



The WA Research Advisory Committee RD&E Plan provides a framework to identify the key strategic research needs of the fisheries sector under its jurisdiction from 2016 – 2020.

WA Research Advisory Committee RD&E Plan

Research, Development and
Extension Plan 2016 – 2020

16 November, 2016

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1. CONTEXT

1.1 FRDC

The Fisheries Research and Development Corporation (FRDC) is a co-funded partnership between its two stakeholders, the Australian Government and the fishing industry: commercial (wild catch and aquaculture), recreational and indigenous. The FRDC's role is to plan and invest in fisheries research, development and extension (RD&E) activities in Australia. This includes providing leadership and coordination of the monitoring, evaluating and reporting on RD&E activities, facilitating dissemination, extension and commercialisation. This is achieved through coordinating government and industry investment, to establish and address RD&E priorities.

FRDC investment is overseen by the following guiding principles:

- maximise efficiency and effectiveness
- avoid duplication
- minimise administration costs
- provide for flexibility
- maximise opportunities for collaboration, leverage opportunities and create value
- encourage the generation of novel and innovative ideas

The FRDC research, development and extension plan (2015-20) outlines a significant change in the way the FRDC will plan and invest in RD&E for fishing and aquaculture over the next five years. Of note is the transition from being essentially a fund granting body to one that adds value and strategic focus to RD&E for the Australian fishing and aquaculture industry. The 5-year RD&E Plan has been developed through a comprehensive process of assessing the operating environment for fishing and aquaculture, consultation, analysis and consideration

1.2 FRDC RD&E INVESTMENT PROGRAMS

The FRDC has five Research, Development & Extension (RD&E) investment programs that directly align with its governing legislation, the PIRD Act¹. RD&E investments across these program areas are assessed to ensure the FRDC maintains a balanced portfolio that meets the short and long term needs of its stakeholders, including the Australian Government and the Australian community. The programs include:

Environment

This program relates to RD&E that supports natural resource sustainability in managing fishing and aquaculture activities in Commonwealth, state and territory waters. Many components of FRDC-funded RD&E focus on improving the sustainable use of Australia's aquatic resources.

Industry

This program relates to RD&E that assists the production and value of seafood. It could be in the form of business profitability, international competitiveness, opportunities for productivity increases, resource access, and experience or wellbeing benefits. This program aims to help all sectors improve their overall performance.

¹ Primary Industries Research and Development Act 1989. No. 17, 1990 as amended.
<https://www.legislation.gov.au/Details/C2014C00033>

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Communities

This program relates to RD&E that maintains the long-term sustainability of the commercial sector by understanding the interactions and co-dependence between fishing and aquaculture, and the wider community. It is enhanced by knowledge about the social importance of fisheries.

People

This program relates to RD&E that is needed to attract and advance people who will lead fishing and aquaculture towards a sustainable and profitable future. The FRDC has taken a strong role in this area, from employing and developing young researchers, through to facilitating access to leadership development for all sectors of fishing and aquaculture.

Adoption

This program relates to how project outputs are delivered so they can be easily adopted and support stakeholder decision-making and practices. The FRDC continually works with researchers and end users to determine and implement the best way of extending these results. In addition, the FRDC is continuing to develop its systems to ensure its 'knowledge bank' is widely accessible.

