



Victorian Research Advisory Committee RD&E Plan 2017 – 2022

The Victorian Research Advisory Committee RD&E Plan provides a framework to identify the key strategic research needs of the fisheries and aquaculture sectors under its jurisdiction from 2017 – 2022

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1. CONTEXT

1.1 PURPOSE

The [Victorian Research Advisory Committee](#) Research, Development and Extension (RD&E) Plan provides a framework to identify the key strategic research needs of the fisheries including commercial, aquaculture, recreational and Indigenous sectors under its jurisdiction for the 5-year period from 2017 – 2022.

Unless specified, the Victorian Research Advisory Committee Research (VICRAC) uses the term “fishing” to include the commercial, recreational (including charter) and Indigenous fishing sectors. Similarly, “industry” includes the aforementioned fishing sectors, the aquaculture industry, as well as non-seafood production industries such as ornamentals, fertilisers, bait fishing, ecotourism, and pharmaceuticals.

This RD&E Plan will guide Fisheries Research and Development Corporation ([FRDC](#)) investment advice made by the VICRAC, by ensuring research projects in Victoria address the overarching priorities of this plan, and are aligned with jurisdictional, and where appropriate, national strategic RD&E goals. This plan is also a requirement of the new investment model of FRDC utilising a consistent RD&E framework across all RAC’s.

Research projects will also be encouraged to foster collaboration among other Research Advisory Committees ([RACs](#)), [FRDC Subprograms and Advisory Groups](#), FRDC sector based programs (i.e. Industry Partnership Agreements, [IPAs](#)) and other funding sources to improve efficiency in use of resources and sharing of expertise. To do this, this RD&E plan will:

- Identify the major RD&E priorities for Victoria’s commercial, recreational and Indigenous wild fisheries sectors and the aquaculture sector;
- Outline the key principles guiding the investment strategy and delivery of FRDC funded fisheries and aquaculture RD&E in Victoria;
- Explain the planning, prioritisation and funding process for those seeking FRDC project funding through the VICRAC; and
- Reflect a balanced investment across FRDC programs (Environment, Industry, Communities, People and Adoption) and short, medium and long-term RD&E outcomes.

1.2 VICRAC RD&E PLAN GOALS

This VICRAC RD&E Plan will likely support new investments of \$4 to \$5 million in RD&E activities in Victoria over the next 5 years. VICRAC aims to achieve the following goals by 2022 through RD&E investment:

1. Ensure that fishing and aquaculture sectors are ecologically sustainable, and are recognised to be so by the community;
2. Develop tools and techniques to foster a productive and profitable fishing and aquaculture industry;
3. Foster community recognition and support of the Victorian fishing and aquaculture industries; and
4. Build stakeholder capabilities to contribute to a vital Victorian seafood industry.

1.3 VICTORIAN RESEARCH ADVISORY COMMITTEE

VICRAC, formerly Fisheries Research Advisory Body (FRAB), is an Australian Government statutory authority that was established by the FRDC in March 2016 under the *Primary Industries and Energy Research and Development Act 1989* (PIRD Act).

VICRAC is an expertise-based committee, comprised with membership reflecting the various sectors/stakeholders of fishing and aquaculture in Victoria. The major [responsibilities of VICRAC](#) are to:

- Identify the RD&E needs of stakeholders within Victoria;
- Set annual research and development priorities to maximise investment;
- Invite research and development applications to address the priorities;
- Encourage and support collaboration between researchers, fisheries managers and other RACs;
- Provide investment advice to the FRDC on RD&E applications throughout the year;
- Identify new and appropriate funding sources (including FRDC); and
- Assist the FRDC with communication and extension of research and development outcomes.

Victorian Consultation Process

In Victoria, various processes have been initiated to seek stakeholder views on RD&E priorities. These processes have had a variable response and met with mixed success. Based on these experiences, a “one size fits all” approach to engagement is unlikely to be successful in Victoria. Given the importance of ensuring that priorities meet the needs of the sectors, VICRAC will continue to discuss the most effective way to ensure stakeholders are involved in providing input to RD&E priorities and refine the processes over the life of this plan.

