

Maximising the value of the NSW Long Fin Eel Catch Through a Whole Supply Chain Approach

Stage 1



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Acknowledgments

PFA, Eel Fishers, supply chain partners, retailers, chefs, Umar and the Fish Girl team.

Abbreviations

PFA: Professional Fishers Association

Executive Summary

Following a dramatic drop in demand for live wild-caught eels (Longfin Eel, *Anguilla Reinhardtii*) to be exported from NSW to China, fishing efforts have significantly reduced, and the fishery is now classed as underutilised. At the same time, there is a global shortage of eels, with demand increasing, particularly in traditional eel-consuming markets such as China, Japan, Korea, and Europe.

At the request of the NSW eel fishers, the Professional Fishers Association, Honey & Fox Pty Ltd, together with Noosa Seafood Market and The Fish Girl, undertook this project to investigate whether there are any viable alternative markets and assess the technical and operational feasibility of capturing those.

The project team worked closely with fishers, their supply chain partners and potential customers to focus on

- Developing and testing new product formats (other than live) specifically for the Asian market.
- Defining market needs, including consumer demand, competitor analysis, channel, and supply chain partner identification.
- Understanding the technical and operational requirements to create competitive supply chains that meet market requirements.
- Identifying options for scaling up production to meet potential market demand and maximise the value of the catch. This includes consideration of different business models, including local or regional clusters and/or working with other Eel fishers nationally.

The original project plan was constrained due to the COVID-19 pandemic restrictions, which made it difficult to test potential new products in international target markets. Several changes were made to the project methods to deal with the constraints imposed. These are outlined in the report.

The original plan was that if viable technically and operationally feasible commercial markets were found, the project may progress to Stage 2. This would include assessing the capacity to meet any market specifications for product and service quality and include detailed financial investment scenarios.

Findings

The market dashboard, product development trials and price modelling for retail and food service provide insight into the market positioning and the effort required to support entering, growing, and scaling new markets for NSW wild caught eels.

The best opportunities for value-added eel product and market development at a price point that would be acceptable to fishers and customers are:

1. Small niche markets in Australia (small volume, high quality, high price), which some fishers are doing
2. Volume markets such as China (large volume, variable quality, low price)
3. Premium markets in Japan and Korea (large volume, consistent quality, medium price)

4. Premium markets in Europe (small volume, consistent quality, medium to high price).

However, there are significant barriers to realising the potential of these markets, including:

1. Inconsistent supply and quality suitable for value-added products and an apparent unwillingness to change this without guaranteed prices.
2. There is a lack of market awareness about NSW wild-caught eels globally, and there is a need to invest significantly to change this.
3. Insufficient processing, transport, and distribution infrastructure in regional NSW, where the eels are caught.
4. Lack of skills and capabilities more broadly among fishers and current supply chain partners to assess and capture potential market opportunities.

Implications

While the market failure situation remains unchanged and not addressed, the NSW wild-caught eel fishery will likely remain a niche value-added fishery with minimal catches and little market presence.

There are many “undervalued” or “underutilised” wild-caught species around Australia, and there have been numerous studies and research conducted to understand what the market potential is for these. This research shows that having market potential is only one factor influencing the ability to realise the potential. Other factors combine to create a complex problem that needs multifaceted solutions.

Unfortunately, traditional investment in diversifying to new markets tends to stop at the “market gate”. This needs to change. The mantra of “we don’t do marketing” needs to change to “we don’t do selling”. Agreeing on where this line should be is a priority for all investors.

Recommendations

Being successful in one market does not mean success in another. A combination of robust market research, market intelligence systems, infrastructure investment, skills development, knowledge building and supportive government and industry networks is needed to create the environment for success.

It is recommended that further research investment be undertaken in eel product and/or market research only be conducted if the following conditions are met:

1. interest from a market that details price and quality expectations.
2. a clear commitment from fishers to supply the market with product that meets the price and quality expectations.
3. a clear commitment for supply chain partners to work with the fishers and their customers to sustainably grow the market and create greater certainty around ongoing investment.
4. evidence that there is adequate infrastructure able to consistently deliver products to market that meet the price and quality expectations.

