Workshop to Implement a National Approach to Australian Salmon Market Development and Supply

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Executive Summary

Although traditionally described as an underutilised species, previous research projects have resulted in the identification of various Australian Salmon products with market appeal. There are, however, barriers to developing such a market opportunity. These barriers include the provision of consistent quality supply in a short-seasoned, disparate fishery: Australian Salmon is generally harvested between January and May in the states where it is commercially fished. Consistent supply is further hampered by the fact that often infrastructure to ensure a quality product (particularly large scale chilling and freezing capacity) is not present in the regional areas where Australian Salmon is traditionally caught. To provide sufficient volume for some of the identified markets would require interstate collaboration in harvest but there are inconsistencies in the various management arrangements and catching practices between states. There are also export barriers, particularly in that the fish is not on the Chinese permitted import seafood list. Another issue is the poor market and consumer acceptance of the product, it was suggested that this perception could potentially be improved by a collaborative consumer/market information strategy, in some ways similar to the collaborative Love Australian Prawns campaign.

This project was developed in order to convene a targeted, national, whole of chain Australian Salmon workshop, encompassing attendance by fishers, processors, marketers, fishery managers and representative organisations. The workshop sought to understand collaborative intent and if possible develop strategies (including articulating roles, responsibilities, budgets and timelines for implementation) to take potential new market opportunities forward.

The workshop was held in Melbourne in February 2019. There were participants from all states harvesting the species: Western Australia, South Australia, Tasmania, Victoria and New South Wales. Participants also represented all stages of the supply chain, including fishers, processors, pet food representatives, marketers, exporters, retailers, industry associations and researchers.

It was recognised that Australian Salmon harvesting regulations and practices differed between states. Where beach-seining harvesting of fish was permitted, sand contamination of fish was identified as a major quality issue that reduced the value of catch.

Consumer confusion of the white-fleshed, wild harvested native Australian Salmon with the more widely available red-fleshed, farmed exotic Atlantic Salmon species was also identified as a marketing issue for the species. However, industry members did not propose to seek a name change for Australian Salmon.

Participants agreed to collaborate on a national basis, with an emphasis on increasing the value of fish, rather than harvesting greater volumes. Three overarching priorities were identified for action to help lift the value of the industry as a whole.

Priority 1. Gather national data for Australian Salmon to allow industry members to make better decisions on investment in new equipment, technologies and product development. This information will include the commercial and recreational catch, market information values, volumes and channels, and government regulations on harvesting in all relevant states.

Priority 2. Develop and distribute Australian Salmon information packages that address the specific needs of each part of the supply chain including baseline quality standards, and help differentiate Australian Salmon from Atlantic Salmon in consumer markets. The form of these information packages needs to be tailored to specific end-users.

Priority 3. Investigate and share opportunities to develop export markets, pet food markets and in domestic retail and hospitality. This may include identifying any specific regulatory or quality requirements and collaborative supply arrangements between fishers to supply consistent volumes. As part of this workshop participants agreed to support the Seafood Trade Advisory Group in preparing

submissions to have Australian Salmon added to the list of permitted species for imports to China. As well new product development trials were planned in collaborative arrangements between fishers and processors.

Participant feedback during and after the workshop was positive, and networking opportunities fruitful. A summary of post-workshop activity included the development of an Australian Salmon communication list, dissemination of previous reports, activity associated with the potential addition of Australian Salmon to the China Import list and some individual company product handling and new product development trials. However, the overarching (and potentially overambitious) objective, development of a national collaborative communication/market development strategy has not progressed as of the time of writing. Some barriers to such collaborative activity have been identified including industry time availability, lack of an industry champion and/or end-user impetus, the current commercial status of most participants in the industry, and funding availability.

In summary, under some evaluative metrics, including actions on some prioritised issues, the workshop could be considered a success. However, to this point, the major objective to deliver collaboration on a national market development/communication plan for Australian Salmon has not been achieved. Without the identification of an industry champion and/or end-user impetus, to unite the industry and provide intent and rigour for future funding applications, it is difficult to see this situation changing.

Key words: Australian Salmon, workshop, collaboration

1. Introduction

It has been estimated that approximately 25,000 tonnes of finfish are not harvested in Australia each year, even though there are operators licensed to do so (Howieson, 2018). This is because of a variety of reasons including low market value, difficulties with processing and short shelf-life, as well as insufficient storage infrastructure, either on vessel or on land. Such species have been termed underutilised.

A previous project FRDC 2013-711.30 “Developing new opportunities for underutilised species” was aimed at identifying those underutilised Australian species which had the potential to be developed into higher value species, with consumer acceptance. The Western Australian Salmon (*Arripis trutta)* and Eastern Australian Salmon (*Arripis truttaceus*) were assessed as potentially excellent candidate species. These species are present in large volumes in Western Australia and South Australia, and in Tasmania, Victoria and New South Wales (respectively). However, due to low market acceptance and price, harvest has decreased; for example Western Australian Salmon harvest in Western Australia has decreased from ~5000 tonnes in previous decades to ~100 tonnes more recently.

