



Strengthening the ABFA Quality Framework

Jo-Anne Ruscoe

July 2022

FRDC Project No **2018-140**

Strengthening the ABFA Quality Framework

2018-140

2022

Ownership of Intellectual property rights

Unless otherwise noted, copyright (and any other intellectual property rights, if any) in this publication is owned by the Fisheries Research and Development Corporation and the Australian Barramundi Farmers' Association.

This publication (and any information sourced from it) should be attributed to Ruscoe, J., Australian Barramundi Farmers Association, 2022, *Strengthening the ABFA Quality Framework*

Creative Commons licence

All material in this publication is licensed under a Creative Commons Attribution 3.0 Australia Licence, save for content supplied by third parties, logos and the Commonwealth Coat of Arms.



Creative Commons Attribution 3.0 Australia Licence is a standard form licence agreement that allows you to copy, distribute, transmit and adapt this publication provided you attribute the work. A summary of the licence terms is available from

<https://creativecommons.org/licenses/by/3.0/au/>. The full licence terms are available from <https://creativecommons.org/licenses/by-sa/3.0/au/legalcode>.

Inquiries regarding the licence and any use of this document should be sent to: frdc@frdc.com.au

Disclaimer

The authors do not warrant that the information in this document is free from errors or omissions. The authors do not accept any form of liability, be it contractual, tortious, or otherwise, for the contents of this document or for any consequences arising from its use or any reliance placed upon it. The information, opinions and advice contained in this document may not relate, or be relevant, to a readers particular circumstances. Opinions expressed by the authors are the individual opinions expressed by those persons and are not necessarily those of the publisher, research provider or the FRDC.

The Fisheries Research and Development Corporation plans, invests in and manages fisheries research and development throughout Australia. It is a statutory authority within the portfolio of the federal Minister for Agriculture, Fisheries and Forestry, jointly funded by the Australian Government and the fishing industry.

Researcher Contact Details

Name: Jo-Anne Ruscoe
Address: 42 Rudder Close, Clifton Beach 4879
Phone: 0415244759
Email: admin@abfa.org.au

FRDC Contact Details

Address: 25 Geils Court
Deakin ACT 2600
Phone: 02 6122 2100
Email: frdc@frdc.com.au
Web: www.frdc.com.au

In submitting this report, the researcher has agreed to FRDC publishing this material in its edited form.

Contents

Contents	iv
Acknowledgments	v
Executive Summary	vi
Introduction	1
Objectives.....	2
Method.....	2
Results, Discussion and Conclusions	7
Recommendations.....	8
Extension and Adoption	8
Project materials developed	9
Appendices (not for distribution).....	10

Acknowledgments

Funding for the development of a quality framework for farmed Barramundi was provided by Food and Innovation Australia Ltd., the Fisheries Research and Development Corporation on behalf of the Australian Government, the Australian Barramundi Farmers Association and Mainstream Aquaculture.

The author acknowledges the following individuals and organisations who developed, trialled, and refined the various components of the quality framework.

Meredith Lawley and team of University of the Sunshine Coast who undertook market research to inform quality standards.

Belinda Yaxley of Nautilus Collaborations and Heidi Mumme of MI-Fish Consulting for developing, trialling, and refining the quality standards.

Belinda Yaxley for undertaking trial audits

Cameron Scadding and the team at Source Certain for building the capacity of our members to prove authenticity of origin of product.

Sue Poole, Paul Exley and team at Queensland Department of Agriculture and Fisheries for their extensive body of research and development over the course of many years, which underpins the ABFA's quality standards.

The many industry members who committed time, energy, and advice to the project.

Executive Summary

The Australian Barramundi Farmers' Association (ABFA) supports its members to strive to differentiate Australian farmed Barramundi on quality, safety, and sustainability. A critical aspect in building market share and securing premium price is assuring buyers and consumers that every meal of Australian farmed Barramundi meets their high expectations for quality. To deliver on this promise, the ABFA made the decision to build upon our eco-certification framework to address minimum standards for quality.

