

*Project 2015/702 – Lawley:
A Final Seafood Omnibus:
Evaluating changes in Consumer attitudes and behaviours*

A Final Seafood Omnibus: Evaluating changes in Consumer attitudes and behaviours

Professor Meredith Lawley

Project No. 2015/702



**AUSTRALIAN
SEAFOOD
COOPERATIVE
RESEARCH CENTRE**

May 2015



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Australian Government
**Fisheries Research and
Development Corporation**



An Australian Government Initiative



Non-Technical Summary

PROJECT NUMBER: 2015/702

PROJECT TITLE:

A Final Seafood Omnibus: Evaluating changes in Consumer attitudes and behaviours

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PROJECT OBJECTIVE:

This project had two objectives:

To identify changes in consumer attitudes and behaviours overtime (that could be related to CRC activities).

To identify and benchmark key issues impacting continued consumer trends (e.g. sustainability, provenance, traceability, and social media).

NON TECHNICAL SUMMARY

The purpose of this project was twofold – firstly, to identify changes in consumers’ attitudes and behaviours over the past 5 years, and secondly, to further explore key issues impacting continued consumer trends. This study is the third Omnibus Consumer Research project carried out by the CRC and follows the 2009 and 2011 studies conducted by the Ehrenberg Bass Institute. The 2015 Omnibus comprised a national online survey conducted in April 2015 and was completed by 2,538 consumers over the age of 18. Respondents broadly matched the Australian population in terms of state location and age. Criteria for inclusion were the same across all three Omnibus studies. A major difference between the studies was timing. The 2009 Omnibus was conducted in December in the lead up to Christmas in 2009 and the second omnibus was conducted over December and January 2011, so again a key holiday period. The 2015 Omnibus specifically targeted a non-holiday period of March 2015. Many of the differences in results between the three studies can be at least partially attributed to this difference in timing. The 2015 Omnibus comprised two major sections: the first section monitored similar issues to the previous two Omnibus studies and so allowed the identification of trends, while the second part of the Omnibus explored new areas.

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Some changes identified since the previous two Omnibus studies include:

- Males responsible for grocery shopping in their households had increased from 35% to 40% since 2011.
- About 30% of consumers realise they should be eating 2 or more serves of seafood per week for a healthy diet but are only consuming on average 1 or less per week.
- Fresh salmon and smoked salmon have increased in penetration, while crumbed or battered fish and oysters have decreased.
- Couples without children who are employed full time or retired and living in metropolitan areas are the highest average consumers of seafood per week.
- Consumption of seafood at home is increasing while out of home consumption appears to be decreasing.
- 60% of consumers are purchasing seafood through supermarkets, and while this is a decrease from previous Omnibus studies, this could be attributed to timing.
- The most popular day for consuming seafood was Friday (17%), with Friday dinner being the most popular meal (as opposed to Monday being identified as the biggest seafood consumption day in the earlier Omnibus studies).

While very few changes in attitudes and behaviour that could be directly attributed to CRC activities were identified, this could largely be a reflection of the time lag being experienced in developing and implementing sector wide approaches to consumer-oriented strategies. In particular, the sector identified as experiencing significant growth in penetration and frequency of consumption was fresh salmon, and this sector has the most well established consumer marketing focus. Under CRC programs, many sectors of the seafood industry are currently developing a stronger consumer orientation, however very few have progressed to a well-developed national marketing approach. The most advanced approach domestically is that of the Australian prawn industry, who have just completed the second year of implementation of the Love Australian Prawns national marketing strategy (400 seafood retailers and 800 Woolworths stores nationally). Other sectors have progressed internationally (abalone into China), and domestically, the farmed barramundi sector is commencing implementation of a marketing strategy and the oyster industry has trialled point of sale strategies for oysters that will form the basis for developing a national approach. However, all of these initiatives are at very early stages and their impact is not yet reflected in this projects results.

In terms of the new areas addressed in this project, key findings include:

- 1 in 3 consumers have either no idea or an incorrect idea of what sustainability means in relation to seafood, and sustainability is not currently impacting the purchase decisions of almost all Australian consumers;
- Country of origin labelling in food service outlets is strongly supported by close to 100% of Australian consumers, with over two thirds of consumers indicating they would be prepared to pay a premium of up to 30% for Australian seafood.

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- Social media is not yet playing a major role in seafood marketing, with less than 15% of consumers using this media (mainly for recipes). However, given the higher usage by younger consumers, social media will increase in importance in the near future.

In summary, this project has provided more detail and understanding of consumers' behaviours and attitudes in new areas that can further inform strategy development at all levels (i.e. individual business, sector and industry). Continued development of a comprehensive understanding of consumers' behaviours, perceptions and motivations with respect to seafood consumption is as important now as it was when the initial Omnibus studies were conducted in 2009 and 2011.

Future research should continue to monitor consumer behaviour and perceptions, particularly in relation to emerging issues such as the impact of sustainability and use of social media in seafood consumption decisions.

OUTCOMES ACHIEVED:

The project has delivered the following outcomes:

- Tracked patterns in consumer behaviour, attitudes and perceptions since 2011
- Explored and benchmarked key issues relating to seafood marketing including sustainability, country of origin impact and the use of social media in seafood purchasing

LIST OF OUTPUTS PRODUCED:

The project has delivered the following outputs:

- Seafood Omnibus 2015 Report to Industry
- Data files associated with Seafood Omnibus 2015
- 8 Fish Bite presentations based on Omnibus 2015 results

KEYWORDS: seafood consumption, seafood marketing, omnibus, sustainability

Acknowledgements

The author would like to thank the Australian Seafood CRC for the opportunity to undertake this project. At USC, the research support provided by Kym Cheatham, Judy Watson and Lucas Whittaker was invaluable. A special thank you goes to Dr Syed Fazel Hasan who undertook much of the data analysis involved. I would also like to acknowledge the advisory group members who provided input and feedback on the survey including: Jayne Gallagher (ASCRC), Rachel King (Oysters Australia), Chris Calogeras (Australian Barramundi Farmers Association), Stephanie Williams (Sydney Fish Markets) and Dr Dawn Birch (Bournemouth University).

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1.0 Introduction and Background

1.1 Need

The CRC commissioned two previous Omnibus Studies, both undertaken by the Ehrenberg Bass Institute – one collected data in December 2009 (n = 2,643) and the second collected data across December 2010 and January 2011 (n=3,629).

These studies had three key objects:

1. Measure seafood consumption levels and patterns, including consumers' knowledge and preferences for seafood (benchmark and track changes over time).
2. Measure consumer acceptance (in terms of consumers' willingness to pay, the expected market share, segmentation, and importance of product features) and forecast the demand for a range of innovative seafood products, packaging, and services.
3. Determine the relative impact of different advertising, promotional messages (e.g., health benefits, sustainability and other environmental claims, etc.), education programs and the extent those messages would be valued by the consumers.