Should the conditions outlined above be met, then the following work should be undertaken as a matter of priority.

1. Document and address the variable product with a collaborative whole supply chain approach that results in detailed quality code of practice documentation and support for

implementation, including training.

2. Develop a full financial investment business case to guide fishers, supply chain partners and investors in deciding whether to invest in the opportunities.
3. Develop communication and market education materials to increase the market awareness of NSW as a source of sustainable wild-caught eels and participate in “meet the producer” showcases where customers can see and taste the products.

Keywords

Anguilla Reinhardtii, NSW Eels, Market Research, Food Service, Retail, Export, Market Feasibility, Investment, Supply Chain

Introduction

The NSW commercial fishers who target Longfin Eel (*Anguilla reinhardtii*) have been trading their product with China for many years, typically selling products via exporters who used the "grey channel". The crackdown on illegal imports to China has resulted in steadily deteriorating prices and apparent demand for NSW eels, causing catches to decline - it is simply not worth fishing. In 2017, the fishery had a TAC of 155.22 t, which @\$8/kg (minimum) means the fishery was potentially worth more than \$1m pa. However, because of supply chain issues and lack of market demand information, only 30t was caught, leaving significant room for growth in volume and potentially prices.

Between 2014 and 2017, the price of eels for export dropped from around \$12/kg to approximately \$8/kg. This coincided with a downturn in exporting and increased domestic sales. The fishers have reported that because of the lower prices, it simply is not economical to catch eels. This is reflected in the catch record for the past eight years, showing a significant reduction in catch between 2014/2015 and 2016/2017. See Table 1 below.

Table 1 NSW Eel Catch 2010 to 2017 (Source NSW DPI)

Year	Catch (kg)
2009/10	66,610.60
2010/11	75,891.30
2011/12	92,738.70
2012/13	81,289.40
2013/14	89,784.00
2014/15	82,557.30
2015/16	46,151.00
2016/17	16,707.20

Commercial eel trapping is regulated by the Estuary General Fishery, controlled by the NSW Department of Primary Industries. A fisher must hold at least 125 eel trapping shares in a particular region to fish. Quota is allocated based on the number of quota shares held by a fishing business. In 2018, 125 quota shares entitled the holder to 803kg eel quota, i.e. approximately 6.4kg per quota share.

Changing to a quota-managed fishery was a catalyst for NSW fishers' investigating value-adding opportunities and marketing the entire run of catch rather than just those that meet high-value specifications.

In late 2017, a NSW delegation visited China to explore the potential to re-establish markets there post-ChAFTA. In 2017/2018, the Australian Government's Farming Together Program supported an additional project to explore whether the NSW eel fishers could collaborate to explore new market opportunities in China using an e-commerce platform.

That research showed that there was still a large unmet demand for eels in China, Japan, and other Asian markets. The reduced tariffs through the trade agreements enhanced the economic viability of targeting those markets.

After completing the FTP project, the PFA collaborated with Noosa Seafood Market and the Commercial Fishermen's Cooperative in Newcastle to explore and test opportunities for different product formats that could return greater than \$8/kg (the 2018 live eel price) to the fishers. Initial product trials were very promising. However, some issues needed to be resolved around supply chain coordination and performance, refining product format options and achieving a deeper insight into the market opportunities.

This project set out to

- Develop and test new product formats (other than live) specifically for the Asian market.
- Define market needs, including consumer demand, competitor analysis, channel, and supply chain partner identification.
- Understand the technical and operational requirements to create competitive supply chains that meet market requirements.
- Identify options for scaling up production to meet potential market demand and maximise the value of the catch. This will likely include consideration of different business models, including local or regional clusters and/or working with other Eel fishers nationally.

Objectives

The objectives of this Stage 1 project were to

1. To develop up to 5 product formats from NSW wild-caught eels and test them in two markets.
2. To assess the feasibility and options for commercial scale-up should the product formats be demonstrated as adding value to the NSW eel fishery.