In 2018, the ABFA embarked on a program of work, in part supported by this project, to develop and trial industry quality standards for farmed Australian Barramundi, and assess capacity to assure supply chain integrity and provenance claims.

Background

A quality framework that builds the customer base, supports market differentiation, and industry profitability has been a long-term priority for the ABFA. A good start had been made with the successful implementation since 2014 of the ABFA's eco-efficiency certification program, but it was considered important to also introduce industry product quality standards and promote these to markets; and to establish a program to underpin consumer trust in the authenticity of origin claims.

In April 2018, Mainstream Aquaculture and the ABFA successfully secured funding from Food Innovation Australia (FIAL) to undertake a body of research and development to address two challenges:

1. Improve Consumer traits of farmed Barramundi through Mainstream Aquaculture breeding program, and
2. Strengthen industry quality standards for farmed Australian Barramundi.

A consortium was formed that included Mainstream Aquaculture, ABFA, and Pejo Enterprises (since merged with Mainstream Aquaculture)., Supplementary funding for this project was secured through ABFA through its Industry Partnership Agreement with the FRDC to ensure the successful development of a quality framework.

Objectives

The project objective was to enhance and implement Industry quality standards for farmed Australian Barramundi.

Long term, the intent was to deliver:

- Product with improved quality characteristics in line with consumer feedback
- A reduction in the use of foreign fish to substitute Australian products
- Supply chain integrity and provenance improvements, and ultimately
- Higher margins on Australian farmed Barramundi throughout the supply chain.

Methodology

The ABFA took responsibility for undertaking the following activities as part of the consortium's broader activities:

1. Complete market survey on consumer and trade buyer value drivers.
2. Determine quality standards to be included within an expanded ABFA-owned quality program.
3. Commission research to provide the knowledge/protocols/analysis needed to underpin new product quality standards
4. Develop, trial and document new product quality standards and supporting tools, including audit materials
5. Trial the expanded product quality program on-farm, including auditing
6. Development of provenance/traceability test and protocols to prevent product substitution and establish supply chain integrity, thereby supporting the quality framework

7. Promotion and training related to ABFA product quality framework (to industry and consumers/buyers/food service)

Results

The ABFA has delivered all seven activities and the program of work has resulted in:

- Understanding the value drivers of consumers and trade buyers has supported not only the development of product quality standards, but every member producer in aligning their own businesses and marketing efforts.
- Improved knowledge to improve product quality (and animal welfare) outcomes during harvest and slaughter.
- A suite of product quality standards and audit tools which have been piloted on 80 percent of member farms
- Capability for proving authenticity of provenance claims in the market.

Implications for relevant stakeholders

The ABFA now has the tools to operationalise an audited set of product quality standards.

Member farms, representing more than 96% of farmed Australian Barramundi in the domestic market have greater knowledge and understanding and improved protocols to improve product quality and welfare outcomes for farmed Barramundi, and the tools to demonstrate this to trade buyers and consumers through independent audit against industry standards. Ultimately this will result in higher margins on Australian farmed Barramundi throughout the supply chain.

For the consumer there is consistency of product with quality characteristics in line with consumer values, and there can be greater trust in origin claims with reduced risk and incidence of mislabelled/substituted product.

Keywords

Lates calcarifer, Barramundi, Product quality, Standards, Product differentiation

Introduction

Barramundi (*Lates calcarifer*) is a relatively hardy finfish species that has wide physiological tolerances, and hatchery production of seed is routine. Barramundi feed well on pelleted diets, and juveniles are easy to wean to pellets. The species grows rapidly, reaching a harvestable size (350 g – 3 kg) in six months to two years. It is recognised as having attractive characteristics for marketing. It is a white fleshed fish, that is versatile and easy to cook, and healthy - with half the calories of salmon, Barramundi is still rich in Omega-3 fatty acids.