Focusing on the Western Australian Salmon, projects FRDC 2013-711.30 and CRC 2008-704.10 (Retail transformation: Identifying opportunities for creating consumer focussed Australian Salmon value-added products) investigated the optimisation of post-harvest handling and processing of the species. This work was successful in demonstrating that Australian Salmon, when treated/prepared appropriately, yielded seafood products that were well-received by consumers. These findings, and the subsequent media coverage afforded it by ABC Landline (April 2017), has resulted in renewed interest in Australian Salmon from fishers, exporters, retailers, chefs, marketers etc. to develop domestic and international market opportunities for the species.

There are, however, barriers to developing such market opportunities. These barriers include the provision of consistent, quality supply in a short-seasoned, location disparate fishery: the fish are generally harvested between January and May in the States where it is commercially fished (Western Australia (WA), South Australia (SA), Tasmania (Tas), Victoria (Vic) and New South Wales (NSW)). Providing consistent supply is further hampered by the fact that often infrastructure to ensure a quality product (particularly large scale chilling and freezing capacity) is not present in the regional areas where Australian Salmon is traditionally fished. To provide sufficient volume for some of the identified market opportunities would require interstate harvesting collaboration, but this is challenged (in part) by inconsistencies in the various management arrangements between States. There are also export barriers, particularly in that the fish is not on the Chinese permitted import seafood list. Finally, there is poor market and consumer acceptance of the Australian Salmon product, it was expected that this perception could be improved by a collaborative consumer/market information strategy, in some ways similar to the collaborative Love Australian Prawns campaign.

This project was developed to convene a targeted, national, whole of chain Australian Salmon workshop (encompassing attendance by fishers, processors, marketers, fishery managers and representative organisations) in order to progress the concept of a national approach to Australian Salmon market development and supply. The workshop sought to try and understand collaborative intent and if possible develop strategies (including articulating roles, responsibilities, budgets and timelines for implementation) to take this potential new market opportunity forward.

2. Objectives

The objectives of the project were:

- To assess if there is national, collaborative whole of chain commitment to developing new markets for Australian Salmon; and
- Demonstration of national collaboration within the Australian Salmon value chain, encompassing fishers, processors, distributors and marketers to develop and implement new market opportunities.

3. Methods and Results

3.1 Workshop Pre-Preparation

3.1.1 Appointment of Facilitator

Following consultation with FRDC and other stakeholders, Jayne Gallagher and Emily Mantilla from Honey and Fox were selected to facilitate the workshop. Both had close involvement with the Australian Salmon research conducted through the Seafood Co-operative Research Centre (CRC) and the FRDC between 2008 and 2017 (CRC 2008-704.10; FRDC 2013-711.30) as well as experience in workshop facilitation and reporting and seafood market development.

3.1.2. Venue and Timing

As per FRDC project conditions the workshop was held in Melbourne. It was decided to hold the workshop over two half days allowing travel from Western Australia to be completed within two days and also to allow enhanced networking time during the workshop dinner.

3.1.3 Invitee list

Fisher invitees were managed through the relevant State based industry representative organisation; invitations to the workshop were therefore distributed through the Marine Finish Association (MFA), WA Fishing Industry Council (WAFIC), Professional Fishermen Association (PFA), Tasmanian Seafood Industry Council (TSIC) and Seafood Industry Victoria (SIV). The workshop participants are listed in Appendix 1.

3.1.4 Agenda

The workshop agenda is shown in Appendix 2. The first day was focussed on provision of information from the attendees and identification of opportunities and barriers. The second day focussed on agreeing priority activity areas and developing aligned action plans.

3.1.5 Background Information

Prior to the workshop, representatives from each State were asked to provide some background information summarising the state of Australian Salmon fishery in their jurisdictions. This information included current harvest levels and methods, markets and prices. This data informed discussions at the workshop. The summary table of this information is shown in Table 1. It is noteworthy that further relevant information was added to the table during the workshop.

Table 1: State-level Western (WA) and Eastern (EA) Australian Salmon Summary Information