NB: The feasibility assessment referred to in Objective 2 is a technical and operational feasibility study. It was not intended to include a full financial investment feasibility study as part of Stage 1 of the project (the current stage). However, some initial feasibility assessment scenarios have been provided based on some assumptions. A full financial feasibility assessment will be undertaken in the planned Stage 2, should that go ahead.

Method

Overall project management:

Honey & Fox P/L managed the project, guiding contractors, and service providers. PFA liaised with the Eel fishers who wished to be involved in the project. Rules were established for fisher and supply chain partner participation. Honey & Fox and the PFA took joint

responsibility for reporting and communicating with all stakeholders on progress. A Communications and Extension Strategy was developed.

Objective 1:

To develop up to 5 new product formats from NSW wild caught eels and test them in two markets.

Step 1: Define market needs, including consumer demand patterns, competitor analysis, channels, supply chain partner identification, and product formats.

Honey & Fox conducted desktop market research for Eels in the domestic market, China, and Japan to determine:

- Consumer trends - identify needs, buying habits, growth trends and key insights.
- Market dynamics - analysis of drivers and inhibitors, threats, and opportunities for eels.
- Competitor behaviours - dissect closest competitors, looking at performance, positioning, innovation, pricing, distribution and reputation.
- Channel needs - identify channel options and assess opportunities, risks, strengths and weaknesses.

Following the initial research, Honey & Fox conducted a deep dive into the Eel market in two markets and prepared a report for discussion at a series of stakeholder workshops to discuss and prioritise opportunities.

A shortlist of up to 10 product/market combinations for further investigation was created, and the feasibility and attractiveness of the different market options were assessed.

Step 2: Develop an initial range of new products.

Noosa Seafood Market worked with the fishers and the Newcastle and/or Coffs Harbour Fishermen Cooperatives to source and transport eels that were suitable to use for developing and trialling different eel product formats. The products were produced commercially and documented for further development if market testing is positive.

Step 3: In-depth market investigation.

The original intention was for PFA, Noosa Seafood Markets, fishers, and Honey & Fox (delegation of 6 people) to travel to meet with Japanese and Chinese customers, chefs and buyers to test the initial products and discuss the market and supply chain needs and expectations. The NSW Eel seafood story was also to be tested to help determine the level of resonance with the target audiences. From here, the customer touchpoint strategy was to be developed to drive interest and strengthen market demand. Feedback on the products was to be used to refine the trial products to meet high-end consumer palates in the target markets.

The methods were changed due to the Covid 19 pandemic, which restricted interstate and international travel on and off for two years (2020 to 2022). Further delays were experienced in early 2022 due to floods.

The major change was to abandon the planned international in person market investigation and to focus the market trials on the Australian domestic market, attempting to include Japanese, Korean and other communities to act as a proxy for market testing in those markets.

Some product samples were also sent to international markets through existing commercial channels for feedback.

Step 4: Refine the range of new products.

The original plan was for the product range to be refined, based on market feedback, to 5 products to take to the next stage of development. Due to market disruptions due to the COVID-19 pandemic, the project team shortlisted five products based on the potential benefit-cost of developing the market versus the potential revenue/value.

The shortlisted products were tested in Japan and Australia.

Objective 2:

To assess the feasibility and options for commercial scale-up should the products be acceptable to the market.

Step 1: Determine how to scale production to meet potential market demand.

To determine the critical success factors for successful commercial scale-up, the project team undertook consultation with fishers and supply chain operators to identify constraints that might impact scaling-up operations.

- Product sourcing, including sustainability, quality parameters and seasonal supply issue.
- Supply chain partner's capabilities and capacity, including logistics and distribution capacity.
- Processing capacity, including infrastructure, equipment, skills, and facilities.

Step 2: Determine the feasibility of Stage 2 to scale up and develop quality parameters.

If deemed technically and operationally feasible by fishers and supply chain partners, PFA would then develop a Stage 2 project proposal that would trial a supply chain arrangement as a pilot project to develop the market further and scale up to commercial production.

Stage 2 would consider trialling different pathways to capture the market opportunities, including, for example, local and/or regional clusters of businesses. Noting that a similar trial was conducted in 2017 prior as a forerunner to the current project.