Globally, Barramundi production was estimated at 169,000 tonnes in 2017-18, an increase of 20 percent on the previous year, and with an industry value of \$US1,014M, and holding a 2% share of the premium white fish category (Mainstream, 2018).

The Australian Barramundi farming industry is a relatively new industry, which is expanding rapidly. Over the past five years, farmed Barramundi production has been growing at an average rate of 14% p.a. (5-year Compound annual growth rate). The estimated 2020-21 value is \$108 M, and it is anticipated that the industry value will reach \$200 M pa by 2025. At this point in time almost all Australian farmed Barramundi is consumed domestically, but globally and domestically there is substantial latent demand for a premium white flesh fish. Barramundi can fill this gap.

Australian Barramundi farms employ diverse production systems ranging from marine sea cages, fresh and brackish water ponds, and recirculation systems. Most of Australia's Barramundi farms are in tropical northern Australia (Far north Queensland, Northern Territory, and the northwest of Western Australia), although there are farms in New South Wales, Victoria, and South Australia. ABFA members represent more than 96% of national production volume.

The market for Barramundi in Australia is estimated to be around 25,000 tonnes per year, and consumers are willing to pay a premium for Australian Barramundi. It is estimated however, that upwards of 50% of Barramundi eaten in this country is imported from Asia, wholesaling for around half the cost of Australian product. Australian producers strive to differentiate their product on provenance values, quality, safety, and sustainability - yet one of our biggest challenges to achieving growth in profitably is the difficulty in differentiating product from cheap imports at the point of sale.

A farmed Barramundi product quality framework that builds the customer base, supports market differentiation, and industry profitability has been a long-term priority for the ABFA. A good start had been made with the successful implementation since 2014 of the ABFA's eco-efficiency certification program, but it was considered important to also introduce industry quality standards and promote these to markets,

The development of product quality standards is not a new idea for the ABFA. A previous attempt had been made 2002 to initiate product quality standards to facilitate market expansion but this had stalled. The reasons for this are varied but it is generally considered that at that time the industry was production focused and lacked a formalised quality assurance culture. Additionally, it was not clear how quality standards would be promoted within the marketplace with low brand visibility at the point of sale. Some members saw quality as a competitive factor that should be in the preserve of the individual company, rather than through a collective approach.

The need to improve consistency of product quality – and/or the perception of quality within the minds of trade buyers and the consumer - persisted however, on the basis that brand 'Barramundi' is much bigger than any individual brand in the minds of consumers and therefore, any 'poor' experience will impact negatively on the reputation of brand 'Barramundi' regardless of where it came from. This affects all producers by limiting market potential and price premium.

In April 2018, Mainstream Aquaculture and the ABFA successfully secured funding from Food Innovation Australia (FIAL) to undertake a body of research and development to address two challenges:

1. Improve Consumer traits of farmed Barramundi through Mainstream Aquaculture breeding program, and
2. Strengthen industry quality standards for farmed Australian Barramundi.

Through its Industry Partnership Agreement with the FRDC, supplementary funding was secured through this project to support the second challenge.

Objectives

The project objective was to enhance and implement Industry quality standards for farmed Australian Barramundi.

Method

The ABFA undertook seven activities to develop a quality framework for farmed Australian Barramundi.

Activity 1. Complete market survey on consumer and trade buyer value drivers.

As the first step, the purpose of this activity was to understand the current perceptions of both consumer and trade buyers of quality and value of Australian farmed Barramundi and:

- Use the information to build a product quality framework that is tuned in to what buyers and consumers value.
- Broadly compare current data with findings from past surveys, to see if values, opinions and experiences are changing over time, and if they are, to get a sense of what is influencing these changes.
- Know our audience better and use the data to better shape our industry-wide marketing and promotion activities.

