



The Australian Southern Bluefin Tuna Industry Association RD&E Plan provides a framework to identify the key strategic research needs of the industry from 2017 – 2020.

AUSTRALIAN SOUTHERN BLUEFIN TUNA INDUSTRY

Research, Development and
Extension Plan 2017 – 2020

1 June 2017



Photo – Stehr Group 2016

Contents

Contents	3
1. CONTEXT	3
1.1 FRDC RD&E INVESTMENT PROGRAMS	3
1.2 CO-MANAGEMENT INVESTMENT MODEL.....	4
2. OPERATING ENVIRONMENT	5
2.1 OVERVIEW.....	5
2.2 Southern Bluefin Tuna Farmers.....	6
2.3 DRIVERS, CHALLENGES AND OPPORTUNITIES	6
3. ASBTIA RD&E PLAN 2017 – 2020	8
3.1 PURPOSE	8
3.2 FRAMEWORK OVERVIEW.....	8
3.3 GOALS.....	9
3.4 STRATEGIC RD&E INVESTMENT PRIORITY AREAS	9
3.5 FORECAST INVESTMENT ACROSS STRATEGIC RD&E PRIORITIES	15
4. ASBTIA RD&E PLAN Guidelines	16
4.1 INVESTMENT COLLABORATION	16
4.2 EXTENSION AND ADOPTION.....	16
4.3 EVALUATION OF PROJECTS	16
4.4 DELIVERY OF OUTCOMES & REVIEW OF THE RD&E PLAN	17

1. CONTEXT

The Primary Industries Ministerial Council (PIMC) approved the National Fishing and Aquaculture Research, Development and Extension (RD&E) Strategy 2015 - 2020 that sets out a plan for RD&E to help improve the focus, efficiency and effectiveness of Australia's fishing and aquaculture industry. This strategy informs the Fisheries Research and Development Corporation's (FRDC) RD&E Plan 2015-2020.

1.1 FRDC RD&E INVESTMENT PROGRAMS

The FRDC has five Research, Development and Extension (RD&E) investment programs that directly align with its governing legislation, the Primary Industries Research and Development 1989 Act (PIRD Act). RD&E investments across these program areas will be 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 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.

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 activities 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 that 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 results from R&D. In addition, the FRDC is continuing to develop its systems to ensure its 'knowledge bank' is widely accessible.

1.2 CO-MANAGEMENT INVESTMENT MODEL

Under the FRDC’s RD&E Plan 2015 - 2020, the FRDC provides greater ownership and authority to industry sectors in developing their RD&E priorities through Industry Partnership Agreements (IPAs) and to jurisdictions through Research Advisory Committees (RACs).

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 the five FRDC programs (environment, industry, communities, people and adoption)
- focusses on short, medium and longer term RD&E outcomes
- is supported by a consistent RD&E planning framework across all IPAs and RACs (Figure 1)