Results & Discussion

Market Development

Initial market investigations included China, Japan, Korea, the EU (particularly the Netherlands and Belgium) and Australia (niche markets). Market opportunities, the competitive landscape, and cultural and cuisine trends were documented. Outside of China, Japan and Korea appeared to have significant potential.

In August 2019, the project team undertook a port visit tour incorporating in-depth interviews with NSW eel fishers and supply chain partners. The purpose of these interviews was to understand what the market development barriers and opportunities were from their point of view. See Attachment 1 for the list of fishers interviewed.

Generally, the fishers did not know much about the market demand (domestic or international) for eels. Since the demise of the previous trade with China, the market had all but disappeared for them, and some fishers had decided not to continue fishing. In contrast, others saw the potential given the relatively low fishery share price. Some fishers had found niche markets either locally or in Sydney/Brisbane. Most of the fishers visited had live eel holding facilities. However, there were no further processing facilities or capabilities other than at the two cooperatives (Coffs Harbour and Newcastle). Both co-operatives identified that a major impediment to further processing NSW eels was attracting and keeping staff with the required eel processing skills.

Based on the fisher consultation, an economic evaluation framework was developed to guide the assessment of the potential for new products and market development. Three potential economic impact scenarios were developed. Data sources for measuring performance and creating an online market price/ROI were identified.

Plans for an in-person market visit to Japan and Korea to coincide with the National Eel Festival days in Japan in 2020 were put on hold and then abandoned due to the COVID-19 pandemic. Without an in-person market visit, a further market deep dive report was produced for these markets. See Attachment 2. The initial desktop research also revealed the potential for a domestic eel market as part of a diversified market portfolio. Based on this and the ongoing difficulties with planned in-person market visits, the project team agreed to work on better understanding the potential for value-added eel products in the Australian domestic market. Eel market dashboards were developed for Japan, Korea, EU and Australia. See Attachment 3

This research resulted in a list of potential value-added eel product ideas. There are 17 product ideas on the list. See Attachment 4.

Product development

The product evaluation trials found significant irregularities of the eels, depending on the source, and that the eating quality characteristics, flavour, and texture are impacted by

- the region where the eels are caught and
- the size and fat content of the individual eel.

The smaller eels, when sourced from brackish water, can be “value-added” into an acceptable product. The recovery rate and additional labour based on skin removal make it potentially more expensive than some current Taiwanese and Chinese-produced products.

Understanding the reasons for product quality variations is outside the scope of this project; however, smoking processes could help deal with this inconsistency.

The larger fish, with careful brining, can be smoked and used in value-added products with eel as a main protein ingredient. This is due to the firmness and texture of the flesh and the limited fattiness (moisture) in the flesh. By using the eel in this manner, those characteristics can be largely compensated for by breaking down the structural integrity of the eel and using additives to compensate for the lack of moisture normally present in a fattier eel.

The eel’s suitability for different product formats was assessed across various cooking methods and culinary styles based on these factors. Market preferences were also considered where the potential for the “run of catch” Australian eels may sit. Based on these trials, the initial list of products was culled to include only those products involving smoking (see Attachment 5), with the following products selected for further development:

1. Whole live eel
2. Processed graded frozen (gilled) bulk packs
3. Smoked Eel
4. Kabayaki (Unagi) (smaller eel)
5. Smoked Eel fish cakes
6. Eel pieces in Spicy Stew
7. Smoked Eel rilette

Further trials were undertaken, and product samples were sent to Japan for initial assessment by end users (chefs, product developers, retailers, and wholesalers). The feedback is summarised below:

- Interest was shown in live products and in minimally processed bulk packs.
- Japanese buyers were also interested in Kabayaki eel with some further refinement. The samples provided to them were based on non-penned eels u500 sizes. We understand that eels up to 1kg may suit Kabayaki, but U500g is the most suitable.
- The eels that are 500g up to 1.5kg are suitable for smoking.
- The 1.5kg plus eels are only suitable for smoked eel fishcakes and rilette and for the eel pieces in a spicy stew. Further work could be undertaken using traditional Japanese processing methods for the larger eels.

It was apparent from the market feedback that further work was needed to perfect the smoking process and the Japanese Unagi cooking methods, so this is what was focused on.