At each meeting, the VICRAC Committee 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.

2. OPERATING ENVIRONMENT

2.1 OVERVIEW

The Victorian fishing and aquaculture industries remain a key contributor to the State’s economy, particularly in rural areas. In 2014/15, the gross value of Victorian fisheries and aquaculture production was estimated to be \$88 million (ABARES 2016); with the wild-catch sector accounting for 67 per cent of this total value and aquaculture the remaining 33 per cent.

Victoria's commercial fisheries supply an extensive variety of species to domestic and international markets and provide some of the world's finest seafood. Victoria's commercial fisheries target a range of species, including abalone, rock lobster, prawns, King George whiting, bream, snapper, bait fish, eel, giant crab, pipi, and scallop.

The Victorian wild-catch sector produced 3,802 tonnes of fisheries products in 2014/15, with a production value of \$59 million (ABARES 2016). To ensure the sustainability of Victoria’s wild catch fisheries, good science is critical to guide fisheries management, compliance and policy decisions.

Victoria has been involved in aquaculture for over fifty years and manages this work under the *Fisheries Act (Victoria) 1995*, which provides for the management, development and promotion of an ecologically sustainable and viable aquaculture industry. In 2014/15, the value of Victorian aquaculture was \$29 million, producing 2,870 tonnes of aquaculture products (ABARES 2016). Victorian aquaculture goes on in a variety of offshore, coastal and inland facilities and produces trout, abalone, blue mussel, aquarium finfish, Murray cod, barramundi, and yabby.

In April 2017 the *Victorian Aquaculture Strategy* was released which provides a blueprint for key initiatives in the sector to foster growth. With the first action of the Strategy to release further marine aquaculture leases for development (in process as of May 2017), the aquaculture sector is expected to experience significant growth over the next five years.

Victoria has a large recreational fishing sector, with the State Government aiming to grow participation to one million anglers by 2020 through its Target One Million Policy. The Recreational Licence fees also provide significant resources that are redirected back into the fisheries to improve the quality of the fishing experience in Victoria and allow for investments in research in species of interest to recreational fishers.

Victoria's inland waters support healthy populations of trout and redfin, and native species such as golden perch, Murray cod and Australian bass. Yabbies and spiny freshwater crayfish are also popular. Victorian bays, inlets and oceans support productive recreational fisheries for snapper, King George whiting, flathead, bream, sharks, tuna, calamari and Australian salmon, most caught with hook and line. Recreational divers also take scallops, abalone and rock lobster.

The Victorian Aboriginal people have a strong connection to country that is central to their culture, both traditionally and today. This connection is acknowledged by the government and policy seeks to incorporate the rights, interests, aspirations and culture of Aboriginal people into the management of the fisheries resources. The further foster the inclusion of Indigenous Victoria’s in fisheries and aquaculture management, the *Victorian Aboriginal Fishing Strategy* was developed to achieve three key outcomes:

- Recognition of Aboriginal customary fishing rights for Recognised Traditional Owner Groups;
- Better economic opportunities for all Aboriginal people in fishing and related industries; and
- Sustainable fisheries management in collaboration with Traditional Owner Groups.

Other more recent work such as the Aquaculture Strategy and treaty settlements will also continue inform the dialogue and initiatives with Aboriginal people in Victoria.

2.2 STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

In developing this strategic RD&E plan, the VICRAC Committee undertook a SWOT (strengths, weaknesses, opportunities, and threats) analysis to provide a situational scan of the broad issues and opportunities facing Victorian fisheries, aquaculture and the environment it operates within. The SWOT analysis was augmented by feedback provided to the Committee from commercial, Indigenous and recreational stakeholders through

a survey (refer to [Appendix](#)). The situational scan provided by the SWOT analysis was used to inform the drafting of a series of outcomes of expected RD&E investment (refer to [Section 3.3](#)).