1.3 CO-MANAGEMENT INVESTMENT MODEL

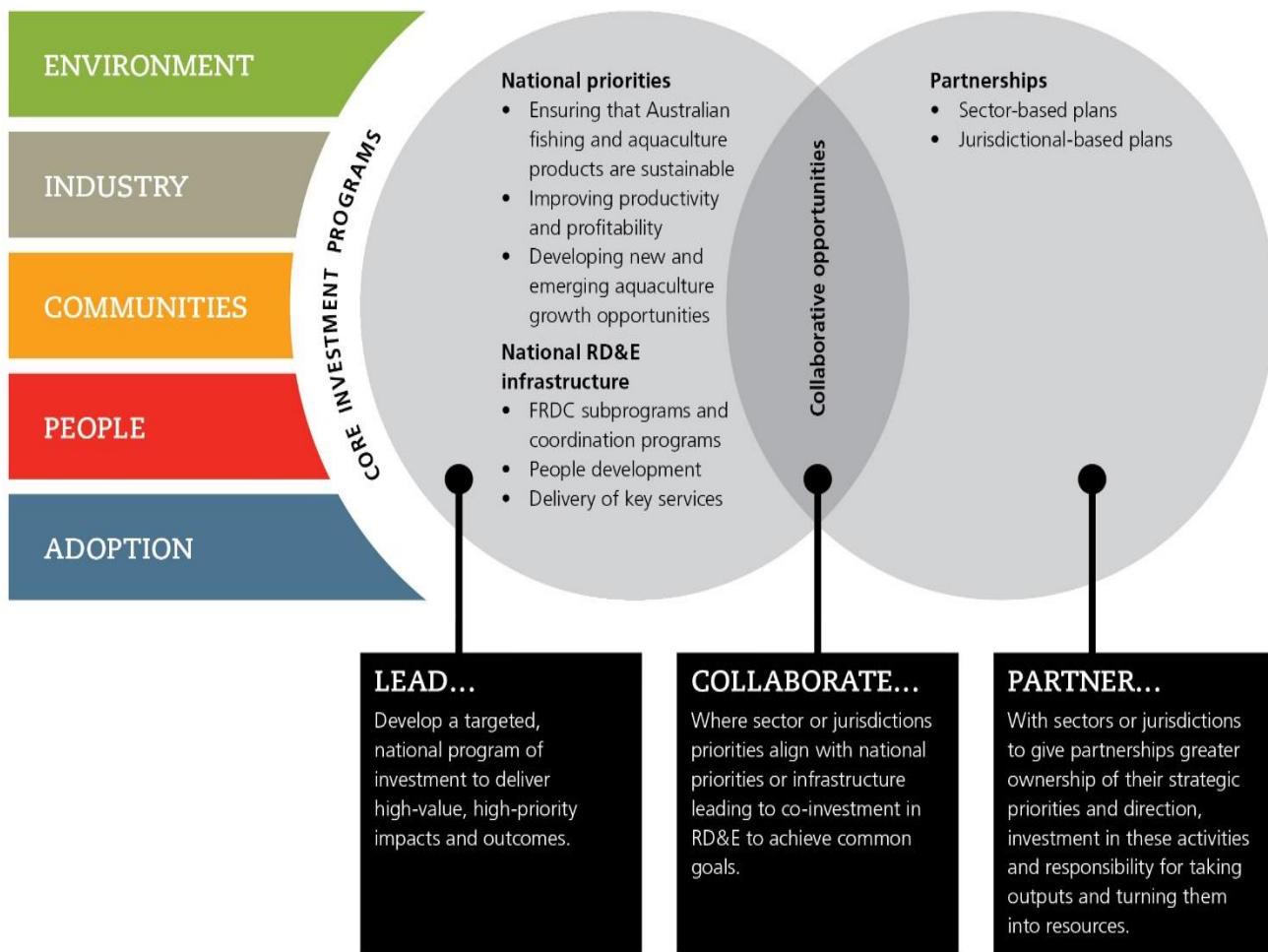
Under the FRDC's RD&E Plan (2015-20), the FRDC provides greater ownership and authority to industry sectors in developing RD&E priorities, through Industry Partnership Agreements (IPAs) and to jurisdictions through Research Advisory Committees (RACs) - formerly Fisheries Research Advisory Bodies (FRABs).

A key component of this investment model is the development of a multi-year RD&E Plan for each IPA and RAC aligned with the FRDC's 5-year RD&E Plan. This will assist in developing a tailored RD&E program that:

- meets both jurisdictional and national strategic RD&E priorities
- is balanced across FRDC programs (environment, industry, communities, people and extension)
- focusses on short, medium and longer term RD&E outcomes
- is supported by a consistent RD&E planning framework across all RACs.

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The framework for RD&E investment by the FRDC for 2015–20.



2. OPERATING ENVIRONMENT

2.1 OVERVIEW

WA's commercial fishing, pearling, aquaculture and recreational fishing sectors operate in political, industry and social environments – each of which requires sensitive and judicious engagement and targeted response.

The value of the State's commercial fisheries, aquaculture production and recreational fisheries is \$1.5 billion per annum (Department of Fisheries WA Annual Report 2014/15). These sectors contribute significantly to State and regional economies when responsible multipliers are applied. The population in WA is rapidly growing adding requirements for protein availability and access to recreational fisheries.

The gross value of WA commercial fisheries production is estimated to be \$490 million (\$417 million of wild-catch production and \$73 million of aquaculture production). The total volume of fisheries production has slightly decreased in recent years to around 20,000 tonnes however there has been an increase in production value due to the significant improvement in Western rock lobster fishery returns of around 35% on levels in 2012/13.

Recreational fishing is an integral part of the West Australian lifestyle. Approximately 740,000 people fish recreationally in WA at least once a year.

Customary fishing policies ensure government decisions, policies and practices are consistent with national and international laws that acknowledge that Aboriginal people have rights to fish and hunt in accordance with ongoing tradition and culture for personal, domestic, ceremonial, educational or non-commercial needs.

Approximately 97% of commercial fisheries are now targeting stocks where current management controls are either achieving acceptable breeding stock levels from the effects of fishing. Consistent with the Government's implementation of a risk-based approach to fisheries resource management the Ecosystem Based Fisheries Management (EBFM) framework is the basis for management of Western Australia's aquatic resources.

The overwhelming majority of WA fisheries have been assessed as posing negligible or only minor risks to bycatch species, listed species, habitats or the broader ecosystem. Fishing methods that may affect the habitat are highly regulated and do not affect over 90% of WA coastline. The small numbers of fisheries identified as posing some risk have targeted research and management programs to reduce their interactions (e.g. whale entanglements).