In October 2018, the ABFA made a call for applications to undertake market research to support the drafting of quality standards in line with consumer and trade expectations. The ABFA wanted to understand:

- What does 'quality' mean to consumers and trade buyers?
- What consumers value, what they like and what they don't like about purchasing, preparing and consuming Barramundi, and how they are influenced in developing their values and opinions.
- What trade buyers value (beyond price point). What they like and what they don't like about purchasing, processing, preparing and selling Barramundi, and how they are influenced in developing their values and opinions.
- How values, opinions and experiences (of both consumers and trade buyers) compare to those associated with other seafood products.

The target survey audiences included:

- Consumers: household purchasers, who prepare the fish to consumer at home
- Trade buyers: wholesalers and processors who buy and on-sell; and retail buyers (excluding supermarkets)
- Food Service buyers: Restaurateurs, caterers and takeaway businesses with a focus on seafood.

The ABFA invited five research groups to submit their tender to undertake the consumer and trade buyer surveys. Four tenders were received by the closing date (5/11/18) and assessed by the ABFA Management Committee.

University of the Sunshine Coast was selected to undertake the research. The principal researcher was Dr Meredith Lawley.

The research comprised three stages:

Stage 1 Focus Group

- As part of the development of the consumer survey (Stage 2), one focus group comprised of 9 respondents who have purchased Barramundi in the past 6 months was conducted.

Protocol covered six main topics as follows:

- Current behaviour and decision making for purchase and consumption of fish in general (then focused on Barramundi)
- Fish quality generally (then focused on Barramundi)
- Willingness to pay for Australian Barramundi
- Quality Certification Schemes
- Information sources

Stage 2 Online Consumer Survey

- A national online consumer survey of 2,061 Australian consumers over 18 who have purchased fish for home consumption within the last 6 months, representative across states, with natural fallout of age/gender.

Online survey administered through Qualtrics

- Survey contained mix of
- Questions from previous Seafood CRC surveys to allow comparison
- New questions to address issues around quality/freshness/certification
- Administered between Monday 10th to Thursday 20th December 2018

Stage 3 Trade Interviews

- 15 potential respondents were identified to represent sectors and geographic location
- Respondents were emailed and then phoned to arrange an interview.
- 22 potential respondents were contacted to achieve **12 completed interviews**.
 - 2 interviews were face-to-face
 - 10 interviews were by phone
 - Profile: All key trade sectors were represented (NB both Chefs were from 'high end' restaurants)
- Locations:
 - 6 Qld
 - 3 NSW
 - 2 Vic
 - 1 WA

In addition, a second consumer focus group was convened to further explore emerging trends.

Activity 2. Determine quality standards to be included within an expanded ABFA-owned quality program.

At a workshop held July 2019, ABFA members were presented with findings from activity 1 and agreed to the following criteria for quality standards:

- Must align, wherever possible, with other frameworks to reduce audit and administration burden, and not include legislative requirements (e.g., food safety)
- The focus of the project is on eliminating 'poor' experiences, which can impact on all Barramundi producers. Superior quality parameters remain the preserve of individual producers and supply chains.
- Achievable standards, to which farms can be held accountable.
- Outcomes-based were possible, to ensure different production systems can comply (however it is recognised that process-based standards will be necessary).
- Must be designed to efficiently manage fish without comprising profitability, safety, welfare or environment.
- Minimise any new costs.

It was agreed by consensus of members that at a minimum the product quality standards should address the following values:

- Fish are not sent to market with detectable earthy taste/'taint'
- Fish are not sent to market outside of acceptable quality parameters (deformities, size consistency, empty gut, appearance etc.)
- Harvest and slaughter practices minimise stress and optimise quality, with a focus on crowding at harvest, and ice slurry slaughter (immersion time, core temperature).
- The quality framework will focus on farm processes – not product accreditation.

Activity 3. Commission research to provide the knowledge/protocols/analysis needed to underpin new product quality standards

This activity was undertaken by the Queensland Department of Agriculture and Fisheries through FRDC project 2019-003 'Harvest and slaughter methods for farmed Barramundi to minimise fish stress and achieve premium market quality with improved fish welfare outcomes.' The project leads were Sue Poole and Paul Exley.