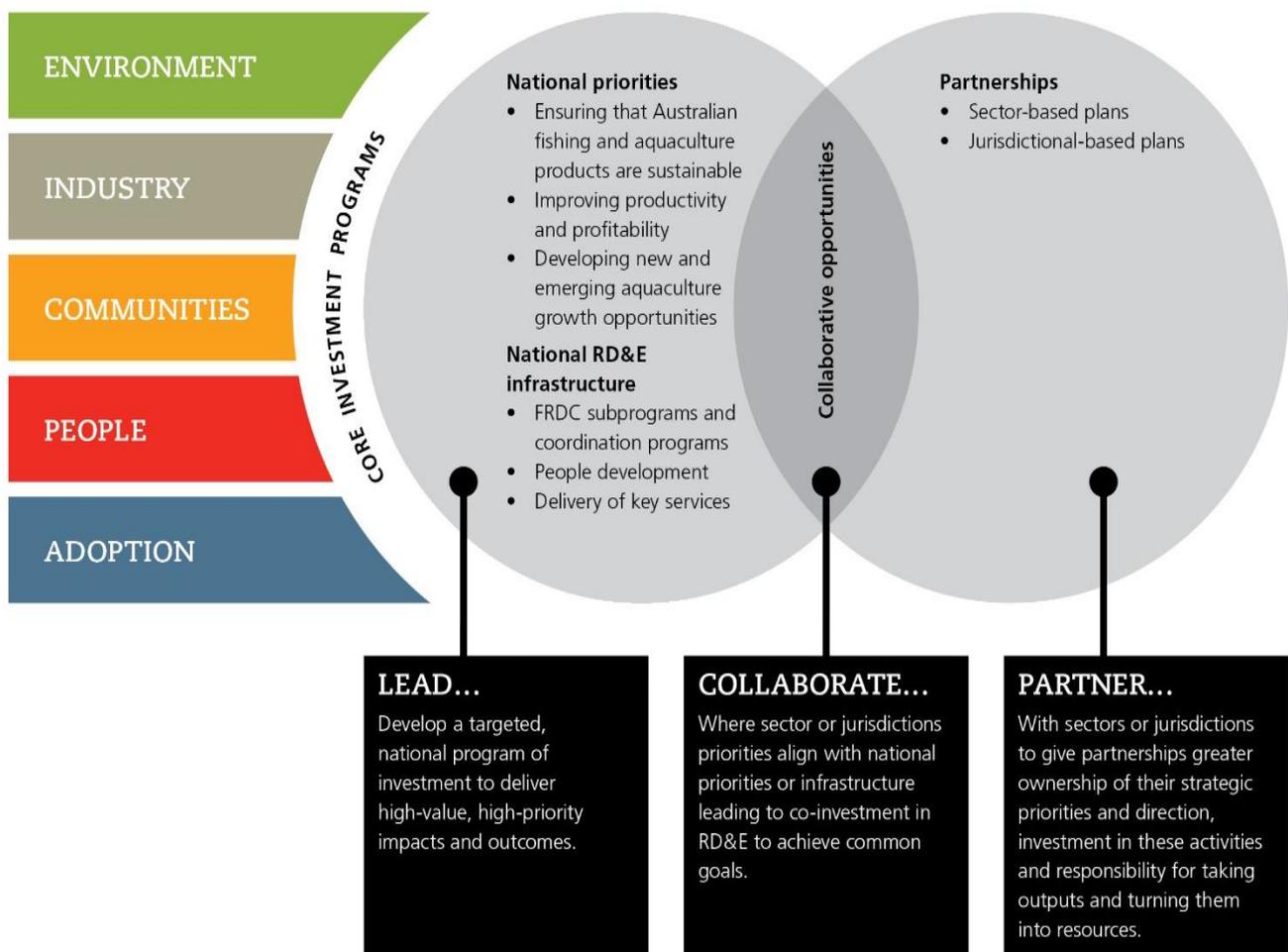
The VICRAC Committee will annually update the SWOT analyses as part of the September/October RAC meeting, thus ensuring that research prioritisation remains relevant and addresses Victoria’s RD&E needs (as per [Section 4.4](#)).

3. VICRAC RD&E INVESTMENT FRAMEWORK

3.1 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 RD&E priorities, through IPAs and to jurisdictions through RACs.