Product and Market Trials

Due to ongoing COVID-19 issues, it was decided to focus on the Australian market for further product and market development trials. A summary of the product and market trials in Australian retail and food service channels is provided below. Full details are provided in the attached New Eel Market and Product Development Report (see Attachment 6).

Australian Seafood Retail

There is a potential market for smaller-sized (less than 1kg) eels in Australian seafood retail – predominantly as a hot-smoked portioned packaged product. The economic model for this shows that a beach price of between \$8/kg and \$10/kg would provide profitable returns to everyone in the supply chain. There is also the potential for small niche markets to be developed, e.g. Smoke Trap Eels, where prices of between \$13/kg and \$15/kg are achievable if quality specifications are met.

Australian Foodservice

The Australian food service market has apparent latent demand for underutilised seafood products. Eel is certainly underutilised. It is rarely offered to chefs, and other than hot smoking, there has been little experimentation to find presentations to suit the “run of catch” wild product characteristics.

Initial market explorations revealed significant interest in Wild NSW Saltwater Eels in the Australian food service sector, particularly for the larger eels.

Supply issues were associated with the trial, with less than half of the requested supply provided. However, 13 chefs trialed the product and provided generally positive feedback. Chefs preferred to receive the larger fish and for it to be provided whole chilled. This format provides the maximum opportunity for developing menu items. See the full Wild NSW Saltwater Eels Food Service Market Investigation Report in Attachment 7

Based on this interest, a further trial was planned for April 2023 that would have involved using a logo to distinguish the product through the supply chain to the food service client (see Attachment 8). The trial was delayed due to ongoing supply uncertainty due to lack of fisher interest and it was decided instead to focus on providing product to the “Meet the Producers” event held in Brisbane in July 2023. This trial went well with significant commercial interest. Unfortunately, transport and logistics issues meant these commercial opportunities were not fulfilled.

A detailed pricing model was developed for the smoked product for retail (see Attachment 9) and for fresh whole chilled products (for food service (see Attachment 10). These models demonstrate the price points that are required based on the initial “beach price” and provide insight into potential market positioning and the marketing effort required to support that,

Feasibility Assessment

While we know that globally there is a worldwide shortage of eels, the key question is not only whether new markets exist but whether the NSW eel industry participants can capture those markets and achieve this at scale, i.e. not just one or two companies focusing on niche

markets but on the entire fishery and utilising “run of catch”. Using data collected through the project, a feasibility assessment was undertaken (see Attachment 11).

In undertaking the feasibility assessment, we considered:

- Technical feasibility (product options)
- Financial feasibility (operational margins of supply chain partners)
- Market feasibility (market and consumer insights – secondary and primary)
- Operational Feasibility (capabilities and infrastructure needs)

There is significant room for sustainable growth in volume and value if a viable and stable market can be found for NSW wild caught eels. The 2018/2019 quota for the NSW Eel fishery was 155.22 tonnes, with prices averaging about \$8/kg (having fallen to lows of \$3 to \$5/kg). In the feasibility report, we outline three investment and growth scenarios:

1. Same volume with increased prices
2. Increased volume with increased prices
3. Increased volume apportioned to different price points (run of catch)

While there are limitations to the feasibility assessment, it indicates that with appropriate investment in training people, introducing quality regimes, building market awareness, and filling infrastructure/processing capability gaps, there are opportunities to grow the value of the fishery.

Barriers to achieving increased value from wild-caught NSW eels

It became evident during the project that increasing the value of NSW wild-caught eels is a complex problem, with many interacting issues requiring a multiple-faceted and multi-disciplinary group of solutions. The core issues identified in this project include:

1. **Reduced fishing effort:** The eel catch in NSW has continued to decline, decreasing from 80,000 plus kg caught pa when the China market was being serviced before 2015 to less than 10,000kg pa today. The fishers catch eel secondary to other species as it is not considered worth fishing for an unreliable market, with only xx% of the TAC caught in 2022). Ensuring sustainable supply is a prerequisite for successfully establishing a market.
2. **Price variability:** Fishers have commented that they need a stable price of between \$10 and \$16/kg to be economically viable to target eels over other products. This price is difficult to achieve at volume. It is possible for small-volume, high-quality niche markets, as described in this report. As a relatively unknown and untested product in new markets, there is a need to take risks with providing supply and undertaking marketing through all stages (awareness, consideration, conversion, loyalty, and advocacy) without any guarantee of return. No fishers spoken to during the project were willing to take that risk.
3. **Product inconsistency:** Several trials were conducted that concluded that there was considerable variability in the taste, texture, and fattiness of the product. This makes it difficult to scale product development based on run of catch.