Rapidly evolving technology and improved management practices are allowing commercial fishers in some of the larger fisheries to improve the efficiency of the catching operations, driving greater profitability into their business and reducing impacts on the environment. The evolution continues with fishers taking a much greater interest in fishing to market than in the past. Markets are also opening up opportunities across the globe with free trade agreements and improved packaging systems.

Western Australia has experienced significant environmental influences in recent years that have directly impacted fishing stocks along the coast. Information is critical to provide the opportunity to better understand these events. Together with natural biological variability these events add significantly to the importance of RD&E to management of our aquatic resources.

A new Act governing aquatic resources is to be implemented soon and is expected to have a net positive effect on fisheries management. Costs continue to escalate in commercial fisheries and improved certainty of access to fisheries at reduced cost of government administration is required.

Socially acceptable operating environments supporting fisheries are required to maintain and develop certainty around resource access, fisheries' management and protection, and to encourage investment in value-adding to minor fisheries. Building community support through educating the public about WA's fisheries, improving engagement with other users of the shared marine environment – such as the oil and gas and conservation groups – will assist with defining positive resource sharing opportunities with the recreational, traditional and tourism sectors.

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Defining positive resource sharing is a particularly sensitive issue in WA given the stridency of some groups to exclude commercial and recreational fishing activities from both existing and proposed Commonwealth and State marine parks.

The industry is an active participant in the State Government's \$14.5 million Marine Stewardship Council program to achieve progress towards MSC certification for all WA fisheries. Industry anticipates that there is potential for research into quantifying and qualifying social licence, marketing and industry uptake outcomes from programs such as WA's MSC initiative which may have application for other states and territories.

All commercial fisheries in WA have been pre-assessed against the Marine Stewardship Council (MSC) certification criteria with seven fisheries now fully accredited, including one fishery shared by commercial and recreational fishers - a world first. MSC is acknowledged worldwide as the gold standard for fishery certification schemes. Government has recently decided on the affiliated Aquaculture Stewardship Council (ASC) to be the system to enable third party certification of WA aquaculture industries.

Aquaculture is a significant driver of growth in the rural sectors across Australia and the world. Tasmania and South Australia are the two leading seafood states of Australia due in large part to their aquaculture industries. Aquaculture is the only sector of the seafood industry in WA that has the potential to lead to a dramatic increase in production in the state.

The WA State Government has expressed its support for the development of aquaculture and is currently developing a long term plan in collaboration with industry. The State Government is seeking to de-risk aquaculture to make it a more attractive option for investors. Part of this plan is currently in train with the development of Aquaculture Development Zones in the Kimberley and the Mid-West of WA.

Marine aquaculture shows potential for further significant development in WA. Abalone and barramundi are existing commercial aquaculture industries with significant growth potential in WA. Yellowtail kingfish growout trials have been supported by industry and Government agencies (DOF, ACAAR) with Royalty for Regions funding via the Mid-West Development Commission over recent years.

There is rapid and significant growth potential for these industries collectively within a ten-year period and the doubling of the total volume of the current WA fisheries production is realistic within this timeframe.

2.2 DRIVERS, CHALLENGES AND OPPORTUNITIES

Driver	Challenge	Opportunity
Social Licence - Community understanding of sustainable fisheries management	<ul style="list-style-type: none"> • Building community support for fishing • Misunderstanding by the community of the social and environmental effects of different uses of the marine environment • Community recognition of certification systems • Community understanding of the purpose and importance of environmental and ethical practice in certification schemes 	<ul style="list-style-type: none"> • Third Party Certification – MSC/ASC • communication through the supply chain and broader community • Communication management tools to maximise message in mainstream and social media – direct input • Improved synthesis of data and dissemination of resulting information to the public through community groups • Partnerships with community/sector groups – (e.g. Austral & WWF/Sea Shepherd, Recfishwest & Nature Conservancy)
Social Licence - specific to location (e.g. inshore commercial fishery or aquaculture site) or an activity (e.g. game fishing)	<ul style="list-style-type: none"> • Resource access conflicts in inshore regions • Low priority for management and research • Change gear and practices developed over long periods of time • data poor fisheries • mixed species fisheries • Aquaculture development/zones 	<ul style="list-style-type: none"> • Improve image of aquaculture during the development of the aquaculture zones process • Education – voluntary stewardship and compliance • Fishery Improvement Programs • Indicator species approach • Offsets to improve social licence - i.e. Austral going Carbon Neutral
New Fisheries Legislation	<ul style="list-style-type: none"> • Building understanding of opportunities provided by the new legislation • Moving fisheries to a formal rights based framework 	<ul style="list-style-type: none"> • Resource based approach in legislation provides opportunity to rethink current institutional approaches in management • Strengthened access rights • Clearer allocation processes • Investment security improved • Increased focus on aquaculture