State	Volume harvested	When Caught	Area harvested	Target Markets	Harvest Method	Number of fishers/licenses	Issues
SA	**WA Salmon**: 374 t in 2017 Range: 59–374 t per year (2008 –2017) Peak catch of 1,925 t in 1973 (SAFS website)	Oct – Feb	Spencer Gulf Gulf St Vincent Investigator Strait West Coast	Bait Human consumption e.g. whole, Peck's Paste	Purse seine Haul net Bait net Beach seine	230 bait licences, 30 haul net licenses, 1 beach seine license, 1 purse seine license, 300 marine scale fish licensees – they all have access to salmon. Rock lobster fishers have a small entitlement to get some bait. But not many use it – they mostly buy it.	
Vic	**WA Salmon**: 0.03 t in 2017 Range: 0.03–43.4 t per year (2008 –2017) **EA Salmon**: 20.3 t in 2017 Range: 11–46 t per year (2008 –2017) (SAFS website)	Dec – May	Lakes Entrance mainly	500gms sized fish caught for human consumption Anything over 1kg goes for bait (most goes for bait).	Purse and beach seine Not allowed to pull fish up on the beach unless you have a minimum of 70cm of water	1 purse seine license (which catches 9%) 50 licenses (other)	Lack of education by consumers on fishing practices Don't fish when recreational fishers are about (e.g. Saturday and Sunday)
NSW	**EA Salmon**: 756 t in 2017 Range: 677–1449 t per year (2008 –2017) (SAFS website)	July – Nov	South coast	Usually for bait market	Ocean Haul	Not provided	Recreational fishers Environmental NGOs (GWS)
WA	**WA Salmon:** 154 t in 2018 Range: 103–880 t per year (2008–2017) Peak catch of 4,223 t in 1968 (SAFS website)	Feb – May Back run July – Oct (only 8-10 years)	South and south west regions	Bait for Rock Lobster. Small market for restaurants and fish retail Artisanal Cook-House (Mendolia) Lot of interest from China	Beach seine only	24 licenses state wide	Lack of research on stocks No renewal in the industry Regulation and management issues (catch methods)
Tas	**EA Salmon**: 18.9 t in 2017 Range: 18.9–372 t per year (2008 –2017) (SAFS website)	Year round (but highly weather dependant) Little fishing in Jan/Feb due to recreational boats	Mostly east coast of Tas as western coast is too rugged Hunter Group Furneaux Group	"Top end bait market" until there is an export market in China	Beach seine (Don't drag them along the beach. Come on board alive).	8 licenses issued and 1 commonly used. 85% catch comes from 1 license 500kg trip limit for operators with a scale fish license	Reliability of stock data Recreational fishing

3.2 Workshop Proceedings, Discussions and Outcomes

Day 1

At the commencement of the workshop, all participants were asked to write down what they hoped to achieve from workshop participation. A summary of responses is presented below.

- To understand what others may be doing
- Explore the possibility of development to benefit New South Wales fishers
- Interested in whole stock levels around Australia
- Industry is under pressure so a collaborative approach is essential
- To understand scale and capabilities of industry
- Want to understand the gaps and barriers to facilitating research
- Industry gains insight into consumer behaviour and how this relates to Australian Salmon
- Change consumer perception of Australian Salmon
- To understand the national involvement in this fishery (who, where, what)
- Latest trends in marketing
- Find a sustainable market for Australian Salmon
- Gauge interest in developing a collaborative strategy to enhance marketability of salmon
- I want progress. I want something to happen – to move forward
- Find a sale for fish at a price that will be profitable for fisherman
- National standard, quality, grading – perception of Australian Salmon
- A positive outlook for the future of the fishery and a plan that will put more local seafood on Australian dinner tables
- Find the like-minded individuals with commitment
- To learn what opportunities exist to raise profile of Australian Salmon
- To have a clear objective and outline for the future of the industry – including all states agreeing
- See salmon exported out of Australia
- How to get over state (Tasmanian) legislation barriers

It was clear that whilst some participants were hopeful of a broad national collaborative outcome, many were there to learn as much as they could about the current status of knowledge of the fish and industry around Australia.

Following this a number of presentations were provided by stakeholders from different parts of the supply chain. This helped to set the scene, to understand the current status of the industry in each State and to define some of the market opportunities. .

Initially presentations came from one or two fisher representatives in every state. Presenters were Tricia Beatty (PFA, NSW); Harry Mitchelson (Vic); Stuart Richey (Tas), Mannie Shea (WAFIC) and Tony Westerberg (WA). The information provided by these presentations was added to Table 1.

In addition to the State industry presentations, Dr Jason Earl (South Australian Research and Development Institute (SARDI)) provided a summary of the fisheries science and management considerations for Australian Salmon noting in particular the presence of two separate species (Eastern and Western Australian Salmon) with different characteristics and behaviours. This presentation is available on request from Jason.earl@sa.gov.au.

Workshop participants were then requested to develop a list of what they saw as the major opportunities and challenges for Australian Salmon. The outcomes of this discussion are summarised below.

- There is an opportunity to promote Australian Salmon as a biosecurity risk-free bait choice as well as a choice with low environmental footprint – better than importing bait from New Zealand.

- There is confusion with consumers between the naming of the different salmon. Atlantic Salmon would love to take over the name of Australian Salmon. In the overseas markets, there is also confusion between Atlantic Salmon and wild white fleshed salmon (Australian Salmon). This is helping but they think it is red fleshed salmon. It creates an interest out there – so we need to capitalise on this with a great product. Promote it as "Australian Wild Salmon" – wild natural, clean and green.
- Australian Salmon that is full of sand (from hauling fish up the beach) drags the price down for everyone.
- Investigate drone technology research to track where Australian Salmon is running so fishers can collaborate to save aeroplane costs. There is also some appetite from the tuna industry to use drone technology.
- Minimum price for viability is $1.40/kg and retail is $2/kg up.
- Suggest investigating markets and other factors for the aligned New Zealand product.
- What does the Australian Salmon as an industry look like? For many participants it is the first time they have heard about the industry in other than their local area.
- There are differences between the States (partly in fisheries management and catching method) but there are also a lot of common issues. These include: conflict with the recreational sector; an issue regarding reliability of data in regards to historical catches; difficulties in setting of quotas and licenses; quality and keeping the product fresh and treating it right from catch to point of sale.
- From a retailer's perspective, you do not see a lot of Australian Salmon in Queensland, and when it is available, it looks unappealing so does not sell. However, if consumers are provided the fish in optimal/good quality, it is likely that they will like it. If Australian Salmon is highly sort after from recreational fishers it must be seen as a good eating fish.
- Name of the fish – Keep the name secure. Sometimes the fish are marketed in Victoria as 'Bay Trout' – but most people use Australian Salmon. There is an opportunity to leverage off the name!
- Supply chain is focused towards bait – leaves a lot of other potential markets untouched.
- Is there a burly market for Australian Salmon?
- Needs lobbying from the industry as a whole to increase catch numbers – Seafood Industry Australia (SIA) could assist and the workshop information should be provided to the SIA.