The CRC has conducted considerable further research since these studies; however this has been targeted to specific species (e.g. barramundi, prawns) with no further tracking over time of seafood consumption levels and patterns including consumers' knowledge and preferences for seafood. Given the work of the CRC in several species since the last Omnibus, a final study addressing objective one specifically would allow changes over time to be measured. In addition, the final Omnibus included questions addressing issues that have arisen through the further studies conducted by the CRC that remain unanswered, including:

1. The role and impact of childhood habits on seafood consumption;
2. Gender differences in purchasing and preparing seafood;
3. The role of health/dieting on the Monday consumption pattern;
4. The role of social media in seafood consumption;
5. Consumer understanding and impact of sustainability; and
6. The impact of provenance and traceability.

These issues are in line with the final recommendations from the previous two Omnibus studies.

1.2 Objectives

This project had two objectives:

1. To identify changes in consumer attitudes and behaviours over time (that could be related to CRC activities).
2. To identify and benchmark key issues impacting continued consumer trends (e.g. sustainability, provenance, traceability, and social media).

2.0 Methods

The 2015 Omnibus Seafood Consumer Survey follows previous research conducted in 2009 and 2011 through the Australian Seafood CRC by Ehrenberg Bass. All three waves of research have been administered to an online panel of respondents with between 2,500 – 3,600 respondents in each wave, which broadly align to Australian demographic characteristics. The data collection was monitored to ensure that responses were received from all states, age groups and genders, broadly in line with population demographic characteristics. 2,538 Australian seafood consumers responded to the 2015 Omnibus.

The criteria for inclusion were consistent across all three waves, with respondents having to be responsible or share the responsibility for their household grocery purchases. Respondents also needed to have eaten some seafood in the past 6 months. While the first two Omnibus studies were conducted over key summer holiday periods (December 2009 and December/January 2011), the 2015 study was deliberately in field in a non-holiday period prior to Easter. This March timing needs to be considered when evaluating results.

In preparing the 2015 Omnibus, a small consultative group was formed to give input into question content. The group comprised:

- Jayne Gallagher, Program Manager, ASCRC;
- Dr Dawn Birch, Senior Lecturer, Bournemouth University;
- Chris Calogeras, Executive Officer, Australian Barramundi Farmers Association (ABFA);
- Rachel King, Executive Officer, Oysters Australia; and
- Stephanie Williams, Marketing Manager, Sydney Fish Markets.

In terms of content, the first section of the 2015 Omnibus repeated key questions from the previous Omnibus studies looking at measuring seafood consumption – including what is being consumed, when it is being consumed, where it is being consumed, and by whom. In addition, questions were included to address the issue of Monday being identified in the first two Omnibuses as the highest seafood consumption day of the week. Further, issues around perceptions of seafood versus other proteins and within the seafood category were repeated. Some questions from two previous CRC studies, Retail Transformation and Repositioning Australian Farmed Barramundi (RAFB) Finfish study, were also repeated to identify trends including shopping behaviour and attitudes and influences towards seafood consumption.

New sections were included that addressed issues identified since the initial two Omnibus studies that warranted further investigation, including:

- *Consumers understanding of sustainability and its role in seafood purchasing and consumption.* This topic was added as it had been identified as an area where consumer attitudes might change quite quickly. Previous research had briefly asked about sustainability, with focus group results (Retail Transformation) indicating that many consumers did not actually understand what was meant by sustainability – and when they did have some knowledge, this was around environmental rather than economic and social sustainability. A more detailed understanding of how consumers understand the term will better inform strategy development in this area.
- *The role and impact of childhood habits.* Following the initial two Omnibus studies, and the RAFB Finfish study, it became evident that many consumers talked about the impact of their childhood experiences on their current attitudes and consumption patterns. This area was added as it was considered that a better understanding of the role of childhood consumption would allow better targeting of marketing messages.
- *The use and role of social media on seafood purchasing.* As the explosion in social media has continued since the initial Omnibus studies, focussing questions on this topic would assist seafood marketing with a better understanding of what social media impact seafood consumption decisions and why.
- *Country of origin labelling (CoOL).* Following the implementation of mandatory CoOL labelling in food service in the Northern Territory, further research was undertaken to explore the attitudes and perceptions of Australians living outside the Northern territory towards CoOL. Questions in this section replicated those asked in the two consumer evaluations of CoOL in the Northern territory.

Finally, two industry groups requested specific sections relevant to their industries be included in the Omnibus, oysters, looking at factors impacting the purchase of fresh oysters and barramundi, looking at repeating previous ABFA research into country associations and further exploring willingness to pay. A copy of the survey is contained at Appendix 3.

To keep the survey within reasonable time limits, all respondents (n=2538) completed the first sections of the survey measuring consumption patterns. Once these questions were complete, the questionnaire branched into two streams; with respondents randomly allocated to each stream. The first stream (n = 1208) completed perceptions of seafood versus other proteins (Q17) and then completed all the attitude statements, while the second stream (n= 1320) covered the perceptions of different seafood (Q18) and then completed the new sections described above. All respondents completed the final demographic questions.

Similarly to the previous Omnibus studies, where possible, results are analysed based on relevant demographic criteria including age, gender, income, education and location. Significance was determined at $p < .05$. P values and correlations are not reported throughout the report to improve readability, however if a difference or relationship is noted, it is statistically significant.

3.0 Results and Discussion

A full report for distribution to industry is included as Appendix 4. In this section, key findings are outlined in line with the sections of the final industry report, with the first 7 sections drawing and comparing to previous CRC studies and sections 8 to 12 addressing areas new to this Omnibus.

One result to be noted before looking at the specific sections is regarding the profile of respondents. Notably, the percentage of males responsible for grocery shopping in their households had increased from 35% to 40% since 2011. This may reflect a growing trend of increased male involvement in household shopping. In other respects, the profile of respondents was similar between the previous two Omnibus studies and the 2015 study.

3.1 Penetration

As with the previous two Omnibus studies, respondents were asked to indicate all species that they had consumed at some point in the previous 12 months. Comparing 2009 to 2015, prawns continue to have the highest penetration of all seafood species (at 70%); however canned tuna has increased in penetration and is only 1% behind in second place. Within the top 12 species, both crumbed or battered fish and oysters have decreased in penetration (-14% each) since 2009, while fresh salmon (+9%) and smoked salmon (+7%) have increased since 2009.

Fresh and freshly prepared seafood dominate the list of seafood that has grown in penetration from 2009 to 2015, while canned/bottled seafood (except canned tuna) and less healthily prepared seafood have declined in penetration over the same period.