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		<ul style="list-style-type: none"> • Transparency in management process for improved social licence aspirations
Environmental impact on habitats and fishing stocks	<ul style="list-style-type: none"> • Understand difference between climate shift vs natural environmental change • Science understanding incomplete and cost of research is significant • Lack baseline data • Adaptation of industry to findings • Managing biosecurity risk 	<ul style="list-style-type: none"> • Build partnerships - national and international • Apply learnings from other jurisdictions • Create habitat (man-made) • Adaptation to findings • Stock relocation • Offsets available to commercial and recreational industry.
Improved productivity and profitability in commercial fishing operations	<ul style="list-style-type: none"> • Drive efficiencies into fishing operations • Balancing sustainability with economic efficiency • Understanding return on investment vs catchability (i.e. profit vs kilos) • Complex regulatory framework and inflexibility • Understand the balance between commercial and social aspirations of commercial fishers • Underutilised species have poor market acceptance • Developing fisheries policy framework difficult to work within • Identifying the future business environment and preparing for it before it arrives 	<ul style="list-style-type: none"> • Diversification in fishing operations • Product, technology and market development • Use Maximum Economic Yield to drive behaviours • Greater commercial outcomes from underutilised species • New legislation to provide improved risk based management framework • Collaboration in investment and fishery management decisions • post-harvest planning & investment • use technology to increase efficiency

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Market Access	<ul style="list-style-type: none"> • Ensure long term supply chain certainty • To better understand markets/consumer trends/risk • Food safety - Low confidence in industry standards • Biosecurity – pests, diseases, cost shifting 	<ul style="list-style-type: none"> • International Free Trade Agreements - explore utility of new FTAs, i.e. EU • certification programs • ethical programs in industry practices • market promotion activities • App for identification of provenance to link consumer with producer • develop better tools for biosecurity • refine cost sharing models • Increased consumer confidence in seafood industry
Aquaculture Development and Profitability in aquaculture operations	<ul style="list-style-type: none"> • surviving the ‘pioneer period’ • secure seafood as protein source in government policy • production impediments • pick winners • retention and acquisition of skills base (people) • marine aquaculture hatcheries 	<ul style="list-style-type: none"> • understanding aquaculture nutrition and feed management • Improving product quality • Disease management and fish health capability • Increased investment • Northern Aquaculture Development program • targeted research aligned to industry needs • Stocking of Lake Argyle can provide aquaculture opportunities to cover a “pioneer period”
Human induced impacts on fishing and aquaculture	<ul style="list-style-type: none"> • Poor state marine planning consultation, collaboration and decision making process • data gaps leaving fishing vulnerable • Lack of agreement on evidence-based science on levels of impacts (eg seismic) • Loss of social licence to operate 	<ul style="list-style-type: none"> • closing gaps • determining acceptable impact thresholds • Improve process for consultation and transparency • Defining opportunities for mitigation and fishery development
Fisher health/wellbeing	<ul style="list-style-type: none"> • Awareness and acceptance of health issues within the fishing community • fishing pressures • Understanding community perception of fishing industry 	<ul style="list-style-type: none"> • toolbox, app • support network • Improve communications, engagement, acceptance

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People development	<ul style="list-style-type: none"> • identification of emerging leaders • appropriate skills training 	<ul style="list-style-type: none"> • bursaries, scholarship etc. • Capacity building, knowledge exchange • international exposure • educational opportunities for up-skilling • to provide stewardship into the future
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3. RD&E PLAN 2017 – 2020