The framework for RD&E investment by the FRDC



3.2 FRDC RD&E INVESTMENT PROGRAMS

The [FRDC has five RD&E investment programs](#) that directly align with its governing legislation, the *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 the Australian community. The five FRDC RD&E investment programs include:

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

Communities... 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... 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... 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.

3.3 STRATEGIC RD&E INVESTMENT PRIORITY AREAS

VICRAC has considered the FRDC programs (defined in [Section 3.2](#)) and the needs and opportunities of the Victorian fishing and aquaculture industries and the broader environment that they operate within (as informed by the SWOT analysis – refer to [Appendix](#)). VICRAC has drafted a series of outcomes of expected RD&E investment over the life of this plan. These expected outcomes are designed to be high level and will guide flexible investment of RD&E in Victoria (points are presented in no particular order).

Environment... PLANNED RD&E OUTCOMES:

- Minimise impacts of fishing and aquaculture on the aquatic environment and threatened, endangered and protected species
- Promote best practices in ensuring animal welfare
- Identify opportunities for habitat restoration to improve fish productivity
- Develop approaches for adapting resource and aquatic habitat use in light of current and predicted climatic change
- Assess the ecological, social and economic impacts of the non-fishing industries on aquatic organisms and habitats; i.e. the oil, gas and shipping industry
- Mitigate impacts of invasive species and disease on aquatic organisms and habitats

Industry... PLANNED RD&E OUTCOMES:

- Manage the cumulative impacts of aquatic and terrestrial resource users on Victoria's aquatic environment through ecosystem-based management
- Develop solutions to enhance productivity and profitability across the value chain
- Explore the viability of under-utilised and invasive species as targets for the fishing and aquaculture industries
- Develop novel and cost-effective approaches to data collection and monitoring of the fishing and aquaculture industries
- Facilitate the development and growth of the Indigenous fishing and aquaculture sectors in Victoria

Communities... PLANNED RD&E OUTCOMES:

- Measure the economic, social and cultural value of fishing and aquaculture in Victoria to enhance community support
- Increase recognition and support of the role fishing plays in supporting a healthy lifestyle, in terms of recreational activities, and human nutrition and food security
- Understand the seafood consumer and public perceptions and needs; and develop pathways and tools to inform and link consumers with seafood producers to promote the Victorian fishing and aquaculture sectors

People... PLANNED RD&E OUTCOMES:

- Develop solutions and pathways to improve workplace health and safety, including mental health and societal well-being
- Understand the needs of and develop opportunities for female, Indigenous and young industry members to ensure the future resilience of the fishing and aquaculture industries
- Develop appropriate programs through partnerships with various educational institutions that meet the development, leadership, capacity-building, skills and training needs of the fishing and aquaculture sectors now and into the future

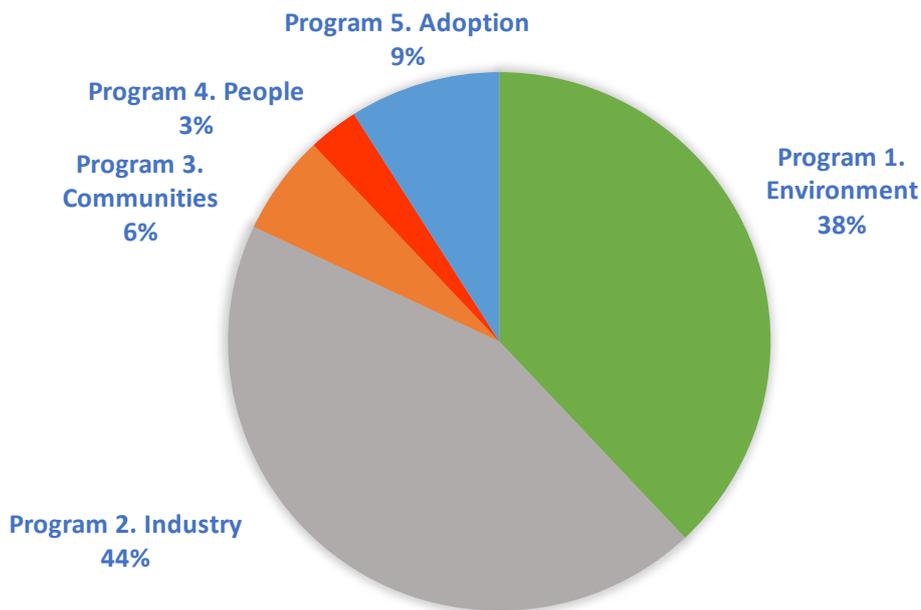
Adoption... PLANNED RD&E OUTCOMES:

- Ensure R&D extension is relevant and in a format accessible to all stakeholders
- Develop and promote opportunities for the transfer of knowledge within and among sectors; in particular identifying best-practices for the fishing and aquaculture industry both locally and internationally
- Collate and utilise Indigenous and anecdotal knowledge to improve the understanding of aquatic environments
- Develop communication strategies / tools that are effective in promoting VICRAC RD&E outcomes to end-users
- Identifying opportunities for cross sector and cross state R&D outcomes
- Develop an audit process to ensure RD&E outcomes and extension reach identified stakeholders

3.4 FORECAST INVESTMENT ACROSS STRATEGIC RD&E PRIORITIES

The primary role of VICRAC is to prioritise, plan and invest in fisheries RD&E activities in Victoria. This will be achieved by investing in a balanced portfolio of projects that address issues of Victorian and national importance for all stakeholders. This investment strategy will also take into consideration the level of industry contribution and public good funds available. VICRAC will adhere to the [FRDC’s investment policy](#).

The primary area of balance for VICRACs will be across the FRDC’s five program areas. Historically, VICRAC (through VICFRAB) has invested in across the FRDC programs as outlined in the figure below. This provides an indicative allocation of VICRAC RD&E investment over the life of this plan (2017 – 2022).



4. RD&E PLAN GUIDELINES

4.1 INVESTMENT COLLABORATION

VICRAC will consider, and where possible promote, collaborative opportunities with external funding sources (other than the FRDC), as well as between jurisdictional RACs, sector based IPAs, FRDC Subprograms and key RD&E providers in alignment with the [National Fishing and Aquaculture Research, Development and Extension Strategy 2016](#). This collaboration is designs to increase efficiency and make best use of limited funds for research. This collaboration occurs through the sharing of RD&E Plans, development of projects and funding opportunities. The annual [FRDC Stakeholder Planning Workshop](#) provides a forum for the sharing of these priorities to promote collaboration and further develop priorities and RD&E concepts.

It is worth noting that two Victorian fishing and aquaculture sectors participate in IPAs with the FRDC – Southern Rock Lobster Ltd and the Australian Abalone Growers Association, both retaining 100% of their industry funds from the VICRAC budget. In addition, there are a number of [FRDC Subprograms and Advisory](#)

[Groups](#) with annual operating budgets. As such, VICRAC decision making on RD&E investment will be mindful of:

- Applications for RD&E funds that are relevant to sector-based IPAs and not the broader public good;
- Opportunities for co-investment with relevant IPAs (as well as FRDC Subprograms and external funding sources);
- When engaging in RD&E co-investment with IPAs, investment is in proportion to the relative (perceived) industry versus public good benefits.

The FRDC has made funds available to incentivise collaboration. The following rules outline how the FRDC will manage the collaboration fund:

- Collaboration must be two or more partners (RACs, IPAs, Subprograms);
- To obtain funds the priority must align with identified national priorities or the collaborative priorities identified at the FRDC Annual Planning workshop; and
- For every two dollars brought by the collaboration, the FRDC will provide one dollar. Therefore, if there are two partners they put a dollar in each and the FRDC will provide a dollar.

4.2 PROJECT EXTENSION

The extension of research and development outputs is embedded in all FRDC-funded activities, and should be considered in the project design and proposal phase, such that expected outputs need the needs of end users. It is a FRDC requirement that an [Extension and Adoption](#) Plan is developed and submitted for each project. It is important to highlight that extension of project outputs is an ongoing activity, and should take place throughout a project's execution through to the final published report (and often beyond).

4.3 EVALUATION OF FUNDED PROJECTS

The FRDC has adopted the Commonwealth input, output, outcome reporting framework policy. The Department of Finance and Deregulation has determined that the FRDCs 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 FRDCs performance is measured against its ability to deliver this outcome.