Wayne Haggar, Seafood Trade Advisory Group (STAG)

Wayne provided short summary of the export status from a regulatory/legislative perspective. In summary it was suggested that workshop participants should register on the STAG mailing list to receive updates and key trade news (via https://www.seafoodtradeadvisory.com).

Other points raised were that China might be an attractive export market opportunity, but Australian Salmon is not on the China list so it is important to think of other markets as well. Middle East, Taiwan, Korea and the EU could be other export opportunities. Roe is an existing value-added product. It was also suggested that all workshop participants needed to log their barriers to trade on the Department of Foreign Affairs and Trade (DFAT) https://tradebarriers.dfat.gov.au/access/index.html – separately as well as developing a joint submission prepared and lodged together as the Australian Salmon industry so the Department can negotiate access on behalf of the whole industry.

It was noted that volunteers are needed for the STAG working group to prioritise and get various species added to the China Approved List. A template is being prepared by the Department of Agriculture and Water Resources, and industry input into the process is important.

Following Wayne Haggar short briefings on market development opportunities were given by a number of supply chain stakeholders as summarised below.

Eric Poole, Sydney Fish Market (SFM) (Wholesaler)

At SFM, they mostly see NSW fish, where smaller fish sell better. The significant issue of quality was discussed. SFM's experience is the Australian Salmon ranges from sashimi quality through to sandy poor-quality fish (inferior bait quality). However to meet retail and export market expectations, fish need to be immediately bled and iced, iki jime is also preferred (but this is challenging when large schools are harvested). A quality standard is required. It was further suggested that producers develop a size and species matrix (e.g. larger Western Australian species v. smaller Eastern Australian species), including seasonality in size and harvest (usually February to April), to better plan market development. For example local Chinese previously preferred 6-8kg sized Australian Salmon as a minimum – this has changed in the last 2 years, and the market needs to respond as those buyers no longer buy 3-4kg sized fish. As well Asian buyers want fresh, high-quality product and want to see blood when they fillet to show the customer it is "fresh". This size and seasonality matrix, along with more consistent product quality will facilitate the appropriate responses to different market demands, building resilience by having a variety of markets.
The average price is $1.20 - $2/kg (average of records since 1980's is $1.31/kg) – this price is consistent. Price is heavily impacted by what other fish are on the market. Eric further suggested investigating vacuum packed products for hospitality markets.

Andre Gorissen , Noosa Seafood Market (Retailer, Processor and Exporter)

Andre also emphasised the importance of fish quality, noting that if fish are of low quality the product will not sell at retail. He suggested a standard grading system and specification sheet (similar to oyster grading) is needed. However a price at $5/kg for fish would be a great fish for consumers – good value, with good quality. Andre raised the need for consumer education – suggesting tastings at point of sale is key.

It was suggested that the closer that processing can be done to the source of catch, the better – it suits the retail market. Fishers should consider processing near the point of harvest and then sell the waste to another market (e.g. pet food). As with the SFM presentation a spread of markets was suggested.

To be able to undertake bleeding, filleting, washing and provide product in good condition at premium quality (no sand etc.) Andre stated fishers would need at least $3/kg beach price to make it viable. It has been established some buyers will pay this (or more).

Andre acknowledged that a barrier to progressing the development of the fishery are people who do not want things to change. Fishers need to move to a customer centric way of thinking. Sales and marketing need the right people with the right expertise, and they need to engage with fishers.

John Susman, Fish Tales (Retail and Hospitality Sector)

John was concerned with the confusion caused by the naming of the fish, with the Australian hospitality sector expecting Australian Salmon to be pink. He noted that the hospitality sector currently has a problem with fish economics and supply – for example the current price of Mekong Delta Catfish has gone up by 35% and for Melbourne Crown Casino this is the principal battered fish.

John noted that there was a need to focus on lifting the domestic market (rather than investing all effort on exporting to Asia).

In relation to improving fish quality, John suggested the industry consider the investigation of a mobile, automatic processing fit-out to be used on the beaches where the fish is harvested.

Ennio Tavani, Mendolia Seafoods (Processor and Retailer)

Ennio explained he had come into the industry with a fresh pair of eyes as the company (Mendolia Seafoods) is relatively new. The company is aiming to use under-utilised species with a focus as an "Artisanal Cook House". In blind taste tests, the results for Australian Salmon are excellent, however the biggest impediment is the reputation that it is "bait". Investment in infrastructure is needed, with the whole of industry investing in a master plan as part of a cooperative. This would require an industry focused marketing program. Nonetheless the company has developed a canned Australian Salmon product that has been recently launched on the domestic market.

