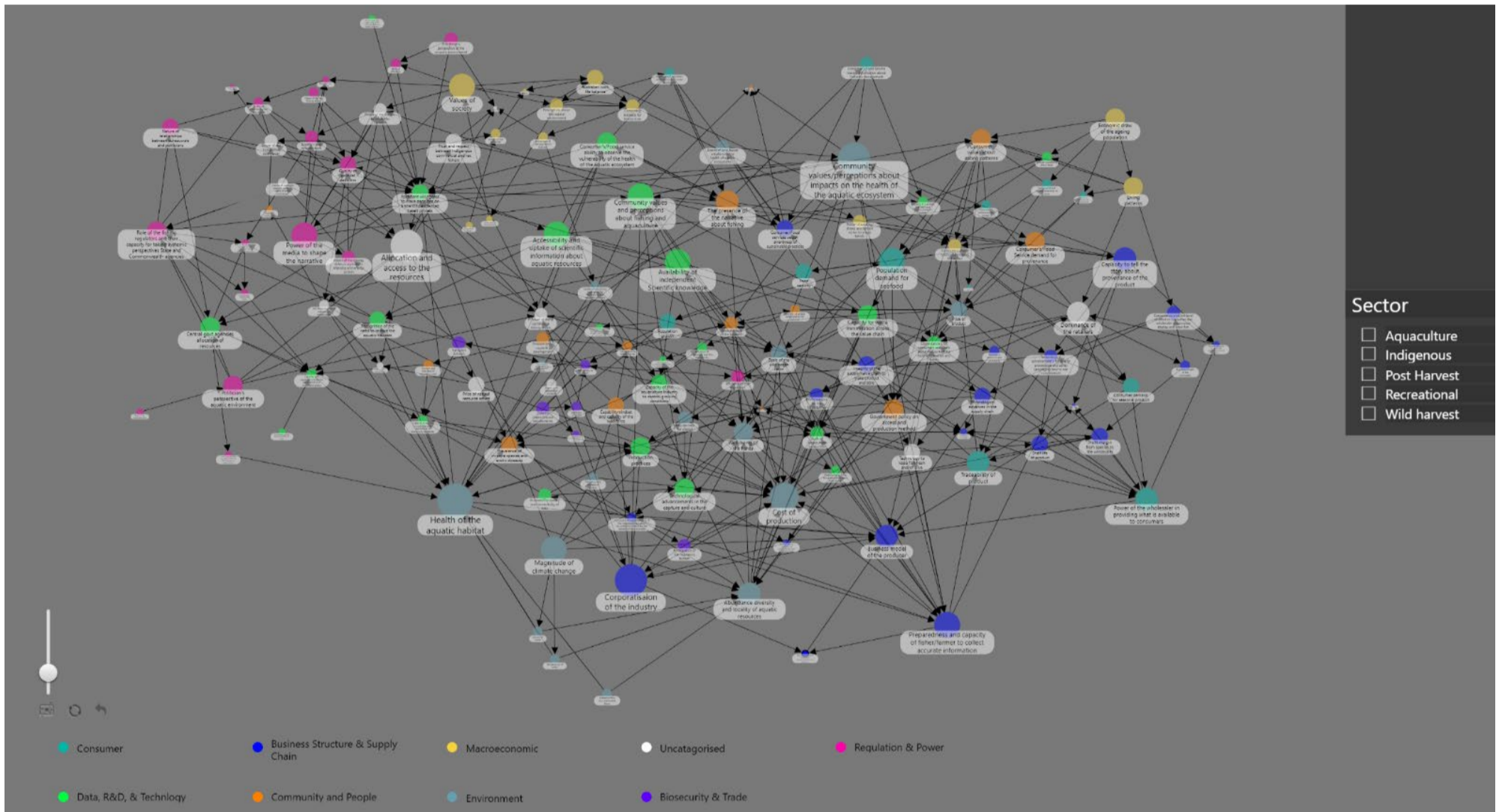


Figure 5 The FRDC's 5-year strategic plan is underpinned by an understanding of the complex dynamics and drivers across fishing and aquaculture, and provides intentional focus for the organisation.