The success of VICRAC'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; and
- 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 Key Performance Indicators (KPIs) that are relevant to that cluster. This process ensures that the investment decisions are continually adjusted to ensure optimal investment performance. In this ongoing evaluation, the FRDC will measure the performance of VICRAC investments after the life of its RD&E Plan.

During the life of the RD&E Plan, VICRAC will self-evaluate its performance against its identified program-specific Outcomes as well as monitoring investment to ensure balance in investment across the FRDCs five programs. This is to be aligned with the prioritisation and RD&E Plan review processes undertaken in the September/October RAC meeting.

4.4 REVIEW OF THE RD&E PLAN

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

- Assess performance against the identified Outcomes of the plan;
- Identify gaps against the Outcomes of the plan; and
- Determine new Outcomes for investment against these gaps.

These plans will be circulated to all FRDC Advisory Groups unless it is deemed that there are areas of sensitivity, IP protection or commercial advantage that require protection. In August each year, the FRDC will hold an annual FRDC Stakeholder Planning 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.

APPENDIX

STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS

In developing this strategic RD&E plan, the VICRAC committee undertook a SWOT (strengths, weaknesses, opportunities, and threats) analysis to provide a situational scan of the broad issues and opportunities facing Victorian fisheries, aquaculture and the environment it operates within. The SWOT analysis was augmented by feedback provided to the Committee from commercial, Indigenous and recreational stakeholders through a survey. Annual SWOT analyses will be used to aid focus of the research prioritisation process and update/revise the points below (as per [Section 4.4](#)). The outcomes of the SWOT analysis are below (points are presented in no particular order):

Strengths...

- Sustainability across Victorian fisheries and aquatic resources
- Research expertise
- Increase in population driving demand for fisheries products
- Access to major markets, including facilitating transportation infrastructure to international markets

Weaknesses...

- Competition among multiple users for shared resources and space
- Reduction in commercial fishing
- Limited social & economic data on contribution of all sectors
- Unequal attention across fisheries sectors
- Aquaculture has no peak body
- Lack of recognition for Indigenous cultural (subsistence) and commercial fishing
- Lack of recognition for women in the fishing and aquaculture industries
- Insufficient water and product quality data
- Limited research on non-edible fish industry – e.g. recreational, sport fishing and ornamentals
- Lack of business management skills across the industry (to make them contemporary and competitive)
- Lack of targeted education and training specific to the fishing and aquaculture industry

Opportunities...

- Cross sector collaboration to ensure participation for all sectors and stakeholders
- Succession planning through people development
- Promoting women in the fishing and aquaculture industries
- Promoting Indigenous cultural and commercial fishing
- Expansion of the aquaculture industry, including development of Indigenous aquaculture initiatives
- Expansion and greater recognition of the non-edible fish industry – e.g. recreational, sport fishing and ornamentals

- Better utilising underused species in all sectors of the fishing and aquaculture industries
- Establishment of aquatic habitat restoration strategies (both habitat structure and fishing stocks)
- Developing appropriate management strategies for aquatic resources
- Improve transparency and mutual trust through education and communication
- Connecting the harvester (e.g. fishers and aquaculturists) with seafood consumer
- Better engagement and collaboration between the fishing and aquaculture industry and Victorian universities
- Identifying and overcoming barriers to productivity
- Adopting technology and gear to enhance productivity and profitability
- Knowledge transfer between sectors, both international and national
- Developing and adopting novel approaches to data collection and monitoring

Threats...

- Increased Victorian metropolitan population; therefore, subsequent increased impacts on aquatic and terrestrial environment
- Increased recreational fishing participants
- Increase in operating costs to aquaculture (i.e. power) and commercial fishers (i.e. fuel)
- Reduced commercial fishing
- Lack of succession planning
- Impacts on the aquatic environment by non-fishing industries – e.g. seismic surveying
- Biosecurity (e.g. invasive species) and diseases
- Animal welfare issues
- Climate change and localised environmental degradation, and a lack of understanding on potential impact
- Workplace health (physical and mental), safety and well-being of participants of the seafood industry