Average weekly consumption. To better understand consumers' annual consumption of seafood, respondents were asked about their average weekly meals which have seafood (including canned fish like tuna) as a major component. Results show 40.2% of respondents consumed on average one or less weekly meals with seafood (including canned fish like tuna) as a major component; which is less than the recommended consumption of a minimum of 2 meals per week. This includes 3% who did not have at least one seafood meal per week on average. This was despite 91.2% of respondents identifying that a healthy diet required 2 or more serves of seafood per week and only 9.8% thinking that 1 or less serves of seafood is sufficient for healthy diet. About a third of respondents (29.8%) were eating on average two seafood meals per week, while about the same amount (28.6%) were eating on average 3 - 7 seafood meals per week. About half of the respondents (48.3%) consider they do not eat enough seafood, which is a similar result to the RFB Finfish Study, which found 51.1% thought they did not eat enough seafood (Lawley and Birch, 2013). This figure is supported by 63.4% of consumers believing that 3 or more serves of seafood are needed weekly for a healthy diet, but only 30% are actually consuming that amount of seafood on average per week.

Average weekly consumption and demographics. The average weekly consumption findings did not significantly change with gender, although there was an indication that older respondents did have a slightly higher average weekly consumption of seafood, and those who are retired are more likely to consume seafood 2 - 4 times per week. Those people who work fulltime are eating seafood 6 or more times per week on average, which may relate to the increase in consumption of tinned tuna (taken to work as a quick and easy lunch).

People living in metropolitan areas also have higher average weekly consumption than those in regional areas, and those with higher levels of education also consumed slightly more seafood on a weekly basis. Average weekly consumption was the same across all household income levels, although households with young children on average consumed 0 - 1 seafood meal per week, while couples without children consumed seafood on average 2 - 4 times per week.

Compared to previous studies in 2009 and 2011, the 2015 results showed the following changes;

- Increases in average weekly consumption by consumers:
 - From Queensland,
 - Aged 25 –54 years old,
 - With no kids at home and kids at home.
- Decreases in average weekly consumption by consumers:
 - From ACT and Tasmania,
 - Aged 18 – 24 years old and over 65 years of age.

Consumption of seafood in the last 7 days. Consumers indicated that the number of meals that included seafood that last 7 days on average was 3.2 times, which was an increase on the 2011 findings of 3.1, but still lower than the 3.6 average in the 2009 survey. The 2009 result could be influenced by the timing of the data collection which was in December (prior to Christmas). The 2011 survey was during January (school holidays) and in 2015 it was in April (but not during Easter or school holidays period). It is reasonable that the results reflect how consumer behaviour regarding seafood consumption may change with the events occurring at the time. In 2015, the average number of weekly seafood meals was similar between men (3.3) and women (3.2). On comparison with 2009 and 2011, the data indicates that men are higher consumers of seafood during December, and their consumption is consistently slightly higher than women.

Consumers also indicated that most seafood is consumed at home, which aligns with the previous two studies. While there appears to be a gradual shift to more in home consumption of seafood, from 67% in 2009 to 72% in 2015, this may be due to the 2015 survey being conducted in a non-holiday/special event period. Therefore, the 2015 data potentially shows a more normal day to day pattern of seafood consumption.

Across all three surveys, respondents consuming seafood out of home has remained quite low. The 2015 survey shows a significant decline in seafood consumption outside of the home on both week days and weekends, which further reinforces when the 2015 survey was conducted and may be a truer picture of consumer behaviour in non-holiday/special event periods.

Are people eating more, less or about the same amount of seafood? In the first two Omnibuses, respondents were asked if they were eating more, less or the same as they had been 12 months ago. If they responded more or less; they were then asked to nominate why they were eating more or less from a limited list of reasons. In 2015, this approach was changed slightly in two ways – firstly, the time period was changed from 12 months to five years to cover the period since the previous Omnibuses, and secondly, rather than giving a limited number of response options, respondents were able to give an open response to generate a greater depth of answers. These changes need to be taken into account when considering results.

Looking at a comparison of the results from the three studies, since 2009, the percentage of respondents reporting increased seafood consumption is 41% (an increase of 16 %), with a similar decrease of 16% in those reporting about the same level of consumption. Those reporting they are eating less increased by 2% over the same period. Again, it must be remembered that the time period had increased to 5 years of recall in 2015.

Given the change from a closed question with choices from a list to an open response question, the comparison between the three Omnibuses is based on the top five reasons for eating more in order, with less emphasis on actual percentages as these are not relevant; given multiple responses were allowed in 2009 and 2011 and respondents gave a single response in 2015.

Health and taste are consistent as the two most important reasons for eating more across all three Omnibuses. It should be noted that in 2015, health has been expanded to health and diet, so also includes responses like dieting and wanting a balanced diet. The next three reasons for eating more, changed in the 2015 survey and included availability, were, 'having a fresh fish shop nearby' and also included responses like 'better, more attractive and easier products available' and 'woollies and Coles are stocking a better range'. Moral obligation also emerged as a key driver of increased consumption, with reasons like 'I know I should' and 'good for my family'. Affordability included comments about income increasing and more affordable options being available. All of these reasons should be reinforced wherever possible.

Turning to reasons for eating less seafood, only one of the top five reasons nominated in 2009 and 2011 remained consistent in 2015 – affordability (or too expensive). The second ranked reason in 2015 for eating less was quality, which included lack of quality standards, uncertainty of origin and labelling, and a lack of good quality fresh seafood. Availability covered issues around, 'no shop nearby', 'no fresh product available', and less local and Australian seafood available. Many respondents linked expensive with fresh and high quality local seafood and also talked about expensive and not knowing what you are actually buying, that is standards, origins and labelling. These statements support arguments made elsewhere about the need to make sure consumers have a reason for paying a premium for Australian seafood by assuring them it is local and a high and consistent standard. Household makeup was also not available as an option in the earlier Omnibuses, with several responses falling into this category in 2015 including 'previously lived with people who liked seafood and now living with people who don't' and 'someone in my household does not like seafood'. Diet covered respondents who had become vegan.

3.2 The Last Seven Days

When is seafood consumed? Consumers indicated that seafood is consumed more at dinner (51%), followed by lunch (37%), snacks (8%) and breakfast (4%). These results are very similar to the 2011 survey, and these results were not reported in the 2009 survey. However, in contrast the 2011 survey, in 2015, the most popular day for consuming seafood was Friday (17%), with Friday dinner being the most popular meal to include seafood in the week. Seafood consumption was consistent across all other days of the week. Seafood consumption is slightly higher on Monday at lunch compared to lunch on other days of the week, while seafood consumption was also marginally higher on Wednesday breakfast than breakfast on other days. Seafood was also more likely to be consumed as a snack on weekends (Sundays and Saturday) rather than weekdays.