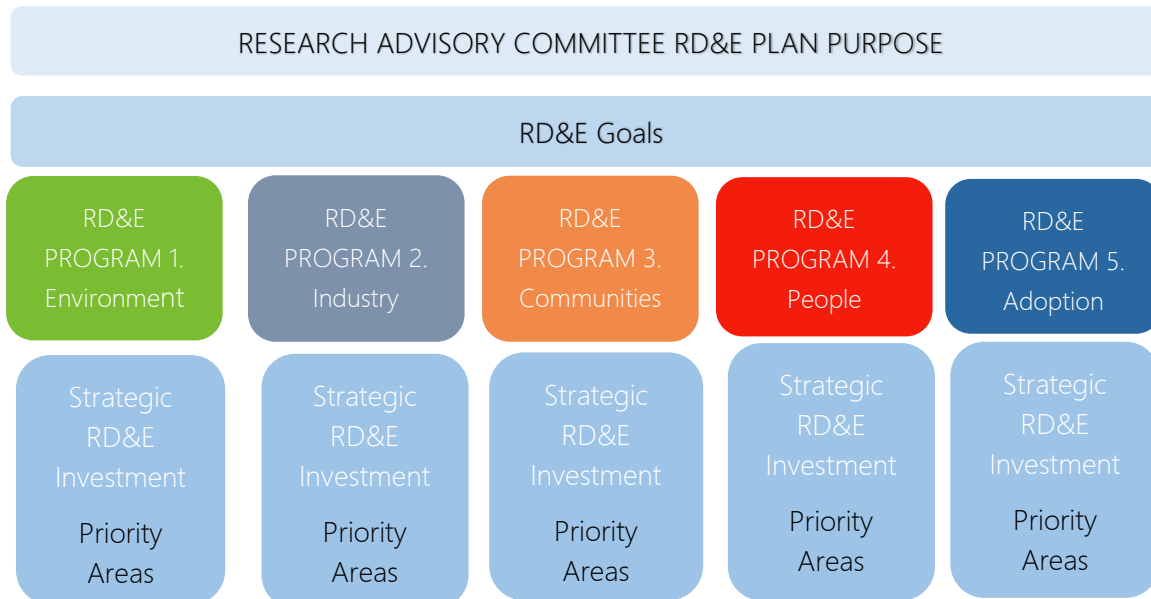
3.1 PURPOSE

The WA Research Advisory Committee RD&E Plan provides a framework to identify the key strategic research needs of the fisheries sector under its jurisdiction for the four (4) year period from 2017 – 2020.

The RD&E Plan aims to ensure that the research program meets both jurisdictional and, where appropriate, national strategic RD&E goals and addresses the major challenges facing the Western Australian seafood industry, including the commercial, aquaculture, recreational and indigenous sectors.

Where possible, this plan will link with other related strategies to enable efficiency and leverage opportunities e.g. other RACs, FRDC subprograms, FRDC coordination programs, FRDC sector based program.

3.2 FRAMEWORK OVERVIEW



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3.3 GOALS

Goal	Reasons For This Goal	How Best To Achieve This Goal
Continued improvement in sustainability performance	<ul style="list-style-type: none"> • Ensure long term access to resource • Licence holders, investors and the community have confidence in the long-term viability (i.e. social licence). • Ensure resource anticipatory of and resilient to unforeseen incidents 	<ul style="list-style-type: none"> • Increased level of data collection from fishers • Fisheries management to focus on a more holistic approach delivering returns from our fisheries • Ensure a greater understanding of the state’s capability in sustainable management by the WA community to gain their strong support for the activities that underpin the seafood sector and ESD • A complete understanding of the management and operational advantages provided by the head powers created in the new Act, and subsidiary processes in place to support positive industry and community outcomes. • Management of TEPs, by-catch, FIPs • Ongoing engagement with the Environmental Protection Authority • Third-party certification
Industry adaptive to social, environmental and economic circumstances	<ul style="list-style-type: none"> • Reduce volatility in fishing sector access to resource and profitability • Improve policy/decisions for fishing sectors • Improve policy decisions for aquaculture sector 	<ul style="list-style-type: none"> • New legislation • Education of fishers re importance of social licence • Increase use of accreditation and fish improvement systems • support strong national peak body • Use of social media/tools for: <ul style="list-style-type: none"> ○ Improved community acceptance/support ○ Greater accessibility for broader community to accurate science results and management systems for sustainability

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<p>Greater productivity and profitability</p>	<ul style="list-style-type: none"> • Sustainable fishing and aquaculture businesses • Better recreational fishing opportunities • Maintain social values • Increased environmental resilience and productivity. • Smaller scale fisheries will be more sophisticated in making decisions and more resilient to fluctuating environments 	<ul style="list-style-type: none"> • Better understanding of economics in fishing and aquaculture • Adoption of new technologies • Increase collaboration of fishers (sector bodies) • Development of new products and opportunities • Focus on post-harvest considerations (improving the value chain) • Reduce government red / green tape • Targeted stock enhancement (e.g. stocking of crabs to rebuild Cockburn Sound) • Restoration activities to improve productivity and fishing opportunities for key estuarine species such as black bream and flathead (e.g. Swan River). • Seafood sector to lead estuarine and nearshore restoration and enhancement activities • Improved economic input to assist longer-term ESD outcomes.
<p>Development of New Opportunities</p>	<ul style="list-style-type: none"> • Enhance recreational and commercial fishing opportunities • Asian related tourism will be a major economic contributor to WA regions as people visit to experience the world's best fishing and seafood. 	<ul style="list-style-type: none"> • implementation of artificial reef precinct areas – particularly associated with oil and gas decommissioning. • appropriately designed and managed FAD programs. • Understand potential tourism markets • Understanding how to measure social objectives
<p>Increased recognition and benefits derived by Indigenous sector from aquatic resources</p>	<ul style="list-style-type: none"> • Identify opportunities for indigenous participation in the seafood industry 	<ul style="list-style-type: none"> • Learn from successful precedents in other jurisdictions, i.e. developing community business opportunities • Seek synergies with IRB priorities in Northern Australia
<p>Aquaculture Development</p>	<ul style="list-style-type: none"> • Investment opportunities • Government support/commitment • Industry growth and development – prospectivity 	<ul style="list-style-type: none"> • Strategic, coordinated approach • Lake Kununurra will be an investment hub for Blue Carbon opportunities that will support