4. **Insufficient transport infrastructure:** Before 2015, an eel processor and exporter regularly serviced the eel fishers travelling up and down the coast collecting and transporting live eels to overseas markets. That operator has ceased trading, and despite some short-lived attempts, this service has not been replaced.
5. **Skills:** Fishers generally do not have the skills to develop new markets at any scale. While individual fishers have developed some niche markets., there is an expectation that someone else in the chain will do the work to start, grow and scale the market.
6. **Supply Chain capabilities:** There are no operators with holding tanks or processing facilities in NSW regional areas able or willing to process large volumes of eels to service Australian or international markets efficiently. One processor based in Sydney has expressed an interest in supplying international markets. This has been passed to fishers to take up discussions directly. Regional processors servicing niche small-volume markets have local arrangements with individual fishers.
7. **Market awareness and understanding:** While there are markets for eels globally, and in fact, the demand far outstrips the demand, those markets know very little about Australian eels generally, let alone NSW eels specifically. This lack of awareness in the market is the first thing to rectify if the potential market opportunities are to be realised.

Conclusion

Markets exist globally for NSW wild-caught eels. There is a global shortage of eels, with demand increasing, particularly in traditional eel-consuming markets such as China, Japan, Korea, and Europe.

The market dashboard, product development trials and price modelling for retail and food service provide insight into the market positioning and the effort required to support that. In a non-traditional eel consuming market, such as Australia, this would be a significant challenge and likely beyond the current capabilities of the supply chain to create other than niche markets.

The best opportunities for value-added eel product and market development at a price point that would be acceptable to fishers and customers are:

1. Small niche markets in Australia (small volume, high quality, high price)
2. Volume markets such as China (large volume, variable quality, low price)
3. Premium markets in Japan and Korea (large volume, consistent quality, medium price)
4. Premium markets in Europe (small volume, consistent quality, medium to high price).

However, there are significant barriers to realising the potential, including:

- Inconsistent supply and quality suitable for value-added products
- Lack of market awareness about NSW wild-caught eels globally
- Insufficient processing, transport, and distribution infrastructure in regional NSW, where the eels are caught

- Lack of skills and capabilities more broadly among fishers and current supply chain partners to assess and capture potential market opportunities

Implications

While the market failure situation remains unchanged and not addressed, the NSW wild-caught eel fishery will likely remain a niche value-added fishery with minimal catches and little market presence.

There are many “undervalued” or “underutilised” wild-caught species around Australia, and there have been numerous studies and research conducted to understand what the market potential is for these. This research shows that having market potential is one factor that influences the ability to realise the potential. The factors combine to create a complex problem that needs multifaceted solutions from working with the fishers, their supply chain partners and the potential customers in markets.

Unfortunately, traditional investment in diversifying to new markets tends to stop at the “market gate”. This needs to change. The mantra of “we don’t do marketing” needs to change to “we don’t do selling”. Agreeing on where this line should be a priority for all investors.

Being successful in one market does not mean success in another. A combination of robust market research, market intelligence systems, infrastructure investment, skills development, knowledge building and supportive government and industry networks is needed to create the environment for success.

Recommendations

It is recommended that further research investment be undertaken in eel product and/or market research conditional on receiving:

1. interest from a market that details price and quality expectations
2. a clear commitment from fishers to supply the market with product that meets the price and quality expectations
3. a clear commitment for supply chain partners to work with the fishers and their customers to sustainably grow the market and create greater certainty around ongoing investment.
4. evidence that there is adequate infrastructure able to consistently deliver products to market that meet the price and quality expectations.