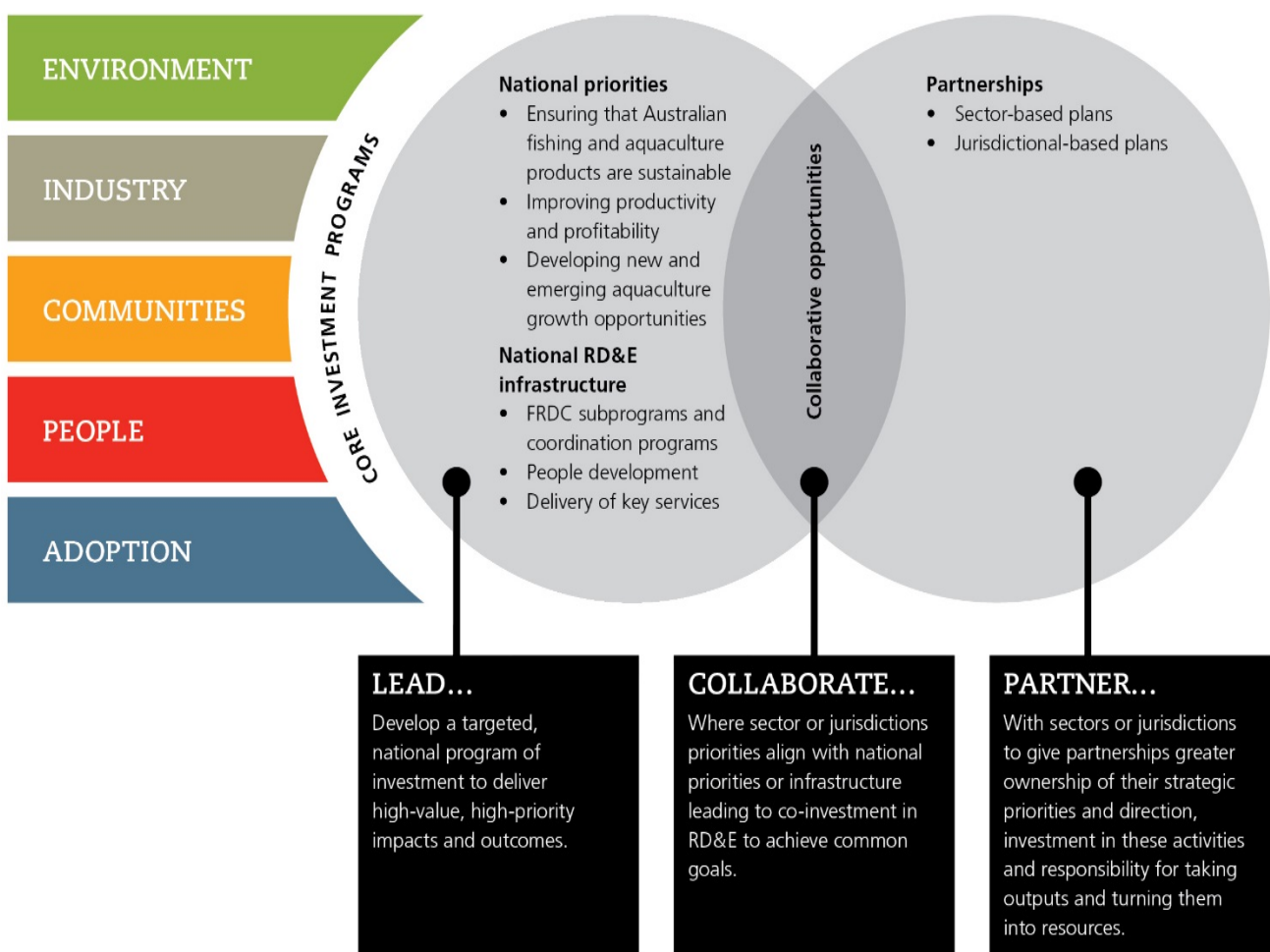


Figure 1. The framework for RD&E investment by the FRDC for 2015-2020.

2. OPERATING ENVIRONMENT

2.1 OVERVIEW

The Australian Southern Bluefin Tuna Industry Association (ASBTIA) began in 1978 as the Tuna Boat Owners of Australia (ATBOA) and is the peak body representing Southern Bluefin Tuna (SBT) ranching companies in Australia. The ASBTIA has operated since 1997 and is committed to delivering cost effective research, development and extension (RD&E) services to ensure a profitable and sustainable SBT ranching industry that focuses on environmental awareness, performance and innovation. ASBTIA members include all 7 SBT ranching companies based in Port Lincoln.

ASBTIA recognises the need to reflect the challenging conditions and factors facing industry, and consequently the need to provide an appropriate mechanism to manage and coordinate RD&E to ensure key priority areas are addressed. As such, the Southern Bluefin Tuna Research Council (SBTRC) has been established with an independent chair and a membership encompassing key stakeholders (most notably representatives from the SBT ranching companies), research providers and industry regulators (Figure 2).