Steven Swann, Nestle (Pet Food Producer and Retailer)

This company purchases fish for pet food through processors in Tasmania. Markets are growing but there is a constant effort to get supplies – especially locally sourced, as biosecurity laws are strict. Nestle cannot take whole fish off the boat. Steven noted the need for year around availability, of high-quality and fresh ingredients. Fish for Nestle must pass a company quality audit and catch methods must comply with MSC guidelines and responsible sourcing guidelines must be adhered to. Nestle has its own responsible standard sourcing standard as well that needs to be complied with. This includes meeting requirements for histamine limits.

Joe de Belin (Exporter)

Joe stated that the sector needs to build a brand and improve quality, then there are potential markets, e.g. casinos in Macau produce 5,000 staff meals per day! Joe also suggested the need to change the Australian consumer perception that Australian Salmon is a bait fish.

The common themes emanating from the supply chain presentations included

1. improving quality and developing a quality standard,
2. changing product perceptions (name and as bait) and
3. investigating a variety of markets.

Participants were then asked to consider and reflect on what they had heard and to identify the areas that they believed were common areas that could be addressed collectively and improve the sector. These enabling activities were agreed at the end of Day 1 and were described as:

- Reliable and accurate data to support informed decision making
- Review of fisheries management regulations that impede market growth
- Understanding the role of recreational fishers (competition) on supply
- Access to supply chain technologies which may assist in improving performance and/or productivity (i.e. drones for targeting, shelf-life extension, processing big catches)
- Perception change opportunities
- Product differentiation opportunities
- Community engagement opportunities
- Targeted marketing segmentation opportunities – e.g. sizes, formats, end-users (beyond bait)
- Tourism/visitor education opportunities
- Processing and value-adding opportunities
- Export market opportunities
- Opportunity to establish a consistent grading standard and market specification sheets

The workshop participants then broke to attend the workshop dinner.

Day 2:

At the start of Day 2 participants were asked to reflect on what had been discussed on Day 1. Here is a summary of the comments:

- Strong desire to develop a practical minimum handling standard with three grades – bait through to consumer (market driven quality standard), Grade A to Grade C that works nationally across all states
- Is export the key for growth? There is a strong demand from the local market
- Attendees were divided on the potential naming ‘Australian Wild Salmon’ (maybe Australian White Salmon?). Consumer and market research is needed and there is needs be market differentiation from Atlantic Salmon

- Does the notion of industry working together on Australian Salmon expanded to other under-utilised species?
- Recreational pressure and the reference to "wild" could create some issues
- Look at other markets, not just China (due to a volume issue) – there are other markets
- Contacts list with all participants should be provided so we can continue to communicate with each other (including others who should be put on a list and should get involved)
- Complexity of licensing and the difference in fishing practices and management between the States was eye-opening – no consistency across Australia
- What is the current value of the industry? What is the potential value? Both questions cannot be answered by the industry and this data is needed for promotion of the industry, investment etc.
- Product quality must be improved
- Industry is not export ready but for those that are, they will be the trail blazers
- We have to stop talking Australian Salmon down – there is a perception gap

In order to start developing priority activities it was decided not to attempt to address several of the major issues raised on Day 1. These issues included

1. interactions with recreational fishing stakeholders,
2. a potential name change to avoid the confusion with the aquacultured Atlantic Salmon, and
3. reviewing management regulations.

It was considered that the group would be less likely to develop a meaningful plan to address such issues.

Following further group discussion the participants agreed on the following priorities.

Priority 1. Gather national data for Australian Salmon to allow industry members to make better decisions on investment in new equipment, technologies and product development. This information should include the commercial and recreational catch, market information values, volumes and channels, and government regulations on harvesting in all relevant States.

Priority 2. Develop and distribute Australian Salmon information packages that address the specific needs of each part of the supply chain (including baseline quality standards) and help differentiate Australian Salmon from Atlantic Salmon in consumer markets. The form of these information packages needs to be tailored to specific end-users.

Priority 3. Investigate and share opportunities to develop export markets, pet food markets, and in domestic retail and hospitality. This may include identifying any specific regulatory or quality requirements and collaborative supply arrangements between fishers to supply consistent volumes. As part of this workshop participants agreed to support the Seafood Trade Advisory Group in preparing submissions to have Australian Salmon added to the list of permitted species for imports to China (3.1). As well new product development trials (3.2) were planned in collaborative arrangements between fishers and processors. The pet food opportunity (3.3) was also discussed.

At this point participants broke into separate interest groups to develop an action plan to address the identified issues. A summary of the priority areas and the suggested activities is presented in Table 2 below.

Table 2: A summary of priority issues and actions developed at the workshop.

Priority Issue/Activity	**Suggested Actions**	**Responsibility**
1.Industry Data Standardisation	Source/summarise basic catch data (commercial and recreational) Source/summarise end-use value data.	Jason Earl/Janet Howieson to work together to summarise data.