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	<ul style="list-style-type: none"> • Cross-sectoral interests • Best opportunity to increase value to the industry • Alternative protein source • employment 	<p>aquaculture and tourism industries in the east Kimberley / Lake Argyle</p> <ul style="list-style-type: none"> • Resource sharing approach • Development and funding for the 10yr Plan • Gazetting of the Mid West Aquaculture Development Zone • Ongoing and cross party support for aquaculture • Support for local emerging industry • Attraction of new players to WA
<p>Environment - changing climates, environmental drivers, biosecurity</p>	<ul style="list-style-type: none"> • Need adaptive, flexible approaches to respond • Further understanding of adaptive capacity 	<ul style="list-style-type: none"> • Apply relevant research outcomes from existing literature

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3.4 STRATEGIC RD&E INVESTMENT PRIORITY AREAS - BY FRDC RD&E PROGRAM

FRDC RD&E Program 1. - Environment	Outcomes from RD&E Investment
<p>1.1 Priority Area: Impact of environmental shifts on habitats and fishing operations</p>	<ul style="list-style-type: none"> • Studies to understand impact and opportunities on habitat and fish stocks. • Further understanding of what can be done to mitigate against or compensate for these changes
<p>1.2 Priority Area: Aquaculture – driven by needs identified by industry</p>	<ul style="list-style-type: none"> • Studies to understand impact on habitat of improved efficiency in aquaculture activities
<p>1.3 Priority Area: Mitigating impacts of TEPS, bycatch issues</p>	<ul style="list-style-type: none"> • Develop methods to mitigate interactions • cost effective monitoring to meet agreed objectives • acceptable biological risk assessment framework
<p>1.4 Priority Area: Understanding cumulative impacts of human activities on fishing and aquaculture indigenous industries and marine environment</p>	<ul style="list-style-type: none"> • Target seismic survey activity • Locally relevant assessment methodologies • Develop risk assessment protocol for different activities on species/groups • Determine acceptable thresholds – finfish, crustaceans, molluscs • Develop/Identify less intrusive seismic survey methods • Improve engagement and consultative processes • Establish a public portal to an agreed science base • Collaborative approach to research objectives • Develop a tool box of mitigation options for use across stakeholder sectors
<p>1.5 Priority Area: Continued development of methods to assess smaller, data poor fisheries</p>	<ul style="list-style-type: none"> • Meet new management requirements (i.e. MSC/FIPS) • Establish low cost/short term methodologies • Develop risk assessment process to enhance minimum effective regulation
<p>1.6 Priority Area: Improve understanding of stock connectivity and undefined stocks</p>	<ul style="list-style-type: none"> • Understand connectivity for important target species to support management decisions
<p>1.7 Priority Area:</p>	<ul style="list-style-type: none"> • Scope the potential to utilise carbon reduction/credit schemes to fund increased fishery production and fishing opportunity via direct or indirect offsets.

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1.8 Carbon sequestration opportunities that support increased production for recreational, commercial fishing and aquaculture	
1.9 Priority Area: Increased fishery productivity through habitat enhancement and protection and improvement activities for which all fishers may champion	<ul style="list-style-type: none"> • increased understanding of the options and potential utility of creating reefing precincts for the purposes of enhancing fisheries. • Protection, restoration and enhancement of estuarine and nearshore fisheries lead by those who have vested interest and are the direct beneficiaries

FRDC RD&E Program 2. Industry	Outcomes
2.1 Priority Area: Viability of small commercial fisheries and indigenous commercial fishing	<ul style="list-style-type: none"> • Outline appropriate business model for small scale fisheries within a community. • Develop tools to encourage viability and longevity • Understand the supply chain and where are the areas in which cooperation is essential (transport, value added products and continuity of supply). • Develop engagement tools to support regional fisheries (WAFIC) • Resilience/adaptability of heritage fisheries • Healthy regional communities • Flexibility in capture methods/harvest control rules
2.2 Priority Area: Industry valuation/valuation methodologies (National Priority)	<ul style="list-style-type: none"> • Improved representation to key decision making stakeholders • Consensus position on major issues – collective strength • Use of consistent methodology – common language to compare across industries/sectors • Understanding of the overall return to the state from each sector/fishery
2.3 Priority Area: Lever opportunities under new WA legislative framework	<ul style="list-style-type: none"> • Case studies for implementation of new WA legislation • Resource allocation and reallocation • Fisheries management framework • Develop social and economic objectives and methods to measure these opportunities • Co-management opportunities

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<p>2.4 Priority Area:</p> <p>New market opportunities from fishing and seafood related tourism</p>	<ul style="list-style-type: none"> • Study to scope opportunities and markets for development of tourism focused opportunities building the profile and activities of WA fishing and seafood centres. • Effectiveness of Habitat enhancement structures and stocking as tools to manage fishing effort, new tourism and regional fishing related opportunities
<p>2.5 Priority Area:</p> <p>Increase in production and value of the aquaculture industry</p>	<ul style="list-style-type: none"> • Improved nutrition and product quality • Shorter time to market • More efficient feed management • Better disease management • Attraction, training and retention of skilled personnel
<p>2.6 Priority Area:</p> <p>Improve economic and social outcomes for underutilised species</p>	<ul style="list-style-type: none"> • New product development / innovation • Articulate health benefits to new target markets (e.g. aged care sector) • Revitalise fishing in coastal communities / increased participation