Appendix 7: Abbreviations and Acronyms

AAGA	Australian Abalone Growers' Association
ABFA	Australian Barramundi Farmers Association
ASBTIA	Australian Southern Bluefin Tuna Industry Association
ACA	Abalone Council of Australia
ACPF	Australian Council of Prawn Fishers
AGVP	Average Gross Value of Production
AOP	Annual Operational Plan
APFA	Australian Prawn Farmers Association
DAWE	Australian Government Department of Agriculture, Water and Environment
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
FRDC	Fisheries Research and Development Corporation
GVP	Gross Value of Production
HDR	Human Dimensions Research Coordinating Program
IPA	Industry Partnerships Agreement
IRG	Indigenous Reference Group
ISO	International Organisation for Standardisation
KPI	key performance indicator
m	million
OA	Oysters Australia
PGPA Act	Public Governance, Performance and Accountability Act 2013
PIRD Act	Primary Industries Research and Development Act 1989
PBS	Portfolio Budget Statement
R&D	research and development
RD&E	research, development and extension
RDC	Research and Development Corporation
SAFS	Status of Australian Fish Stocks
SFA	Statutory Funding Agreement
SO	Southern Ocean
SRL	Southern Rock Lobster Ltd
WRLC	Western Rock Lobster Council

Appendix 8: Glossary

Term	Explanation
Annual Cycle	The FRDC's annual cycle of activities is determined by the <i>PIRD Act</i> and incorporated into QMS documentation.
Annual Operating Plan (AOP)	The FRDC's AOP is prepared in accordance with the <i>PIRD Act</i> and submitted to the Minister for approval prior to commencement of each new financial year. The document gives effect to the R&D plan, specifying planned income, expenditure, strategies, outputs, and key performance indicators for the coming financial year.
Annual Report	The FRDC's Annual Report which is tabled in Parliament.
Application	An application is a formal request, by an organisation or individual, for FRDC funding. Applications are made in writing or by an electronic medium in a prescribed format using the online FishNet system.
Attractiveness	A measure of its prospective net benefits, financial and non-financial, to the fishing and aquaculture community as well as the broader community.
Competitive Round	The competitive round is a transparent and competitive process to encourage a broad range of researchers and proposals for funding. It has the additional benefit of generating innovative ideas for fisheries and aquaculture science, and "blue sky" research.
Complicated	problems or system types where the relationship between cause and effect requires analysis and/or the application of expert knowledge
Complex	problems or system types where the relationship between cause and effect can only be perceived in hindsight
Coordinating program	A structure formed by the FRDC to manage a suite of cross-sectoral projects over a specified time period. This can be either an initiative of the FRDC, or at the request of a stakeholder group.
Corporate governance	The systems and processes used by an organisation to direct and control its operations, affairs and activities to ensure the objectives of the organisation are met.
Data	All information stored within FRDC's ICT systems including but not limited to emails, documents, analyses, animations and models in electronic format (e.g. databases and spreadsheets, spatial layers), photographs, research.
Delegation	A delegation is the act or instrument by which the board either (a) appoints a person as representative of the board; or (b) commits powers of the board to another as agent The passing down of authority and responsibility to another person (normally from the board to an employee; or from a manager to a subordinate) to carry out specific activities.
Deliverable	A prescribed significant progress point in a project. Each deliverable will require a report describing what has been achieved, or not, and allows the reviewer to measure the progress of the project
Desirable	A measure of the degree of end-user demand for a proposal
Director	Part-time office holder appointed by the Minister under section 7 of the <i>PIRD Act</i> and under terms and conditions determined by the Remuneration Tribunal.
Ethics	Moral principles that govern a person's behaviour or the conducting of an activity.
Evaluation	The process of reviewing an application with a view to approving or rejecting the application.
Extension	The communication of knowledge or technology to end-users, stakeholders and the community. Activities that lead to the adoption of research results to assist stakeholders to improve fishing and aquaculture profitability; environmental and stock performance; or to establish new fishing and aquaculture activities through the: <ul style="list-style-type: none"> organised communication of research and information purposeful transfer of skills
Feasibility	A measure of likelihood of success such as appropriate methodology and resources to undertake the activity and of results leading to technology transfer and/or commercialisation
FISH	FISH is the FRDC's news magazine. It is produced quarterly in March, June, September and December of each year.
Fishing and Aquaculture	The sectors that make up fishing and aquaculture, and associated industries. Includes commercial wild-harvest, recreational wild harvest, Indigenous, aquaculture, and post harvest sectors, as well as fisheries scientists and managers.
FishNet	The FRDC's on-line application system.
FRDC board	The FRDC is governed by a board of directors whose expertise is prescribed by the <i>PIRD Act</i> . The board is responsible to the Minister and the Assistant Minister and, through them, to the Parliament.
Indigenous Reference Group (IRG)	A group of Indigenous Australians established by the FRDC in 2012, made up of members nominated from Indigenous Australian communities. With respect to the facilitation of Australian fisheries and aquaculture R&D, and activities to promote adoption, the IRG:

Term	Explanation
	<ul style="list-style-type: none"> acts as a research coordination program assists the FRDC in engaging with Indigenous Australian communities
Industry partner	A sector, industry or enterprise that has entered into a contractual relationship with FRDC for the purposes of research, development or extension
Industry Partnership Agreement (IPA)	An agreement between the FRDC and a sector body to manage a suite of sectoral projects over a specified time period. IPAs have a budget allocation, based on forecast contributions (at least 0.25% GVP), FRDC “matching” contributions, less an 8% FRDC service fee.
PGPA Act	The Public Governance, Performance and Accountability Act 2013 is mainly about the governance, performance and accountability of Commonwealth entities
PIRD Act	Primary Industries Research and Development Act 1989 - An Act to provide for the undertaking of research and development relating to primary industries and natural resources, and for related purposes
Policy	Policies describe agreed principles of action or rules of conduct and will be developed and authorised where there is a need for a clear description of behavioural boundaries and consistency of approach
Portfolio Budget Statements (PBS)	The PBS describes the allocation of funding under the FRDC’s structure to provide the means for it to meet its prescribed outcomes. The primary purpose of the PBS is to inform the Parliament of the basis for proposed budget outlays, with particular emphasis on the proposed provisions in Appropriation Bills (1 and 2). This document is drafted to ensure consistency with the AOP and is prepared annually. It is consolidated, together with the statements of other rural Research and Development Corporations, by the Commonwealth Department of Agriculture, Fisheries and Forestry (DAFF). Unlike the R&D Plan and AOP, it is tabled in the Commonwealth Parliament.
Process	A process is a systematic series of actions directed to fulfil a prescribed purpose. It will be documented as one or more procedures or work guides.
Project	A project is an FRDC funded activity. An approved application becomes a project once the project agreement has been signed by delegates of both the FRDC and the research provider.
R&D Plan	<p>The FRDC Research and Development Plan (the Plan) is the FRDC’s principal planning document and is prepared with regard to Ministerial directions and government policy. It is finalised following consultation with stakeholders from government, sectors, and in particular, the FRDC’s representative organisations. It is the principal source of information about the FRDC’s future direction and:</p> <ul style="list-style-type: none"> describes the FRDC defines the FRDC’s business environment lays down, against the business environment, the FRDC’s planned outcomes and priorities for the planning period outlines the strategies that the FRDC intends to adopt to achieve those outcomes covers a period of five years starting at the end the preceding R&D Plan is approved by the Minister for Agriculture, Fisheries and Forestry and is reviewed annually
Research & Development (R&D)	<p>Systematic experimentation and analysis in any field of science, technology or economics (including the study of the social or environmental consequences of the adoption of new technology) carried out with the object of:</p> <p>a) acquiring knowledge that may be of use in obtaining or furthering an objective of that primary industry or class, including knowledge that may be of use for the purpose of improving any aspect of the production, processing, storage, transport or marketing of goods that are the produce, or that are derived from the produce, of that primary industry or class; or</p> <p>b) applying such knowledge for the purpose of attaining or furthering such an objective (<i>PIRD Act Section 4</i>)</p>
Retained surplus	Retained surplus is equity less reserves – it represents the accumulated results of the FRDC’s revenues and expenses, adjusted for any transfers to or from reserves.
Risk	<p>“the effect of uncertainty on objectives”</p> <p>An event, circumstance or change that could have a positive or negative impact on objectives, and how an opportunity can be realised or how a threat may arise</p> <p>event + impact = risk</p>
Stakeholder	<p>People, organisations or groups with an interest or stake in FRDC’s business. The FRDC’s stakeholders are the fishing and aquaculture community, fishing research providers, the Commonwealth, State and Territory Governments and relevant Ministers and the people of Australia.</p> <p>Note that this does not include FRDC personnel.</p>
Viability (financial)	A measure of likelihood of success of a proposal, including consideration of whether the proposed budget is appropriate, and whether funds are available to deliver.