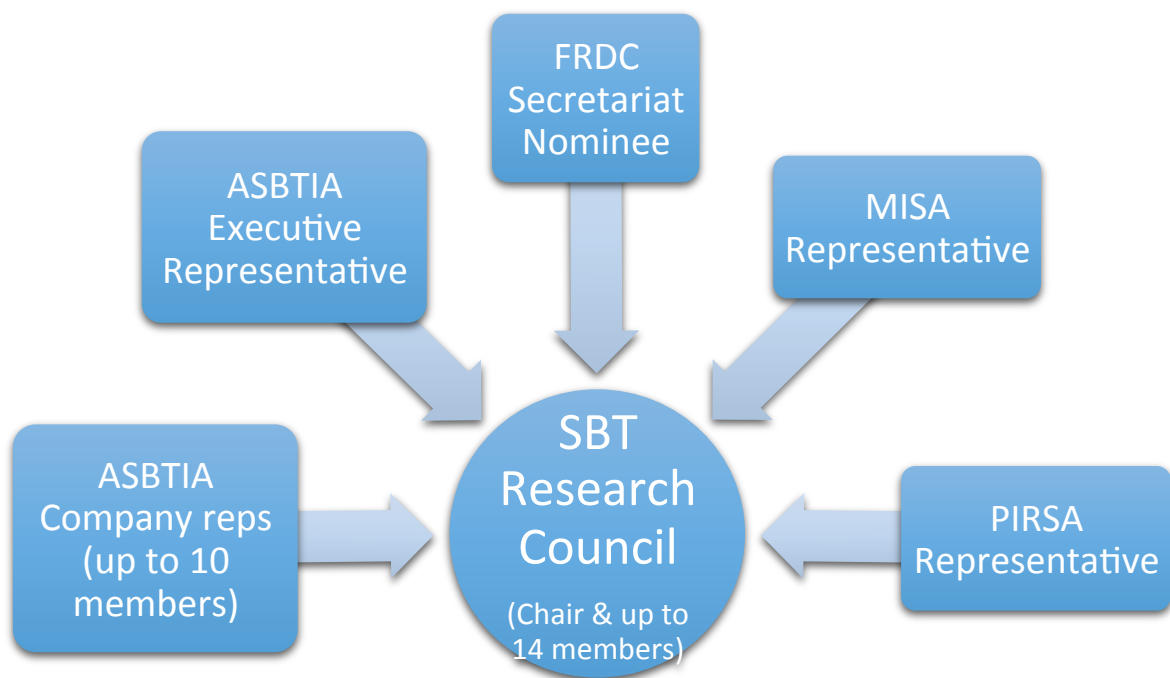


Figure 2. Structure of Southern Bluefin Tuna Research Council.

The principal role of the SBTRC is to provide advice to the ASBTIA and the FRDC on RD&E activities needed to:

- Ensure sustainable development of the industry;
- Improve resource access and statutory fishing rights;
- Improve profitability;
- Improve community relations;
- Enhance market development;
- Extend outcomes to stakeholders;
- Provide people development and succession planning opportunities; and
- Improved safety and training.

2.2 Southern Bluefin Tuna Farmers

In 1992, the world's first successful commercial tuna ranching operations commenced in Port Lincoln in response to a need to increase the value of the fishery after the wild stock had declined and quotas were introduced in 1984. Tuna ranching was conceived following a study initiated by the ATBOA and the Federation of Japan Tuna Fisheries Co-operative Association in conjunction with the Overseas Fishery Cooperation Foundation (OFCF), with the support of the South Australian Government and the Australian Government. This project was undertaken by the SBT industry in partnership with the FRDC.