FRDC RD&E Program 3. Communities	Outcomes
<p>3.1 Priority Area:</p> <p>Educate regional communities to the importance of a vibrant coastal fishing industry and the spin off benefits to the local community</p>	<ul style="list-style-type: none"> • Improved awareness perception, support and recognition of fishing and aquaculture benefits
<p>3.2 Priority Area:</p> <p>Pathways of direct community engagement to continue to build community support (social licence) through greater understanding of and appreciation for the fisheries management and science that underpins ESD.</p>	<ul style="list-style-type: none"> • Genuine community support for fisheries through an understanding of sustainable management • Evaluate international case studies where successful

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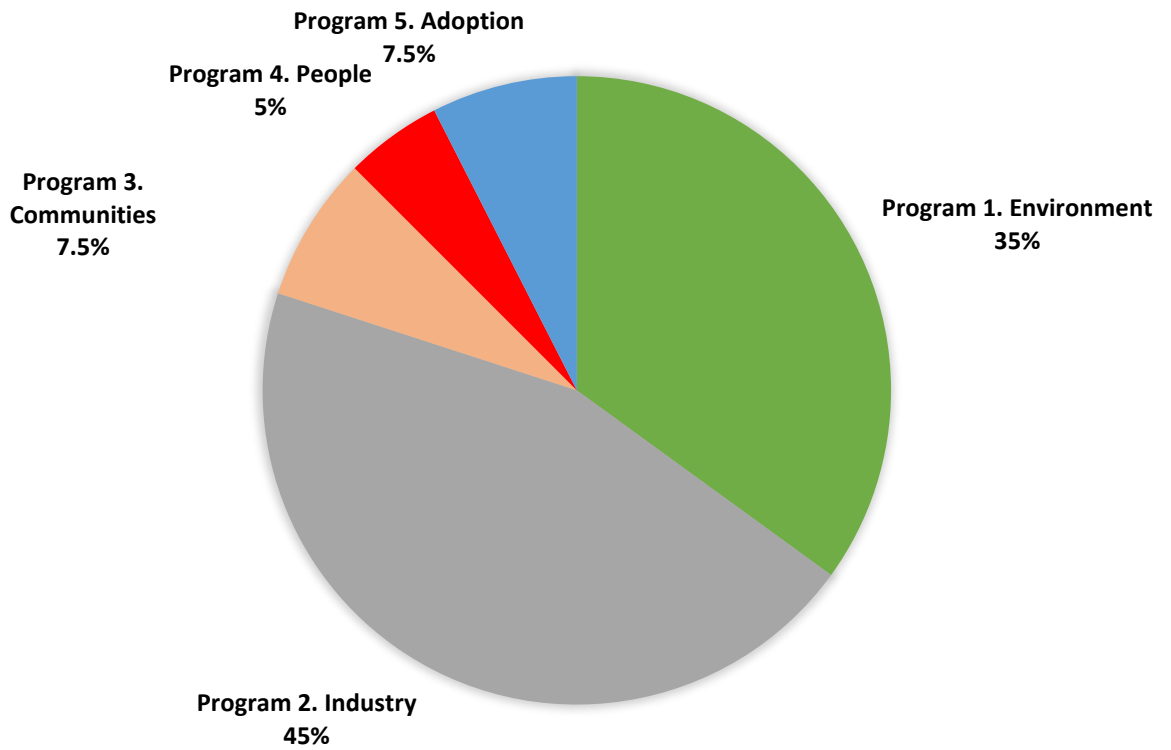
FRDC RD&E Program 4. People	Outcomes
<p>4.1 Priority Area:</p> <p>Develop next generation of leaders for WA seafood industry</p>	<ul style="list-style-type: none"> • Identify and encourage aspiring leaders • Improve recruitment / retention to industry • Upskilling • Contingency funding approach (agreed amount per year)?
<p>4.2 Priority Area:</p> <p>To make the WA seafood industry a more attractive career</p>	<ul style="list-style-type: none"> • Curriculum appeal to secondary / tertiary levels • Improve industry knowledge and skills within related study areas • Enhance educational / vocational pathways • Bring over successful experiences in this area from overseas
<p>4.3 Priority Area</p> <p>The WA RAC has set aside an annual amount as continuous priority seeking applications for People Development from industry in WA.</p>	<p>Some of the more common types of people development applications that are likely to be considered include;</p> <ul style="list-style-type: none"> • Bursaries, scholarships awarded to enable study to be undertaken • Capacity building - process of developing and strengthening the skills, processes and resources needed to survive, adapt, and thrive • Knowledge exchange (eg. holding workshops/conferences, visiting experts) • International exposure (eg. attend conferences, study tours) • Educational opportunities for learning new skills • To provide stewardship into the future (eg. youth development programs) • Succession planning within industry