Priority Issue/Activity	Suggested Actions	Responsibility
	Run scenarios (e.g. how the value percentage would look if the amount of fish for human consumption increased)	
2. Communication and Information Packages	Define various target audiences and key messages/stores specific for each audience (e.g. seafood tourism trails) Collate all current Australian Salmon content (contact industry associations to assist) Consider an Australian Salmon Association to collate info and manage activities (e.g. website) Develop logo and brand. Purchase Wild Australian Salmon domain name.	Emily Osborne Content captain Catherine Norwood
3.1 Export China List	Communicate with Minister about why Australian Salmon needs to be prioritised for China list Undertake submission process (include workshop report to show industry cohesion).	Stuart Richey
3.2 New Product Development	Undertake handling trials (bleeding, ice etc.) on Eastern Australian Salmon to improve product quality (refer to previous FRDC/CRC reports with Western Australian Salmon). Grading/quality standards to be developed Undertake new product development trials and communicate results to broader audience.	Andre Gorissen
3.3 Pet Food	Need to develop a standard and an industry association to manage consistent, quality supply. Keep communication lines open	Steven Swann (as possible end-user contact)

The workshop concluded with a discussion about next steps. It was made clear both by the facilitators and FRDC representatives, that, following final reporting, any further FRDC application to forward workshop outcomes would need to industry-driven.

3.3 Workshop Feedback

Some unsolicited comments received by email post the workshop are reproduced below:

Thank you very much for inviting us to your workshop, enjoyed the time spent with everyone. I think this is exactly what the industry needs to ensure that we have a great future ahead of us. Please pass on my best wishes to the rest of the crew. I look forward to catching up with them again.

I got heaps from it and have some ideas of how we can work better, and it was fantastic to meet with others in the salmon fishery, that we may be able to collaborate with.

3.4 Post-Workshop Activity

3.4.1 Reporting of Outcomes

An initial draft workshop summary of proceedings was distributed to attendees for comment. This summary has now been incorporated into this Final Report.

A one page communique summarising the workshop outcome was prepared and circulated to participants for comment. No participant responses were received to the draft communique, but it was summarised for the FISH magazine.

Catherine Norwood developed an article for the June 2019 FISH magazine on the workshop outcomes. This has now been published. A summary of the workshop was also published in the February NSW PFA e-newsletter.

3.4.2 Development of Australian Salmon stakeholder list.

After the workshop all attendees and those invitees who could not attend but had expressed interest in receiving further information and outcomes were contacted to see if they were happy to be part of an email list. This list has now been developed for dissemination of relevant material. As an initial step all the Australian Salmon research reports from previous FRDC, Seafood CRC and other projects (e.g. FRDC 2013-711.30; FRDC 2008-794.10) were distributed to all on the email list. On two subsequent occasions other relevant communications have also been distributed through the list by stakeholders.

3.4.3 Collation of relevant material; website and E-newsletter.

One of the workshop recommendations was collation of relevant photographs, recipes, information etc. with an intent to develop a website or the like to hold the information. Catherine Norwood from Coretext offered to receive and collate the information. Two further emails were despatched after the workshop requesting electronic transfer of information but very little electronic documentation, apart from a few photographs, was received by Catherine.

Development of a website and email newsletter was also suggested at the workshop. There were some funds remaining in the project budget and it was suggested via the email list that these funds could be directed to support the initial development of an e-newsletter and website. This redirection of the funds was, pending a reasonable condition by FRDC, that such use of the funding would require industry commitment to support and assist website and e-newsletter development. Such assistance has not been offered by any industry participants.

Nonetheless two domain names have been purchased by Honey and Fox. www.wildaustralianaalmon.net.au and www.wildaustralianaalmon.net. An Instagram account @AustralianSalmon, has also been developed but nothing has been posted as yet. These accounts are available to be used and will be transferred to an industry group should one come forward.

3.4.4 Value-Adding and New Market Development Activity.

Andre Gorissen (seafood processor and retailer) offered to run some value-adding trials on the Eastern Australian Salmon but initially had difficulty in sourcing fish for the trials. However more recently Andre Gorissen and Tom Richardson (PFA) have collaborated on some trials using the extended shelf-life Fresh-tec technology. Samples are planned to be despatched to Singapore and Hong Kong for market feedback.

As reported in the June 2019 FISH magazine article, Mitchelson Fisheries have been undertaking some handling trials with the Eastern Australian Salmon. Initially fish were ike jimed/brain spiked and then bled, but the result was a yellowing of the fish, so now purse seine harvested fish are just bled on capture and immediately put in an ice slurry. On advice from chefs, fish are also being sliced across the tail before slurrying. The ice slurry has a fish to ice ratio of 2:1, with a 1:1 mix of fresh and marine water in the slurry. Core temperature in the hold comes down below 2˚C within three hours. Fish are transported from port to processing plant in bins mixed with chilled water which prevents the fish from crushing each other. The nets used in purse seining the catch do not have knots which prevents the fishing rubbing on the nets and damaging themselves. Fish harvested in this way are being sent to Melbourne Fish Market.

Lynda Twigg-Mitchelson was also working with a chef, Sam Mahlook, in trialling new products. Initially products were skin on, but more recently the skin and bloodline are being removed, which reduces the intensity of the flavour and also reduces the "pink" in the flesh. Products trialled include tacos and a macadamia and a lime crusted Australian Salmon dish.