The value of SBT on the Japanese sashimi market was quickly realised and on the basis of this study, the industry progressed from poling individual SBT into vessel tanks to the purse seine capture of schools of SBT transferred into specially designed towing pontoons and towed back to Port Lincoln for on-growing in static ranching pontoons. This change in catching approach facilitated the rapid expansion and development of the Port Lincoln SBT ranching industry.

Since then, the industry has steadily expanded to produce up to 9,000 tonnes of gilled and gutted SBT annually with an estimated annual value of between AUD\$150 – AUD\$300 million (PIRSA, 2012). In 2016, SBT were stocked in 96 ranching pontoons in lower Spencer Gulf, serviced by a fleet of 44 vessels.

2.3 DRIVERS, CHALLENGES AND OPPORTUNITIES

In 2008, ASBTIA established an Industry Partnership Agreement (IPA) with FRDC. The IPA provides the opportunity to enhance ASBTIA members' returns from precompetitive RD&E investments through improved flexibility, financial leverage and overall investment performance.

The IPA documents a joint investment plan across a suite of ASBTIA RD&E projects over a specified time period. The IPA will identify forward projects, budget allocations, member contributions, and FRDC "matching" funds. IPA's have been established by a number of large seafood and aquaculture industry sectors.

IPAs have a budget allocation, based on forecast contributions, and FRDC "matching" contributions, (minus an 8% FRDC service fee). Under an IPA the FRDC partners with an industry sector to deliver against that sector's RD&E Plan. The obligations of the parties signing an IPA are detailed in the signed Agreement. ASBTIA members anticipate a number of advantages to their sector from an IPA, including:

- A clear and direct path from Industry's Strategic Plan (short, medium and longer term priorities), and RD&E investment projects over the next 5 years
- Committed funding by industry and FRDC to RD&E investment plans over the next 5 years
- Greater industry input to, and responsibility for, managing its RD&E investment portfolio and projects, based on agreed performance indicators
- Greater flexibility for industry in the types of investments that can be made, and a quicker path from idea to adoption
- RD&E that can be linked to market outcomes (e.g. market research but not marketing itself)
- Final confirmation between ASBTIA and FRDC regarding the source and use of industry and matched funds

Drivers for ASBTIA investing in RD&E are varied and usually relate to the following key areas:

Production & Profitability

- Feed costs and feed conversion ratio
- Efficient cost competitive production
- Fish health, including parasite and disease management
- Capture effort/cost
- Multi-year grow-out

ASBTIA RD&E PLAN 2017 – 2020

Sustainability

- Wild stock recovery
- Environmental management
- Feed availability, sustainability and quality

Consumers and Community

- Increase markets and price of SBT
- Continue to grow community and government support for SBT ranching industry