The project aims were to:

1. Determine stress imposed on fish during harvest operations, and develop methods for stress reduction
2. Evaluate methods of slaughter that minimise stress to fish, incorporating animal welfare best practice
3. Refine and adapt protocols on farm with Industry to ensure practicality and cost-effectiveness
4. Prepare guide material on effective protocols for Industry best practice in formats suitable for ready reference by Industry

Complete methods and results will be reported through project 2019-003. At the time of submission of this report, the draft final report was being finalised.

Activity 4. Develop, trial and document new quality standards and supporting tools, including audit material

The ABFA's work program included contracting a consultant to document new standards, guides and audit material and lead on- farm trial audits.

The scope of work was to:

1. Work with the ABFA to establish an industry quality framework
2. Draft a quality assurance manual that includes new standards and supporting tools
3. Undertake trial audits of draft quality standards
4. Deliver training program to members - Audit processes and procedures
5. Finalise the quality assurance manual, standards and supporting material including audit tools.

The ABFA has a third-party audited eco-efficiency certification program. It was considered desirable that the quality standards are integrated into the one certification program, although there may be two 'streams' for eco-efficiency and product quality. The consultant engaged with industry, the auditor and chair of audit committee with a view to understand current eco-certification program, and challenges and opportunities for merging with the product quality framework.

It was important to note from the outset that there are significant differences in practices across the participating farm sites, and therefore standards were unlikely to dictate how a farm meets agreed criteria. The consultant's task was to engage with industry to determine how to accommodate the various farming contexts within quality standards.

Developing criteria for the product quality standards was informed by evidence:

- The ABFA has previously developed resources to address 'taint' and quality parameters. The consultant will review and refine this material in consultation with industry to address the first two values above. Links to these resources are provided below.
- Concurrent research contracted to the Department of Agriculture and Fisheries (DAF) that aims to determine stress imposed on fish during harvest and slaughter operations with a view to refining on-farm protocols to improve quality and welfare outcomes. Trials undertaken during 2020-21 as part of this research were to provide the evidence to inform the criteria for development of standards for harvest and slaughter practices.

Dr Heidi Mumme of MI-Fish Consulting and Belinda Yaxley of Nautilus Consulting were selected as the team to undertake this activity, and to undertake activity 5 – trial audits.

Activity 5. Trial expanded quality program on-farm, including auditing

Eight farm sites were audited using the draft standards and audit tools. The companies involved in the pilot audits received the draft Standard and reporting tool protocol at least two weeks prior to the site audit.

The balance of audited farms was bias towards freshwater pond farming with brail harvest which was unavoidable due to this production system being most common. From small family owned to the larger more corporate businesses the systems leading to quality management were audited in the same manner.

Activity 6. Development of provenance/traceability test and protocols to prevent product substitution and establish supply chain integrity, thereby supporting the quality framework

Source Certain International Pty Ltd was contracted by the ABFA in November 2019 to trial and implement a Supply Chain Integrity Service to support the integrity of Australian Farmed Barramundi throughout its Australian Supply Chain. Key steps were:

1. Developing provenance database

2. First round of market testing, and identification of substitution/mislabelling
3. Communication of capability within the supply chain
4. Second round of market testing
5. Determining model for ongoing program

The technology utilizes TSW Trace TM based upon determination of key markers (elements, isotopes and molecules present), which when combined form a chemical 'fingerprint' or 'profile' that is characteristic of an items' origin. Source Certain holds the exclusive, international license for proprietary TSW Trace™ provenance technology.

In developing the database, independent onsite reference sampling was undertaken on eleven member farm sites - 1 x per year @ each site (GOLD reference sampling)

For the following three weeks SCI each site collected 5 samples from each pond that is harvested for market (SILVER samples)

A monthly SILVER sampling event - 5 samples from any pond that is harvested during the month (shipped quarterly).

Baseline analytical work was undertaken to provide coverage of included sources.