Andre Gorissen and Lynda are now liaising on further supply of Australian Salmon for value-adding trials.

3.4.5 Progress on Inclusion of Australian Salmon on Imported China list.

A project team consisting of Jayne Gallagher, Joe de Belin, Stuart Richey and Mannie Shea have been progressing the China list inclusion. The submission form was obtained from the relevant Federal Department, and a first draft submission was submitted for comment.

Subsequently, in September 2019, the STAG, Jayne Gallagher, representatives from the Commonwealth Department of Agriculture and Water Resources (covers food and animal by-products, exports standards) and exporters from around Australia met in Melbourne to participate in a prioritisation workshop to determine which two species would be taken forward first to seek inclusion in the China permitted species list (non-viable species).

In the build up to this workshop and noting a cross-section of interest from Australian Salmon fisheries around Australia (and discussions at the Australian Salmon workshop), the salmon genus *Arripis* application was modified to provide further evidence for formalised China market entry. The application was cross-checked by some operators in WA and other states, and was also reviewed and supported by peak bodies around Australia (PFA, Southern Seafood Producers (WA) Association, SIV, TSIC and Wildcatch South Australia).

At the workshop it was agreed that the Australian salmon and herring (*Arripis* genus) application would be one of three priority applications to be submitted to China for review by no later than February 2020, and possibly earlier. There was no indication on how long this review process by China could take.

4 Discussion & Conclusions

The workshop participants were considered to be geographically diverse, with all relevant States represented. As well it was considered that there was excellent representation of all stages of the supply chain. The workshop was well supported, participation and energy over the two days was excellent and feedback was positive.

When assessing the priority issues and actions as summarised in Table 2, it is clear some of the suggested actions have been forwarded, albeit usually as individual company/small group actions, including handling and new product development and action on the potential addition of Australian Salmon to the China imported list. However, despite several email requests and the possibility of start-up funding, disappointingly there has been little post-workshop national collaborative actions in the national communication and extension activity area that had been developed and prioritised at the workshop. The need for and development of a national grading standard, also well supported at the workshop, has also not been progressed.

Some points to consider in understanding the low level of post-workshop activity in some prioritised action areas:

- Most fisher participants were from small operations, facing the economic and other challenges previously identified for minor fisheries – i.e. most have little time for other activities away from the main fishing business, this may be reflected in the lack of post-harvest workshop activity. Also, previous research with the prawn industry (CRC 2008-793) has shown the importance of an industry champion with both time and across industry respect to instigate collaborative action. At present identification of such a willing Australian Salmon industry champion has not occurred.

- It was clear from the participant expectations detailed at the commencement of the workshop that many of the participants considered the workshop simply an opportunity for learning more about Australian Salmon science, the status of the industry in other States, and market opportunities, as well as a networking opportunity. We believe the workshop could be considered a success in this context. In retrospect, however, it was perhaps too ambitious to expect the overarching project objective of national collaboration on communication and market development as an outcome in a group that had not previously spent any time together.

- Previous projects that developed national sector collaborative market/communication strategies and outcomes (e.g. Australian Wild Abalone and Love Australian Prawns) were well funded due to the value of the industries, allowing funding of specific personnel to undertake targeted activities. Collective end-user support was also a significant factor. It is noteworthy that there has already been significant previous funding allocated to Australian Salmon development, with questionably little commercial return. So even if an Australian Salmon industry champion was identified, or an end-user impetus forthcoming, the current value of the industry means that attracting further funding may be problematic.

- The two different species of Australian Salmon may be contributing to a separation of intent. The market appeal/opportunity for each species appears to be different due to size, seasonality and management issues. A cross jurisdictional approach to the management of the harvest was suggested, however, without engaging the relevant State-based fishery managers the feasibility of this endeavour is unknown, though it was agreed that it would be difficult to implement.

In summary, with the indication of collaborative intent, positive feedback and actions on some prioritised issues, the workshop could be considered a success. However, to this point, the major objective to deliver collaboration on a national market development/communication plan for Australian Salmon has not been achieved. Without the identification of an industry champion and/or end-user impetus, to unite the industry and provide intent and rigour for future funding applications, it is difficult to see this situation changing.

5. Recommendations and Further Development

It was made clear to workshop participants during the final session that any activity prioritised at the workshop and likely to result in a funding application to FRDC would require industry leadership and responsibility to be considered for funding. This recommendation was partly due to the findings of FRDC 2017-185 "A Review of Projects Concerned with Improved Exploitation of Underutilised species". In this report, noting that the majority of such projects had failed in delivering a commercial outcome, a list of success factors were developed to underpin further FRDC investment in the underutilised species area. Industry leadership and responsibility for project instigation, management and reporting was one of the most important success factors identified.

The FRDC project 2017-185 had the following recommendations for future underutilised species projects, several of which are considered highly pertinent to any future applications or activities associated with the outcomes of the Australian Salmon workshop reported here.

1. Projects should be initiated and led by a commercial operator (not an industry association) that signs the Funding Agreement with FRDC and is accountable for the outcomes.