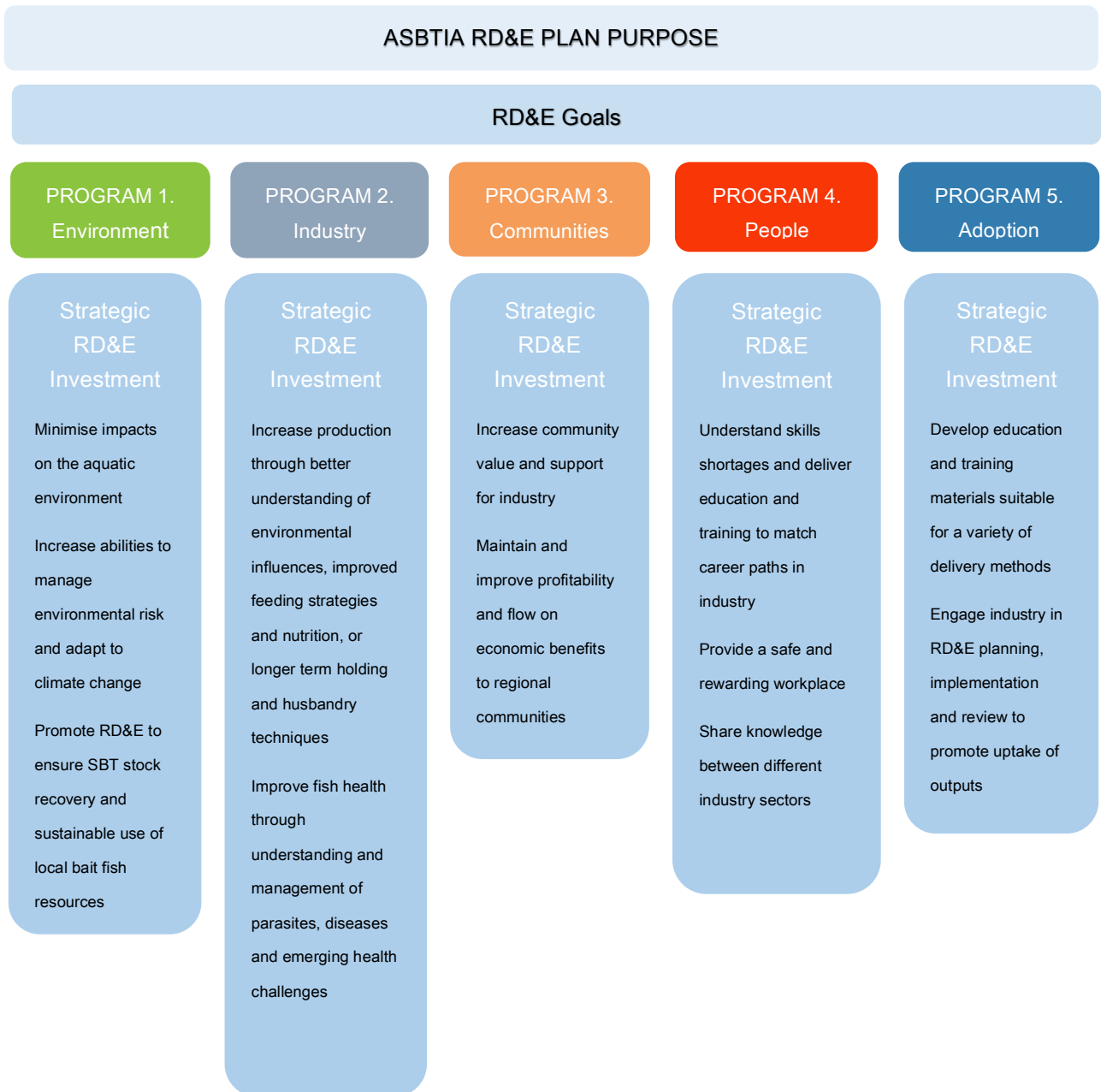
3. ASBTIA RD&E PLAN 2017 – 2020

3.1 PURPOSE

This ASBTIA RD&E Plan relates specifically to research into wild SBT caught for ranching purposes and research on the ranching of SBT. The Plan provides a framework to identify the key strategic research needs of the industry from 2017 until 2020 to ensure that the research program meets both sector and, where appropriate, national strategic RD&E goals and addresses the major challenges facing the SBT ranching industry.

Where possible, this plan will link with other related strategies to enable efficiency and leverage opportunities e.g. other FRDC subprograms, FRDC coordination programs, SBT fishery research priorities and other jurisdictional (RACs) and sector based (IPAs) programs.

3.2 FRAMEWORK OVERVIEW



3.3 GOALS

1. SBT ranching practices with minimum impact on the marine environment and continual improvement in sustainability
2. Optimise SBT health through nutrition, production husbandry, parasite management and addressing emerging issues and health challenges
3. Achieve gains in SBT prices in international and domestic markets
4. Increase production efficiency and product quality
5. Increase consumer awareness of value of the SBT aquaculture industry to the community and local economy
6. Respected and professional industry leadership
7. Adopt knowledge and technologies generated by RD&E conducted by industry, researchers and government stakeholders

3.4 STRATEGIC RD&E INVESTMENT PRIORITY AREAS

Due to the nature of SBT and the associated commercial and political frameworks, addressing RD&E priorities can often be complex and challenging. The SBT ranching industry has identified the following key strategic RD&E investment areas. During meetings and workshops, the SBT Research Council will identify and prioritise research within these strategic RD&E investment areas to reflect the changing commercial and research environment affecting the SBT ranching industry.