This Monday anomaly can perhaps be attributed to question design. In the 2015 study, the questions asking for details of the last weeks' seafood consumption rotated the starting day, that is, one person started the diary on the previous Monday, the next person was asked to start the diary on the Tuesday and so on. This spread any respondent fatigue with completing the details evenly across all days of the week. If the 2009 and 2011 Omnibus both started all diaries on the previous Monday, there may have been a fatigue element creeping in towards the later days of the week.

Across all age groups, consumers eat more seafood meals at home than out of the home and as noted in previous studies, the 2015 results show that as consumers age there is a greater propensity to eat seafood at home. Consumers aged between 25-34 years marginally consume the largest percentage of meals out of the home, although it is still less than in home consumption. Consumers aged between 18-24 years have the lowest consumption of seafood meals.

At-home meals. As discussed above, consumers in 2015 indicated that 72% of their seafood meals were at home. Friday night dinner is clearly the most popular day for an at-home seafood dinner, while Saturday and Sunday dinners were the least popular days for an at-home seafood dinner. Lunch and snacks were consistent across week days for at-home seafood meals, while much higher on weekends. Breakfast consumption of seafood at-home was mostly consistent across the week.

Out-of-home meals. Friday and Saturday dinners were the most popular time for out-of-home seafood meals, with Monday being the least popular for out of home seafood dinners. As with at-home consumption, Lunch and snacks were consistent across weekdays for out-of-home seafood meals, while much lower on weekends. As with at-home consumption, consumers' consumption of seafood at breakfast out-of-home was mostly consistent across the week.

3.3 In-home Seafood Consumption

Consumption of seafood in-home in the last 7 days. In 2015, a quarter (25%) of consumer indicated that they ate 2 meals of seafood in home in the last 7 days, which was a significant increase on both the 2009 (approximately 17%) and 2011 (20%) studies. There was also a significant change in those not having any seafood meals in the past 7 days, with 2015 showing 5%, which was a significant decrease from 9% in 2009 and 24% in 2011. Both 2009 and 2015 found that about three quarters of consumers had eaten seafood between 2-7 times in the last 7 days, while the 2011 survey found only about half of consumers indicated they had eaten between 2-7 times in the last week.

Where seafood was bought for in-home consumption. As with the previous two studies, most seafood bought for at-home consumption was purchased from a supermarket/food store. However, the 2015 (60%) result showed a decrease from previous studies in 2011 (65%) and 2009 (61%). In 2015, compared to previous studies, the consumer showed an increased propensity to get seafood for in-home consumption from a Fish Market, Wholesaler/ Co-operative, and a Commercial fisherman.

Most popular seafood consumed in-home. As with the 2009 and 2011 surveys, consumers indicated that canned tuna was the most popular seafood type, although its popularity had decreased substantially in 2015 (10%) compared to 2011 (20%) and 2009 (19%). Canned salmon, prawns and crumbed battered fish have also decreased in popularity, which reflects the trends identified earlier. Basa has emerged as a popular seafood for in-home

consumption, while the increase in other species (54% in 2015, up from 34% in 2011) may indicate consumers widening their choices of seafood for in home consumption.

As identified in the previous reports, canned seafood is more popular for breakfast and lunch, and canned seafood is also popular as a snack. Fresh salmon (15%) is the most popular seafood for dinner while canned tuna (22%) and smoked salmon (20%) are the most popular seafood for breakfast. Canned tuna (40%) is significantly the most popular seafood for lunch at home.

Since 2011, canned tuna and smoked salmon have become more popular for breakfast, while canned sardines and pilchards have decreased significantly. For lunch at home, canned tuna has increased, while canned salmon has decreased in 2015 compared to previous studies. Of most increase (in terms of dinners) is the increase in fresh salmon and a decrease in prawn consumption for dinner in 2015 compared to previous years. Canned tuna has continued to dominate in home snacks in 2015, following the findings from 2009 and 2011.

The changes in consumption identified above are reflected in both gender's choices for in home seafood consumption. Both males and females have decreased consumption of canned tuna, prawns, crumbed/battered fish and canned salmon in home, while also both are enjoying increased consumption of other varieties of seafood.

3.4 Out-of-home Seafood Consumption

In this section, the questions focus specifically on the out-of-home consumption from the last 7 days. Over 50% of consumers had not consumed seafood out of their home in the past 7 days. This result is consistent with those found in 2011, which is surprising given the 2011 data was collected during a holiday period. Nearly a third (28%) of consumers, out of home seafood meals were consumed at a restaurant while a quarter (22%) brought the meal from home. Compared to previous surveys, restaurants continued to be the top place where seafood is consumed out of the home. The decrease in restaurants and increase in work based locations would reflect the timing of the 2011 and 2015 surveys as discussed earlier. Across all states, restaurants were the most popular place to consume seafood, followed by seafood bought from home, which would most likely correlate to the increase in the consumption of canned tuna mentioned earlier.

Across all seafood meals consumed out of the home, restaurants were most popular, with the exception of snacks where the seafood consumed was mostly brought from home. Seafood for breakfast was consumed mostly in a restaurant (35%), followed by seafood brought from home (19%). Seafood meals out the home at lunch were mostly brought from home (32%), followed by being consumed in a restaurant. Overwhelmingly, seafood consumed out of the home at dinner is eaten in restaurants (55%). Seafood consumed for snacks out of the home come from a variety of places (others = 24%), followed by seafood brought from home (19%).

3.5 Trends in Seafood Consumption

Sixty nine (69) statements gathered consumer attitudes to various aspects of seafood consumption and were completed by 1,318 respondents. Attitudes addressed a variety of topics and were drawn from the previous omnibus studies, including the 2010 Repositioning Australian Farmed Barramundi: Online Consumer Survey (RAFB), and the Retail Transformation study, and finally, some new statements were added to address emerging issues. In this final omnibus, all attitudes were measured on 6 point scale, where:

- 1 = strongly disagree;
- 2 = disagree;
- 3 = tend to disagree;
- 4 = tend to agree;
- 5 = agree; and
- 6 = strongly agree.

A six point scale was used to force respondents to have an opinion and not allow the option of neutrality, as all respondents had experience with seafood and should have an opinion. A six point scale was also used in the RAFB study, however the previous two omnibus studies used 5 point scales making direct comparison impossible. Results will be reported by topic and where possible, compared to results from previous studies. It also needs to be remembered that the RAFB study used statements about 'fish', whereas the Omnibus changed these statements to 'seafood'.

Sensory evaluations. Sensory evaluations were measured by two statements about smell and touch. These questions were also in the 2010 RAFB study. Attitudes towards the touch and smell of seafood were similar between 2010 and 2015 with approximately 40% of respondents NOT liking the smell of seafood and a smaller group of approximately 24% not liking the touch of seafood. For both of these sensory evaluations, females were more likely to not like smell and touch than males. Agreement was also negatively correlated with age, that is, the agreement with these statements tended to decrease with age or younger people were more likely to agree and not like the smell or touch.