Further development

It is recommended that should the conditions outlined above be met; then the following work should be undertaken as a matter of priority.

- Document and address the variable product with a collaborative whole supply chain approach that results in detailed quality code of practice documentation and support for implementation, including training.

- Develop a full financial investment business case to guide fishers, supply chain partners and investors in deciding whether to invest in the opportunities.
- Develop communication and market education materials to increase the market awareness of NSW as a source of sustainable wild-caught eels and participate in “meet the producer” showcases where customers can see and taste the products.

Extension and Adoption

The Professional Fishers Association managed the extension and adoption activities. The project was stopped and restarted several times between 2020 and 2022 due to the lockdowns and movement restrictions imposed by governments in response to the COVID-19 pandemic. These disruptions significantly impacted communication, extension and adoption activities. The original communications strategy was revised at the beginning of 2022 (Attachment 12).

This project was designed for action learning, meaning the research findings were communicated continuously throughout the project. PFA focused on maintaining the involvement of the fishers, processors, Cooperatives, and other supply chain partners. The action learning approach enabled the project to pivot and change direction as needed based on each target audience's feedback, input, and expertise.

Communications Plans

Before the project commenced, the PFA had already undertaken extensive consultation with the industry and buyers to raise the profile of eels as a high-quality seafood product.

There were 4 main target audiences for this project:

1. Potential international markets– including wholesalers, retailers, hospitality sectors
2. NSW Eel fishers
3. Supply chain partners (including processors and exporters of Eels)
4. Other Eel fishers

The key messages developed at the start of the project remained largely unchanged throughout and included the following:

- The project intended to maximise the value of the NSW Long Fin Eel catch through a whole supply chain approach, looking at different markets and trialling new product formats.
- The project’s intended outcome is the development of systems to support the development of market-ready eel products (including live), supply chain and market relationships that will, over time, help stabilise and develop the current commercial eel fishery in NSW with the potential for creating collaborative links to other Eel fishers nationally.

- Creating new market/product development combinations will help increase competition for products that could create increased prices for NSW long-fin eels and potentially other Australian eel producers.
- The value of developing and using a unified brand will be considered as part of the project if considered appropriate.
- An economic benefit-cost report will be provided to guide and support the ongoing collaboration of fishers, potentially unlocking other opportunities to work together to build value in NSW fisheries.

Extension of research findings

The initial stage of the project was successful in engaging with fishers, post-harvest operators and markets to discuss the potential of the under-utilised eels. However, due to the disruption created by the Global Pandemic throughout 2020-2022, the project was required to pivot focus. Both the inability to engage with international markets and the mandatory requirement to maintain social distancing meant the project was unable to hold previously planned stakeholder workshops and port visits.

The major communication and extension methods included:

Direct Communication – the PI and co-investigators met with fishers and buyers directly, including processors and buyers in Japan. Due to the pandemic, the meetings were generally held remotely.

Social Media – PFA posted updates on the project and the project’s progress through its Facebook site.

Newsletter: Regular articles regarding the project and its progress were featured in the newsletter.

A website was also created to support the project:

[Home | australianwildeels \(australianeelproject.com\)](http://australianwildeels.com)

The PFA linked the project with their Eat More Seafood NSW project. This project used Andrew Ettinghausen’s Escape with ET to promote under-utilized species. The show featured a story on eels caught on the Hawkesbury River and used Sydney Chef Nicholas Hill to cook up a feast using the local eels. The story was featured on 1 December 2019 on Channel 10.

In the final stage of the project an attempt was made to have fishers collaborate in a trial supplying branded NSW eels to chefs in Brisbane. The trial did not eventuate as the eels were not supplied.

Communications, extension, and adoption activities undertaken by the PFA are detailed in the attached report (Attachment 13).

Appendix 1: Researchers and Project Staff

Honey & Fox

Jayne Gallagher, Joanne Freeman, Helen Johnston, Gloria Gu, Katherine Hagenbach

PFA

Tricia Beatty, Kylie Grenfell, Kristin Hoel

Noosa Seafood Market

Andre Gorrissen, Wendy Gorrissen

The Fish Girl

Umar Nguyen