RD&E Program 1. Environment

Priority Area 1. Improving environmental performance of the SBT ranching industry

- Outcomes:
- Sustainable feed sources are used for SBT ranching
 - Continual improvement of the environmental performance of SBT ranching to achieve and maintain regulatory requirements and Certification standards
 - Increase sustainable supply of quality wild caught SBT for ranching
 - Minimise TEPs interactions and practice safe release methods
 - Carbon footprint of SBT ranching is reduced

Priority Area 2. Climate change adaptation

- Outcomes:
- The effects of climate change on SBT spawning areas, migration, feeding, growth and health are better understood
 - Changes in sea surface temperature are well understood
 - Adjust to climate change to optimise benefits and minimise risks

Priority Area 3. Environmental influences on wild capture of SBT

- Outcomes:
- Improved forecasting of oceanic influences and better understanding the effects of the marine environment on SBT migration
 - Greater information to improve decision making and reduce costs for SBT capture operations

RD&E Program 2. Industry

Priority Area 1. Increased demand for SBT in international and domestic markets

Outcomes:

- Increase in prices for SBT over the 5 year period to 2020
- Investigate domestic market for SBT and increase domestic sales by 2020
- Information on products and industry are readily available to the international and domestic public
- Develop new products to suit market demand
- Better understand new international and domestic consumer demands

Priority Area 2. Increase production efficiency

Outcomes:

- Survival of SBT to market consistently greater than 98%
- Feed utilisation efficiency improved by 20% by 2020
- Past feed development R&D consolidated to assess opportunities to maintain sustainability and to mitigate risk
- Technologies and methods used in other finfish aquaculture industries evaluated and adopted to improve understanding of SBT, gain production efficiency and reduce costs of production by 20% by 2020

Priority Area 3. Improve quality of farmed SBT

Outcomes:

- SBT quality improved by condition index >25 and reduced blood spotting in flesh by 2020
- Shelf life of SBT is extended together with improved maintenance of colour in flesh across shelf life
- SBT recognised as a safe and nutritious product in all markets

Priority Area 4. Improve health and survival rates of SBT

Outcomes:

- Improved understanding of SBT nutrition, including the use of vitamins to enhance shelf life, colour and immune-resistance to parasite infestation
- Better understanding of blood flukes including life cycle, parasite reservoirs, treatment optimisation, alternative treatments, re-infection, resistance, and other biological impacts on SBT
- Cause and possible treatment of 'swimmers syndrome' (Miamiensis) identified
- Health monitoring of stock implemented to identify emerging issues and the next health challenge
- Maintain mortality rates <1%

RD&E Program 3. Communities

Priority Area 1. Understand and engage with consumers

Outcomes:

- Improve consumer satisfaction
- Improved understanding of consumer requirements for SBT
- Consumers educated on the benefits of consuming SBT
- Improved consumer knowledge on the sustainability of SBT fishery and ranching
- Improved consumer knowledge of the correct handling and eating preparation methods for SBT

Priority Area 2. Understand and enhance the consumers' and the community's image of SBT aquaculture industry

Outcomes:

- Greater engagement with government and recreational sector on resource allocation issues
- Increase community and regulatory support for environmental management approaches and performance of the SBT industry
- The social and economic value created by the SBT aquaculture sector is documented and communicated to the

RD&E Program 4. People

Priority Area 1. Support SBT industry candidates in career and leadership development

Outcomes:

- Industry staff undertake regular leadership training
- Training relevant to their development is encouraged
- Workplaces encourage and support growth and development for employees within their current role