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<p>5.1 Priority Area: Resilient & capable individuals in coastal towns</p>	<ul style="list-style-type: none">• Improve awareness, education and support network for health and wellbeing as well as better articulation of the contribution fishing has made in regional communities
<p>5.2 Priority Area: Process to best deliver message on outcomes from researcher to end-user and broader community.</p>	<ul style="list-style-type: none">• a mechanism to deliver accurate and effective delivery of outcomes from research to end users and broader community• establish measurable components of adoption strategy for projects with results tracked and reported

3.5 FORECAST INVESTMENT ACROSS STRATEGIC RD&E PRIORITIES

ESTIMATED ALLOCATION OF FUNDING ACROSS PROGRAM AREAS 2017 - 2020



4. RD&E PLAN Guidelines

4.1 INVESTMENT COLLABORATION

The RAC's are to be mindful of collaborative opportunities with external funding sources (other than the FRDC) as well as collaboration between the jurisdictional RACs, IPAs and FRDC subprograms. This collaboration occurs through the sharing of RD&E Plans as well as the results of priority planning processes. The annual planning workshop provides a forum for the sharing of these priorities to promote collaboration.

Collaboration provides the opportunity to share investment across common areas of interest and promote RD&E execution efficiency.

WA RAC recommended areas for collaboration

- Fisheries Improvement Programs – co-investment opportunities potentially with Coles, WWF etc.
- Blueprint for Marine Science and WAMSI – leverage
- Recreational Fishing Initiatives Fund (RFIF)
- Environmental science partnerships

4.2 EXTENSION

Extension processes are embedded into all FRDC-funded RD&E. How results can be extended begin when a project is approved for funding, are considered in the design and proposal phase where priorities for end users are determined, continue during the project's execution through to the final published report. This is often easier for short-term applied research but needs to be more considered for longer-term, blue-sky research.

On 23 April 2010, the Primary Industries Ministerial Council (PIMC) approved a National Strategy for Fishing and Aquaculture Research, Development and Extension (RD&E) which establishes the future direction to improve the focus, efficiency and effectiveness of RD&E to support Australia's fishing and aquaculture industry.

The FRDC have adopted these as key principles with regards to encouraging and promoting Extension and Adoption. They are:

Principle 1: All stakeholders to value extension and adoption activities in the same way as research activities.

Principle 2: Extension will be a key focus in research project development

Principle 3: Project knowledge and outputs are actively managed

Principle 4: Effectiveness and impact of project extension activities are evaluated

Principle 5: Extension and adoption capacity is maximised and built upon.

It best practice for project managers to have given some thought to how the project outputs will be used and adopted by end users while developing the application. It is a FRDC requirement that an Extension and Adoption Plan is developed and submitted for each project.

4.3 EVALUATION OF PROJECTS

The FRDC has adopted the Commonwealth input, output, outcome reporting framework policy. The Department of Finance and Deregulation has determined that the FRDC's planned outcome is *Increased knowledge that fosters sustainable economic, environmental and social benefits for the Australian fishing industry; including indigenous, recreational, commercial and aquaculture sectors, and the community; through investing in research, development and adoption.* The FRDC's performance is measured against its ability to deliver this outcome.

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The success of the RAC's planning, investment, management and adoption is measured by an evaluation framework that is based on adaptive management. The structure of the evaluation framework is as follows:

- A planning process that ensures investment is made against priorities where research can contribute to a significant improvement.
- An annual report evaluating the performance of individual projects against the targets in the RD&E Plan.

The FRDC has implemented the Rural RD&E Corporation Evaluation Framework methodology to achieve the total portfolio evaluation assessment. This is based on a rolling series of cost benefit analysis of project clusters (based on previous 5 years' investment). The results of the project cluster assessments links to the agreed KPIs that are relevant to that cluster. This process ensures that the investment decisions are continually being adjusted to ensure optimal investment performance. In this ongoing evaluation, the FRDC will measure the performance of RAC investments after the life of its RD&E Plan.

During the life of the RD&E Plan, the RAC should self-evaluate its performance against its identified Priority Areas as well as monitoring investment to ensure balance in investment across the FRDCs 5 programs. This is to be aligned with the prioritisation and RD&E Plan review processes undertaken in the October RAC meeting.

4.4 REVIEW OF THE RD&E PLAN

Annually, the RAC will review their RD&E Plan. This will occur at the October RAC meeting. The Plan will be reviewed to:

- assess performance against the identified Priority Areas of the Plan
- identify gaps against the Priority Areas of the plan
- determine priority areas for investment against these gaps

These annual plans will be circulated to all FRDC subprograms and partnership agreements unless it is deemed that there are areas of sensitivity, IP protection or commercial advantage that require protection.

At the beginning of December each year, the FRDC will hold an annual workshop for all RACs, Industry Partnership Agreements and National Initiatives to provide updates on priority areas for investment and any potential overlap and collaborative opportunities for the coming financial year.

The RAC, at each meeting, should also undertake a situational scan of the jurisdiction to identify any tactical or immediate areas of RD&E need that require short term or immediate remediation.