Satiation was measured by two statements from the 2010 RAFB study. Attitudes were similar between 2010 and 2015 with approximately 88% of respondents feeling satisfied after eating seafood, and a smaller group of approximately 23% feeling hungry again quickly after eating seafood. There were no significant differences between males and females for either of these statements. In terms of age, the older respondents got, the more likely they were to agree that they felt satisfied after eating seafood. However, the reverse pattern was evident with hunger, that is, the younger respondents were more likely to indicate they felt hungry quickly after eating seafood.

Australian vs local. Consumers expressed a very strong preference for both local and Australian seafood over imported, with females having significantly higher agreement to both statements. The preference for Australian seafood was significantly higher than the preference for local seafood. The preference to buy both local and Australian seafood increased with age. A majority of consumers (68%) preferred to buy seafood from a speciality retailer, and about half of the respondents preferred to serve seafood as compared to meat and poultry. There were no differences based on gender; however preference to purchase from a specialty retailer increased with age, while preference to serve other types of meat or poultry decreased with age.

Diet and variety. Six statements explored some of the perceived benefits of seafood. Four of the statements were asked in the 2010 RAFB study. In all cases, the 2015 results agreed with the 2010 results, although the percentage of respondents that 'strongly agree' had dropped slightly. Of the new statements, the benefit of seafood as a low fat meal was strongly supported by 93% of respondents. For all of these statements there was a significant (although weak) positive correlation with age, that is, the older respondents were, the more likely to agree. In terms of gender, with the exception of seafood providing variety and serving seafood in different ways, females expressed stronger agreement than males. All statements were weakly correlated with age, that is, agreement increased with age.

Perceived risks (safety). Attitudes are largely in line with 2010 RAFB results, with a negative change in mean indicating a decrease in agreement, for example, in the case of concern about mercury, overall consumers are slightly less concerned. Females had higher levels of concern about mercury and higher agreement that eating seafood was risky. Concerns about mercury were significantly (but weakly) positively correlated with age, that is, agreement increase with age, whereas agreement that eating seafood was risky significantly weakly decreased with age.

Freshness. Results in this survey are similar to previous studies, with the new statement indicating about half of respondents feel that seafood should never be frozen. These responses indicate some preference for fresh seafood and a lack of knowledge by many consumers of the quality of snap frozen product. Females were more likely to agree that fresh seafood should be eaten within one or two days of purchase; there were no gender differences in the other two statements. In terms of age, there was a positive (but weak) correlation with eating fresh seafood and agreeing that snap frozen is as good as fresh.

Hedonic attributes. Consumers agreed that they like eating seafood (over 90%); although interestingly, it appears that about half of the respondents eat seafood mainly due to taste, while the other half consider the health benefits more important than taste. There were no significant differences based on gender, while again a positive (but weak) correlation with age occurred with both statements.

Information needs at Point of Sale (POS). While responses to these statements are very similar to the 2010 RAFB study, compared to other statements in this section where there has been a slight decrease in agreement, for these statements there are slight increases, that is, people are looking more for information. The statements with highest agreement were 'I compare prices of products to ensure I receive the best value for money' and 'I check labels on food products to decide which to buy'. Only one statement was significantly related to age (checking labels), which was weakly positively correlated, that is, as age increased, so does likelihood of agreeing with this statement.

Childhood consumption. All of these statements are new to the 2015 Omnibus, although these questions emerged from the 2010 RAFB study where it was observed that childhood consumption appeared to play a major role in adult consumption. However, little is known about what type of childhood consumption, for example, whether that consumption had been based on eating fish and chips from a take-away shop or whether they had observed seafood being cooked at home. Over 70% of respondents had eaten takeaway fish and chips as a child, whereas a smaller number (approximately 58%) had eaten seafood prepared at home. These figures indicate that there is a substantial group of consumers (about 40%)

who did not eat home-prepared seafood or observe seafood being prepared at home in their childhood.

In terms of gender, the only significant difference was that males were more likely to agree that they ate seafood from a takeaway shop as a child, and in terms of age, the only significant pattern was that younger people are less likely to agree that they ate seafood which had been cooked at home on a regular basis as a child. While the relationship is only weak, this is a concern as it suggests less seafood is getting cooked at home.

Familiarity/loyalty/innovation seafood choices. These statements were new in 2015 and attempted to assess consumers' willingness to try new and unfamiliar species of seafood. Results indicate that over half of the consumers (approximately 55%) do not want to and have not tried a new species recently. However, a similar size group of consumers would be prepared to try, have tried, and looked for new species of seafood to try. In terms of gender, males were more likely to look for and try a different species of fish, while in terms of age, younger consumers are more likely to not want to try a new species.

Habit. While the majority of consumers do not have to be reminded to eat seafood, the results below indicate there is still a large group of consumers (approx. 35%) who need to be reminded to eat seafood. While there are no gender differences in these responses, agreement does increase with age.

Knowledge and confidence in seafood consumption. Over 80% of consumers agreed that they knew how to store seafood safely, while only about 70% agree they were confident in preparing seafood, with a drop to 50% saying they would eat more seafood if they knew how to prepare it. Where comparisons can be made to past surveys, outcomes are similar. In terms of gender, females were more likely to agree that they would buy more seafood if they were more confident in selecting good quality seafood, and males were more confident in their ability to prepare and serve seafood. Younger consumers were more likely to agree they would eat more seafood if they knew more ways to prepare it, if they were more confident in preparing seafood, and younger consumers were also more likely to use recipe cards and be encouraged to cook seafood with recipe cards. As consumers aged, they were more likely to agree that they knew how to store seafood and that seafood was easy to prepare.

Availability and pre-prepared seafood. From 2010, there was an increase in people agreeing that seafood is available in correct portion sizes, with a similar proportion of agreement from 2010 that more seafood would be served if it was more available. There were no gender differences with these statements, however in terms of age, as age increased, so does agreement that seafood is readily available in the correct portion sizes. For all other statements as age decreased agreement was more likely.

Convenience orientation. Approximately 70% of respondents felt that seafood was convenient to prepare. While there were no gender differences, younger people were more likely to agree that seafood takes a long time to prepare while as age increases respondents were more likely to agree that seafood was quick and easy and took little effort to prepare.

Food related lifestyle. Patterns here were largely similar to results in the 2010 RAFF survey, showing the majority of Australian consumers are interested in food as part of their lifestyle. Males were more likely to agree that their choice of food influences other people image of them, females were more interested in where food comes from, and males were more likely

to not be interested in cooking. As age increases, interest in where food comes from increases; while as age decreases, respondents were less likely to agree that other people's image of them was influenced. Females were more likely to order seafood when eating out and males were more likely to serve seafood for guests at home.