Priority Area 2. Improve personnel welfare and industry productivity

Outcomes:

- Industry workers receive appropriate workplace health and safety training
- Continuous improvement in workplace health and safety awareness is undertaken
- A safety culture is accepted across all levels of the SBT ranching industry

Priority Area 3. SBT industry personnel are market and product focussed

Outcomes:

- A market and consumer culture is accepted across all levels of the SBT ranching industry
- Employees are engaged to communicate on behalf of their sector as a proud, sustainable and professional supplier of world class seafood

RD&E Program 5. Adoption

Priority Area 1. Communicate the value created by the SBT aquaculture industry

Outcomes:

- The social and economic value of the SBT ranching industry is communicated to the public
- Use various media to reinforce messages of value about the SBT and aquaculture industry

Priority Area 2. Communicate RD&E outputs in the most appropriate format to promote adoption

Outcomes:

- Engage internally and externally with the SBT, aquaculture and seafood industry
- RD&E outputs communicated in the appropriate format to encourage adoption by industry
- Industry Up-skilled through extension of research results

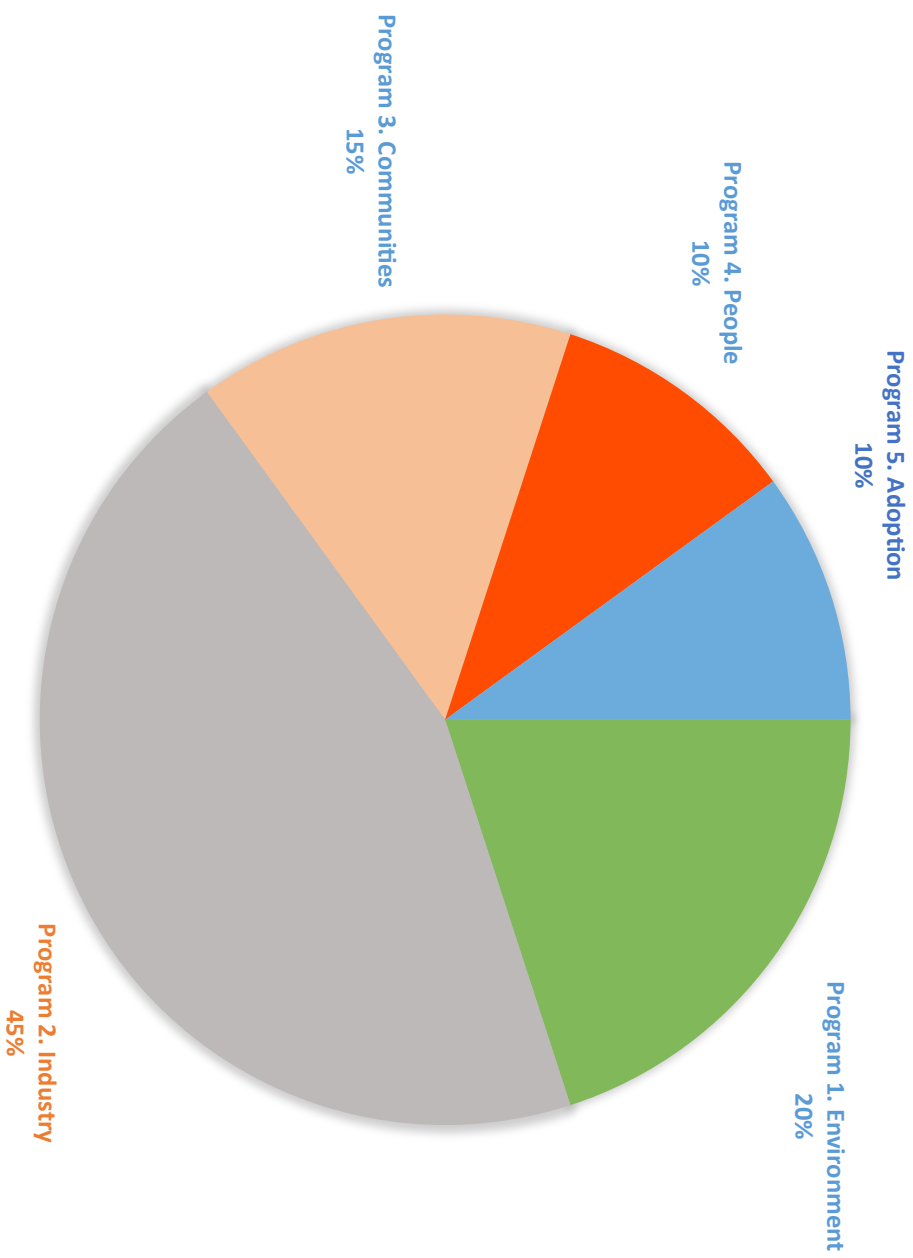
Priority Area 3. Develop dialogue with the broader seafood industry, other marine resource users, FRDC, agencies, NGOs, and other external stakeholders.