2. Projects should be preceded by a financial analysis conducted by the commercial operator.
3. FRDC funds should only be used for research to fill knowledge gaps identified by the financial analysis.
4. If the research to fill the gaps is conducted by a public sector agency it should be subcontracted by the commercial operator, rather than FRDC.
5. Projects should only be approved when more than eighty per cent of the predefined 'success' criteria in the checklist developed as part of FRDC 2017-185 are met.
6. These recommendations should also be applied to studies of the biology and status of underutilized species by fishery regulators that aim to identify species for commercial exploitation.

This workshop has provided a list of agreed, strategic activities to increase the market opportunity for Australian Salmon. Notwithstanding individual company efforts to forward prioritised activities, until national industry leadership is achieved, either individually or as part of a small collaborative group, it is difficult to see how the overarching workshop outcomes and recommendations can be forwarded. The major recommendation is therefore to identify and provide support for such an industry champion(s) to assist in delivering the agreed prioritised activities.

6. Extension and Adoption

Extension and Adoption activities for the workshop, including actions against priority activities are summarised in Table 3 below.

Table 3: Extension and Adoption Activities for the Australian Salmon Workshop.

Priority Issue/Activity	Suggested Actions	Extension and Adoption
1.Industry Data Standardisation	Source/summarise basic catch data (commercial and recreational) Source/summarise end-use value data. Run scenarios (e.g. how the value percentage would look if the amount of fish for human consumption increased)	FRDC FISH June 2019 article. No further activity.
2.Communication and Information Packages	Define various target audiences and key messages/stores specific for each audience (e.g. seafood tourism trails) Collate all current Australian Salmon content (contact industry associations to assist) Consider an Australian Salmon Association to collate info and manage activities (e.g. website) Develop logo and brand. Purchase Wild Australian Salmon domain name.	Content captain Catherine Norwood appointed. Call for information through workshop email communication list but little content provided. All relevant FRDC reports provided to workshop attendees. PFA newsletter story circulated. Australian Wild Salmon Domain names purchased. Instagram account @AustralianSalmon developed.
3.1 Export China List	Communicate with Minister about why Australian Salmon needs to be prioritised for China list	Initial submission developed on standard template for Australian Salmon inclusion on China list. Comments received and amended

Priority Issue/Activity	Suggested Actions	Extension and Adoption
	Undertake submission process (include workshop report to show industry cohesion).	submission developed. September 2019 workshop resulted in the Australian Salmon application being one of three priority applications to be submitted to China for review by February 2020.
3.2 New Product Development	Undertake handling trials (bleeding, ice etc.) on Eastern Australian Salmon to improve product quality (refer to previous FRDC/CRC reports with Western Australian Salmon). Grading/quality standards to be developed Undertake NPD trials and communicate results to broader audience.	Post-harvest handling improved practices developed by Victorian fishers with higher quality product now in use by Melbourne chefs. New product development trials ongoing and/or planned between NSW and Victorian fishers and Andre Gorissen . Results reported in FISH June 2019.
3.3 Pet Food	Need to develop a standard and an industry association to manage consistent, quality supply. Keep communication lines open	No activity

Appendices

Appendix 1 Workshop Participants

Industry	Others
Ennio Tavani – Mendolia Seafoods	Wayne Haggar – STAG
Emily Osborne – Tasmanian fisher	Catherine Norwood – FISH Magazine
Colleen Osborne - Tasmanian fisher	Jason Earl – SARDI
Johnathon Davy- SIV	Skye Barrett – FRDC
Tricia Beatty - NSW PFA	Chris Izzo – FRDC
Mannie Shea - WAFIC	
Stuart Richey - Tasmanian fisher	
Steven Swann – Nestle	
Garry Bevan – Bevans WA	
Glenda Bevan – Bevans WA	
Tony Westerberg – WA Baits WA	
Erik Poole – Sydney Fish Market	
Robert Gauta - NSW Fishermens Cooperative	
Tom Richardson - NSW fisher	
Lynda Mitchelson-Twigg – Victorian fisher	
Harry Mitchelson – Victorian Fisher	
Andre Gorissen – Processor	
Joe De Belin - Exporter	
John Susman – FishTales	

Appendix 2 Workshop Agenda

Australian Salmon Collaborative Market Development

Agenda

Travelodge Hotel Melbourne SouthBank, 9 Riverside Quay, Southbank.

Day 1: 6 February 2019

Time	Topic
1.30pm	Introductions
1.45pm	Aims and objectives for the day
2.15pm	State roundup – Reps from each State to present on challenges, issues and opportunities for their fishery. Includes discussions about possible market opportunities/experiences
3.30pm	Stock assessment/Fisheries management considerations
3.45pm	Export issues briefing and update
4.0pm	Export Opportunities and Challenges
4.15pm	Market, Processors, exporters, value-add update: Australian salmon market opportunities? What are the drivers and barriers? (a number of short presentations)
5.45pm	Day 1 Close
6.30pm	Dinner discussion (Dinner supplied)

Day 2:7 February 2019

Time	Topic
8.30am	Recap of Day 1 and outline of Day 2 activities
9.00am	Workshop on "Opportunities for market development growth of Australian Salmon industry"
12.00pm	Summary and Next steps
12.30pm	Lunch and finish