Monday consumption. These statements were new to the 2015 Omnibus and were included to explore the higher than expected reported consumption of seafood on Mondays. It was hypothesised that this may be due to two factors; consumers wanting to start a healthy eating plan (after indulging on weekends), or possibly needing to eat seafood bought or caught on the weekend (as it might go off if not eaten within a day or two). Results reported earlier indicated that Monday is not a high consumption day in this Omnibus, and the responses to the questions below support that starting a healthy eating plan and the using up of seafood bought or caught on the weekend are not drivers of Monday seafood consumption.

Male purchase behaviour. These statements were only asked of female respondents and were designed to try to identify a segment of purchasers who had not previously been surveyed as they did not solely or jointly purchase groceries, but did purchase seafood on occasion. The results support the existence of this segment of males who do not purchase groceries but do purchase seafood (45% agreement), and when they do, they are more likely to buy at a specialty seafood store (44% agreement) and spend a higher amount (49% agreement).

Summary. Some of the findings based on demographics are summarised below.

Older consumers are more likely to:

- Not to be concerned with the smell or feel of seafood;
- Buy both local and Australian seafood and purchase from a specialty retailer;
- Not serve other types of meat or poultry;
- Agree that they felt satisfied after eating seafood;
- Agree that the benefits of seafood consumption include variety in diet and health;
- Have higher levels of concern about mercury but do not have concerns that eating seafood was risky;
- Agreeing that snap frozen is as good as fresh; and
- Check labels on food products to decide which to buy.

Younger consumers are more likely to:

- Not like the touch and feel of seafood;
- Feel hungry more quickly after eating seafood;
- Have had seafood which had been cooked at home on a regular basis as a child;
- Not want to try a new species;
- Agree that seafood takes a long time to prepare and would eat more seafood if they knew more ways to prepare it and if they were more confident in preparing seafood; and
- Would use recipe cards and be encouraged to cook seafood with recipe cards.

Female consumers are more likely to:

- Not like the touch and feel of seafood;
- Agree that fresh seafood should be eaten within one or two days of purchase;
- Have higher levels of concern about mercury and that eating seafood was risky;
- Have very strong preference for both local and Australian seafood over imported;

- Agree that there are health benefits of seafood consumption;
- To order seafood when eating out; and
- Buy more seafood if they were more confident in selecting good quality seafood.

Male consumers are more likely to:

- Look for and try a different species of seafood;
- Agree that they ate seafood from a takeaway shop as a child;
- Not purchase groceries but do purchase seafood and buy at a specialty seafood store and spend a higher amount;
- Agree that their choice of food influences other people image of them; and
- Serve seafood for guests at home and are more confident in their ability to prepare and serve seafood, although not be interested in cooking.

3.6 Food Perceptions

In the 2009 Omnibus, consumer perceptions of a range of seafood were compared to a range of meats, while in 2011; consumer perceptions of a larger range of seafood were tested. In 2015, half of the respondents (n = 1270) rated their perceptions of 4 meats (lamb, beef, chicken and pork) and three seafood's (prawns, oysters and barramundi), while the other half of the respondents (n = 1268) rated 6 species of seafood (prawns, oysters, yellowtail kingfish, barramundi, fresh salmon, and fresh sardines). For each of the 21 statements, respondents were asked to nominate which of the proteins (in each group) the statement applied to. Each group of proteins will be discussed in turn with results compared to the related previous omnibus.

Seafood vs other proteins. The three species of seafood included in this comparison – prawns, oysters, and barramundi, were perceived to all be superior to the four meats and have the following strengths:

- Natural;
- Low in fat; and
- Rich in omega 3.

The other area where seafood consistently scored higher agreement could be seen as negative attributes and included:

- Generally rather expensive;
- Need to be eaten immediately after purchase;
- Good for a special occasion;
- Best eaten when dining out; and
- A luxury food.

Areas where seafood consistently scored lower levels of agreement compared to the meats included:

- Versatile as it can be prepared in lots of different ways;
- Good value;
- Good for an everyday meal;
- Freezes well;

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- Widely available;
- Always safe to eat; and
- Sustainable.

Within the three seafoods, prawns were seen as easier to prepare than pork and almost as easy as lamb. Oysters scored lower than prawns and barramundi in terms of something I would like to eat more of and also scored similarly to lamb. Prawns scored the highest agreement as being good for a light meal. Prawns and barramundi were seen as the least boring of all options. These results are in line with the 2009 Omnibus findings.

Within seafood. All seafoods were perceived as healthy by the majority of respondents, with salmon getting the strongest support, followed by barramundi. Oysters, while still seen as healthy, scored the lowest of the seafoods on this attribute. All seafoods were also perceived as natural and low in fat. After these three statements, perceptions highlighted different positions of the various seafood species.

Prawns had the most strengths and least weaknesses compared to other seafoods. Prawns rated highly in terms of being easy to prepare and versatile. They were perceived as good value and something people would like to eat more of. They were seen as good for a light meal and a special occasion. They froze well and were defined as not boring and were seen as widely available.

Oyster had very few unique strengths compared to other seafoods. They were perceived as good for a special occasion. The weaknesses of oysters compared to other seafoods included being perceived as expensive and not good value by the highest number of respondents and needing to be eaten immediately after purchase by the highest number of respondents. Oysters also received the lowest agreement on the criteria of being good for an everyday meal, freezing well, always being safe to eat and being rich in Omega 3's.

Apart from the three strengths of all seafoods, Yellow Tail Kingfish (YTK) did not have any unique strengths. YTK was not seen as easy to prepare or good value and was not perceived as being good for a dinner party or a light meal. It was not seen as sustainable or widely available. Many of these perceptions could be related to the low awareness of YTK by many consumers.

Sardines were seen to have strengths in not being expensive and not needing to be eaten immediately after purchase. However, comparative weaknesses included it not being something people would like to eat more of or serve at a dinner party or special occasion, and they were seen as the most boring of the seafoods.

Salmon and barramundi had many similar strengths. Both were something people would like to eat more of and perceived as being safe to eat. Salmon had additional strengths of being easy to prepare and good for an everyday meal as well as being seen as more widely available and sustainable than barramundi.

These positioning's do not appear to have changed significantly since the 2011 Omnibus.

3.7 Shopping Behaviour

Planned vs unplanned. Results show that about half (55%) of seafood purchases are planned, a third (30.4%) are half planned and half unplanned, and the remainder (14.6%) are mostly on impulse and unplanned. If we assume a 50/50 split of the middle group, it shows that nearly 30% of shoppers are impulse shopping for seafood, which aligns with the Australian Seafood CRC Retail Transformation Project research that showed that 73% of retail food purchases were planned and 27% were unplanned (Graham, 2009).