Outcomes:

- Encourage industry to engage in networking opportunities to enhance relationships with stakeholder groups
- Proactively participate in dialogue with all stakeholders through face-to-face, email, meeting, workshops, and other forms of communication

3.5 FORECAST INVESTMENT ACROSS STRATEGIC RD&E PRIORITIES

ESTIMATED ALLOCATION OF FUNDING ACROSS PROGRAM AREAS
2017 - 2020



4. ASBTIA RD&E PLAN Guidelines

4.1 INVESTMENT COLLABORATION

ASBTIA continually seeks collaborative opportunities with external funding sources (other than the FRDC), as well as collaboration between FRDC subprograms. This collaboration occurs through the sharing of RD&E Plans as well as the results of priority planning processes. The ASBTIA RD&E plan will be circulated to all FRDC RACs, IPAs and Subprograms unless it is deemed that there are areas of sensitivity, IP protection or commercial advantage that require protection.

The FRDC will hold an annual workshop for all RACs, IPAs and National Initiatives to provide updates on priority areas for investment and any potential overlap and collaborative opportunities for the coming financial year. The annual FRDC planning workshop provides a forum for the sharing of ASBTIA priorities to promote collaboration to share investment across common areas of interest and promote RD&E execution efficiency.

4.2 EXTENSION AND ADOPTION

Extension processes are embedded into all FRDC funded RD&E. How results can be extended begin when a project is developed. Extension and adoption will continue during a project's execution through to the final published report.

The FRDC have adopted the following key principles with regards to encouraging and promoting Extension and Adoption:

- 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.

While developing applications, project managers need to consider how the project outputs will be used and adopted by end users. 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.

The success of the ASBTIA IPA'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

ASBTIA RD&E PLAN 2017 – 2020

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 IPA investments after the life of its RD&E Plan.

During the life of the RD&E Plan, the ASBTIA will self evaluate its performance against its identified priority areas as well as monitoring investment to ensure balance in investment across the five FRDC programs. This is to be aligned with the prioritisation and RD&E Plan review processes undertaken during the SBTRC Meeting in November each year.

4.4 DELIVERY OF OUTCOMES & REVIEW OF THE RD&E PLAN

The SBT Research Council will report annually to both the ASBTIA and the FRDC on its achievements against this RD&E Plan. The Council will continue to deliver the following outcomes through close interaction between the commercial industry and research organisations:

- structured meetings to review project progress, milestones and budgets;
- research workshops for extension of research outcomes and direction of future research;
- an annual review of the ASBTIA strategic RD&E plan and research priorities;
- identify gaps against the priority areas of the plan and how they will be addressed
- provision of research updates and newsletters when appropriate;
- maintain a secure depository for all SBT research outcomes; and
- regular informal meetings between industry, research organisations and researchers.