Market verification was undertaken inside the supply chain with a focus on retail / point of sale. This work was broken into two market snapshot programs - Peak and Non- Peak. For peak volume periods (2 x year - Easter, Christmas for example) three sites in each state were covertly sampled and tested. For the remaining period (non-peak) - 1 state will be tested at a time with six retail sites covertly sampled for each. 96 retail sites were covered.

Activity 7. Promotion related to ABFA product quality framework (to industry, consumers, seafood buyers and food service)

Activities undertaken:

- A Media release was approved by FIAL and the story pitched to a number of high-profile publications
- A chef event held in Brisbane May 2022 attended by more than 70 chefs and food service media representatives.

Consumer and buyer engagement activities have occurred throughout the project, with a focus on provenance and quality occurring in October 2021, with a social media and mainstream media campaign.

It was determined that while surveillance had determined evidence of mislabelling/fraudulent activity, the focus would be on a promoting capability to identify and prosecute. Following in market authenticity trials engagement peaked. Communication material was developed and distributed by members to their customers. Targeted communication occurred with outlets where substitution/mislabelling was identified.

This component of work will be an ongoing activity.

Results, Discussion and Conclusions

This project contributed to a significant program of research and development funded through Food and Innovation Australia Ltd., Mainstream Aquaculture and the ABFA.

Through FRDC project 2019-003 'Harvest and slaughter methods for farmed Barramundi to minimise fish stress and achieve premium market quality and improved fish welfare outcomes' (Queensland Department of Agriculture and Fisheries), ABFA members have learned how harvest teams can take simple preparatory steps to ensure the quality and consistency of Australian farmed Barramundi reaching the market.

Seafood scientists from the Queensland Department of Agriculture and Fisheries (DAF) have worked with the farmers to remind them that they have nurtured their Barramundi for the last two years through the grow-out phase and have demonstrated through on farm trials that the harvest phase is just as important - changing their mindset to think of harvest as a reversible act like a transfer until just before the fish enters the ice slurry.

Research undertaken with farmers has shown the benefits of maintaining dissolved oxygen levels above 5.0mg/L as the fish are concentrated together beside the pond bank for harvest- particularly at high water temperatures, and established appropriate ratio of fish, brine and ice to ensure a rapid chill.

These recommendations were made after comparing post-mortem changes in key quality indicators in Barramundi harvested at three farms in North Queensland. These were compared to results in similar fish harvested under controlled conditions at a Barramundi farm (rested versus stressed). All data gained will serve as a baseline "toolbox" to compare future harvest technologies that will be adopted to progress the pursuit of quality.

2019-003 Final report in review with FRDC as at time of preparing this report.

ABFA commissioned MI-Fish Consulting and Nautilus Collaboration to develop and trial audit a suite of industry quality standards and audit tools. These standards were informed by project 2019-003, and by market research undertaken by University of the Sunshine Coast to understand the values and drivers of trade buyers and consumers relating to purchasing Australian farmed Barramundi.

The following standards were developed:

- 1.1 Management system (formal or informal) in place that mandates product quality requirements at the farm
- 1.2 Clearly defined management responsibilities in relation to product quality
- 1.3 Onsite operational procedures in place and actioned (including emergency harvest protocols)
- 1.4 Identification of staff training requirements in key procedures and process relevant to product quality
- 1.5 Evidence of appropriate record and data control
- 1.6 Review and continual improvement processes in place and actioned
- 1.7 Provision of sufficient resources evident to meet product quality requirements

The consultants also developed supporting material to assist members with protocols e.g., pre-harvest checklist, physical attributes poster and SOP template.

The standard (inclusive of audit tools) is provided as a stand-alone document accompanying this report – at this stage not for public release.

Also provided is an evaluation report following the successful completion of trial audits (also not for public release)

The deployment of Source Certain provenance technology enabled provenance verification of Farmed Australian Barramundi.