Significantly, consumers aged 35 to 44 years with older children living at home and those over 65 years and retired were more likely to plan seafood purchases. Consumers aged 18 to 34 years (young couple without children), and 55 to 64 years (empty nesters still employed) are more likely to impulse shop for seafood. Gender, place of residence, household income and education were not significant in planned or unplanned seafood purchasing behaviour.

The importance of farmed versus wild caught seafood. The preference of the respondents in this survey is for wild caught seafood (30%) over farmed seafood (6%). Compared to the results in the 2009 study, there is a decrease in preference for both farmed and wild caught seafood and an increase in the respondents who do not have a preference for either. These questions were not asked in 2011 Omnibus study (Danenberg & Remaud, 2010).

Respondents who expressed a preference for farmed or wild-caught seafood were asked for their reasons for their preference. Those who preferred farmed seafood rated concerns of overfishing as still the main reason, although this reason decreased significantly from the 2009 survey (68% compared to 89%). However, concerns with 'bycatch' has become more significant in 2015 (45% compared to 36%). Results also indicated that 'More consistent taste' was more becoming a more popular reason, increasing to 27% from 16% in 2009.

Those who preferred wild caught seafood still indicated that same top two reasons ('Tastes better' and 'More natural') as in 2009, although 'More natural' increased from 67% to 71%. This increase is reflected in the increase in response for 'Healthier' (34% to 38%) and 'More nutritious' (25% to 29%) potentially indicated a growth in consumers' interest in healthier, more natural foods generally. However, wild caught vs. farmed was the least important factor when purchasing seafood in a restaurant/café and a takeaway, behind freshness, how the seafood is cooked (menu option), price, support for Australian seafood industry, species, country of origin, sustainable fishery and region of origin.

Impacts on purchase of fresh seafood. Consumers indicated freshness is of high importance, as results showed that when the seafood was caught or farmed was more important to respondents than where or how it was caught or farmed. Consumers aged over 50 years placed more importance on when the seafood was caught or farmed than other age groups, as did consumers with postgraduate level education, consumers with technical training/TAFE level education, and couples without children at home. Households with small children placed less importance on where the seafood was caught or farmed. Consumers aged between 18 and 25 years did not think that how seafood was caught or farmed was as important, while those aged 55 to 60 years are more likely to think it was very important. Similarly, consumers with postgraduate qualifications are more likely to see how the seafood is farmed or caught as important, while those with undergraduate qualifications see it as less important.

3.8 Consumer Understanding of Sustainability

This is a new section of the Omnibus. Previous research into seafood sustainability and its impact on consumer purchasing has assumed that consumers have a good understanding of what sustainability actually means. However, in focus groups conducted for the Retail Transformation project (Graham, 2009) it became clear that many consumers did not actually understand what was meant by sustainability but were giving politically correct responses. In addition, research carried out with chefs in the ABAF study (Birch and Lawley, 2010) found that while chefs thought sustainability was important, it ranked low in their purchase criteria and they often devolved responsibility for ensuring the seafood they used was sustainable to their supplier. Hence the questions on sustainability in this Omnibus were to test the hypothesis that many consumers are confused about sustainability and its impact on purchase decisions is currently limited, despite knowing sustainability is a good idea for the seafood industry.

Ten questions were asked of 1320 respondents in this section, covering three topics:

- **What is sustainability** – For this topic, consumers were asked to define sustainability in relation to seafood in their own words. They were then asked to rate their level of knowledge in relation to sustainability of seafood and this level of knowledge was then checked by asking respondents to list up to three unsustainable seafood species that they were aware of.
- **Purchase intentions and behaviour** – Respondents were asked about the importance of sustainability in their seafood purchase decisions, how likely it is that they would purchase seafood that was not sustainable, the level of price premium they would be prepared to pay for sustainable seafood, to rank various attributes of seafood in their purchase decision to identify where sustainability fell in the hierarchy, and finally; if they prefer to purchase sustainable seafood and why they do or don't.
- **Credibility of information sources** – This final topic asked awareness of various accrediting organisations (Q28a), and then asked respondents to rank these organisations and others in terms of their credibility as sources of information about sustainable fishing practices (Q28b).

What is sustainability? When asked to define sustainability in relation to seafood, 365 respondents (31.7%), either did not know (n = 238) or gave a totally incorrect answer (n = 180). Examples of the incorrect answers related to freshness include *'How long the seafood will last before going off'*, *'More days in the fridge without losing the freshness and softness'* and *'Freshly caught'*. Examples of the incorrect answers related to evaluation include *'It's a very important issue'*, *'There isn't any'* and *'Getting better'*. Other responses addressed healthiness, for example: *'Low fat and tasty food. It's good for health'*, *'Regular part of our diet'* and *'A good source of vitamins and minerals'*. In terms of gender, females were more likely to indicate that they did not know what sustainability is in relation to seafood, but males and females were equally likely to provide an incorrect response.

Of the remaining 902 respondents who were able to define sustainability in some way, a range of definitions were offered, but they all relate to environment sustainability; with no respondents mentioning either social or economic sustainability.

The dominant theme among the definitions, occurring in 517 responses (57.3%), was maintaining supply; either in terms of not over-fishing or not depleting stocks, allowing for replenishment, and preserving breeding stock/levels. The next most commonly identified concept was farming, with 286 respondents (31.7%) referring to it. Other issues addressed in definitions included environmental impact, control or limits, effect on other species (by-product) and net fishing.

The majority of respondents who were able to define sustainability (68%) offered a basic definition involving only one or two concepts, such as *'not overfishing'*, *'farmed'*, *'not harmful to the environment'*, and *'maintain stock levels in the ocean'*. The remaining 32% (287) demonstrated a more complex understanding that included multiple concepts and causal relationships. Examples of these responses include *'No over-fishing (sustainable catch rates), no or limited by-catch, no fishing of threatened or low-stock species, farming without causing pollution, energy-efficient fish farming'*, *'Targeted wild populations capable of withstanding and thriving in the face of harvesting. Farming in manners applicable for water conservation (e.g. sea cages vs inland pond systems)'* and *'Either commercially farmed or harvested under strict conditions/quotas which minimise the chance of depleting the species'*.

When asked to rate their level of knowledge of sustainability in relation to seafood, 11% of respondents stated they had no knowledge at all. Only 1% of respondents rated their knowledge as extremely knowledgeable, with a further 15% of respondents giving themselves a rating of 7, 8 or 9. Males tended to rate their level of knowledge higher than females. There were no significant relationships based on age.

To test the self-rated levels of knowledge, respondents were then asked to nominate up to three species of seafood that were currently rated as unsustainable. Of the 1320 respondents, 74% (n = 976) could not name one species that was currently not sustainable. Twenty six percent of respondents (n = 344) could nominate 1 species, 16% (n = 212) nominated two species and only 11% of respondents (n = 149) nominated 3 species.