The project delivered an industry Provenance Database which delivers the ability to verify provenance of >90% of Australian Barramundi through testing; and Industry led in-market verification and ongoing activity inside the supply chain with a focus on retail / point of sale.

A total of 47 in market verifications were undertaken. Most of these verifications were undertaken in triplicate. Where multiple fillets were available, the different fillets were tested.

92% of Barramundi products covertly purchased as part of this surveillance exercise were verified as being correctly labelled as Australian. Of the 20 products that had associated specific provenance claims (i.e., brand/producer claims) 55% of these were verified. A number of these require further investigation and some may be a direct result of issues around labelling at point of sale. A confidential report on surveillance findings was produced for the ABFA.

The Source Certain program is designed to protect the integrity of the farmed Australian Barramundi product. Communicating the program to supply chain partners and consumers is a critical component to delivering on this objective. To achieve this, Source Certain worked with the ABFA and involved members to develop a communication strategy with supply chain partners to ensure all retail and distribution partners are aware of the program.

With the assistance of members, communication of the industry's capability has occurred widely along the supply chain using template letters and materials developed in association with Source Certain. This communication will deter businesses attempting to sell falsely claimed farmed Australian Barramundi.

A model for ongoing service delivery has been drafted and is currently being considered by the ABFA. The database is owned by ABFA but will need annual activity to update it.

Recommendations

To fully realise the benefits of the Quality Framework and to build an enduring program the following recommendations are made:

1. Integration of eco-certification and quality audits into one ABFA certification program
2. Support member companies with guidance material and training on how to develop better systems to meet the ABFA Quality Standard
3. ABFA continue to strengthen capability to prove authenticity claims, with agreement reached on fee structures for verification activities, a funding model for database maintenance, and collective action on non-compliance
4. Development of a whole of industry branding and promotion strategy that integrates quality and eco-efficiency certification to promote and differentiate Australian farmed Barramundi

To progress these recommendations, the ABFA has committed to budgeting additional human resources.

Extension and Adoption

The following extension and communication events for members have occurred.

- July 2019 workshop, Cairns to extend results of Market Research undertaken by University of the Sunshine Coast
- October 2019, Mission Beach workshop to determine principles for quality standards
- Online workshop to test draft quality standards
- Trial audits provided ABFA members with targeted extension of draft standards and audit tools.
- Online extension workshop focused on the results and recommendations of project 2019-003 'Harvest and slaughter methods for farmed Barramundi to minimise fish stress and achieve premium market quality with improved fish welfare outcomes.'
- Two online workshops held late 2020 and early 2021 to extend results of Source Certain verification work and to determine strategy for communication with trade customers.
- A face-to-face workshop was held in Palm Cove on the 14th June 2022 to present final standards and audit evaluation.

Project materials developed

- ABFA commissioned market research, University of the Sunshine Coast, Food Research Group. Report to ABFA, 2019. (Report not for public release).
- ABFA commissioned MI-Fish Consulting and Nautilus Collaboration to develop and trial audit a suite of industry quality standards and audit tools. The following standards were developed:
 - Management system (formal or informal) in place that mandates quality requirements at the farm
 - Clearly defined management responsibilities in relation to product quality
 - Onsite operational procedures in place and actioned (including emergency harvest protocols)
 - Identification of staff training requirements in key procedures and process relevant to product quality
 - Evidence of appropriate record and data control
 - Review and continual improvement processes in place and actioned
 - Provision of sufficient resources evident to meet quality requirements

A technical report, and evaluation report were also produced (Not for public release).

- Source Certain led in-market verification and ongoing activity inside the supply chain with a focus on retail / point of sale. A report was produced for ABFA (Not for public release).

Appendices (not for distribution)

Market Research Report, University of the Sunshine Coast

ABFA Quality Standard, MI-Fish Consulting and Nautilus Collaboration

Technical report, MI-Fish Consulting and Nautilus Collaboration

Audit Evaluation Report, Belinda Yaxley, Nautilus Collaboration

Source Certain Presentation to ABFA, June 2022