Looking at the species that were nominated, while the majority could be classed as having sustainability issues, at least 100 of the nominations were for species in no danger of being unsustainable – including lobster, oysters, prawns and Patagonian Toothfish. Linking these results back to ratings of levels of knowledge, it would appear that only those with rankings of 7 or higher could correctly nominate species that may have sustainability issues, suggesting that overall, respondents' levels of knowledge may not be as high as they think.

Purchase intention and behaviour. On average, respondents rated the importance of sustainability in the seafood purchase decision highly (mean = 6.78). Importance positively correlated with age, that is, as age increased, so did importance; with no differences in importance based on gender. However, while respondents rated the importance of sustainability as high overall, when then asked to rank various criteria in terms of their importance to the seafood purchase decision, sustainability followed well behind price, country of origin, and species.

Respondents were asked to rank several key attributes of seafood products in terms of how important they were in purchase decisions. Asking respondents to rank forced them to make choices, rather than allowing them to rate criteria as equally important. The top three criteria of price, country of origin and species were significantly more important than all other attributes. Sustainability was ranked fourth overall, but was not significantly different

to reputable company and ease of preparation. Accompaniments were overwhelmingly not important in the purchase decision.

There were no significant differences based on gender in these rankings. As age increased, price, portion size and ease of preparation tended to be ranked of lower importance, while species, country of origin, sustainability and accompaniments tended to be ranked of higher importance.

While respondents reported a lower intention to knowingly purchase unsustainable seafood (mean = 4), 22% (n = 288) rated their likelihood of knowingly purchasing unsustainable seafood as 6 (out of 10) or higher. As age increased, likelihood of purchase of unsustainable seafood decreased. There were no differences based on gender.

Thirty two (32) percent of respondents stated that they did actively look for seafood from a sustainable source when purchasing seafood. There were no significant differences based on gender and age. Taken together with the next question on willingness to pay a price premium, as expected, those who actively looked for sustainable seafood were more likely to pay some level of premium.

Over 30% of respondents would not be prepared to pay any price premium for sustainable seafood. Including those only willing to pay up to a 10% premium, over 67% of consumers are not prepared to pay more than 10% more for sustainable seafood. This leaves a third (approximately 32%) of consumers to be prepared to pay more than 10% extra for sustainable seafood. Males were more likely to pay no premium at all, while females were more likely to nominate a premium of up to 10%. There was no relationship between age and willingness to pay a premium.

In answering this question, respondents were given 7 options including an 'other'. The two most frequent responses were 'not sure which seafood is sustainable' (58%) and 'lack of information at point of sale' (47%). Multiple responses were allowed, with most respondents nominating 2 reasons. In terms of gender, females were more likely to nominate 'not sure which seafood is sustainable', while males were more likely to not trust information at POS. Males were also more likely to cite lack of time to evaluate as a reason. In terms of age, as age increased, the likelihood of nominating price decreased, that is, younger people were more likely to cite higher price of sustainable product as a reason for non-purchase. Lack of information at POS and lack of trust as reasons increased with age.

Credibility of information sources. While the majority of respondents were aware of Greenpeace and the World Wildlife Fund (WWF), fewer than 10% of respondents were aware of either the Marine Stewardship Council (MSC) or the Global Aquaculture Council. Younger people were less aware of Greenpeace and WWF and more likely to nominate that they were not aware of any of the organisations. MSC had higher awareness with 25 to 34 year olds and 55 to 64 year olds. There were no differences in awareness levels based on gender.

After measuring awareness, respondents were then asked to rank the organisations they were aware of (i.e. if they indicated they had not heard of the organisation, it was not included in the list of sources to rank) from most credible to least credible in terms of accrediting sustainable fishing practices. Greenpeace and WWF held the number 1 and number 2 positions in terms of credibility, followed by the Australian Government in third. Commercial sources like supermarkets and companies came in fourth and fifth respectively,

while MSC and Global Aquaculture filled the final two positions, due mainly to very low levels of awareness overall. Taken only in terms of those who were aware of the group, Global Aquaculture and MSC rated slightly behind Greenpeace and WWF, but ahead of the remaining three information sources.

Summary. Taken together, the results above tend to support our initial hypotheses that many consumers do not have a good understanding of sustainability (even when they report moderate levels of knowledge) and that sustainability has little impact on the purchase decision. In line with other results, as age increased, so did the importance placed on sustainability and the likelihood of not purchasing unsustainable seafood. Consumers appeared to get more cynical with age, increasingly citing lack of information at POS and lack of trust as reasons for not purchasing sustainable seafood. Younger people were more likely to cite higher price of sustainable product as a reason for non-purchase.

Males tended to rate themselves as more knowledgeable about sustainability, were more sure of what seafood was sustainable, and were more likely not to pay a premium for sustainable seafood. Males were also more likely to cite lack of time to evaluate as a reason for not purchasing sustainable seafood. Those who actively looked for sustainable seafood were more likely to pay some level of premium; however, the characteristics of this group of 'active' sustainability seekers were not identifiable by age or gender. Lack of knowledge and information were the two most frequent reasons nominated for not purchasing sustainable seafood.

3.9 Oysters

New questions were introduced in the 2015 Omnibus to ask respondents about the purchase and consumption of oysters in the past 12 months. About one third (29.9 %) of respondents indicated they had consumed fresh oysters either at home or outside of the home in the past 12 months. Consumers' age is significant in the consumption of oysters, as consumption increases with age. Respondents under 34 years of age consumed less oysters than those over 34 years of age. Particularly, the consumption of oysters was highest in respondents aged 45 years and older.

Respondents with a household income of \$80,000 to \$99,999 per annum had increased consumption of oysters. Similarly, respondents with a university or tertiary education also consumed more oysters, and males also had a higher consumption than females. The residents of Sydney, Brisbane, South Australia (other than Adelaide), Tasmania (other than Hobart) and Darwin showed a higher consumption of oysters than residents in the rest of Australia.

Respondents who had purchased fresh oysters in the past 12 months were asked which factors were important to them by rating them from 0 to 10, where 0 is not important and 10 is extremely important. Date of harvest, geography of origin and good quality were the top three most important factors in the purchase of fresh oysters. Smaller size and available unopened were the least important.

3.10 Barramundi

Respondents were asked to identify which countries they associated with barramundi and why.

Overwhelmingly, consumers associated Australia with barramundi (85%), while only 6% identified specific countries or regions outside of Australia. This aligns with the results from an Australian Barramundi Farmers Association (ABFA) survey in 2014. The top 12 countries identified in addition to Australia in descending order were Thailand, Asia, Vietnam, NZ, Malaysia, Taiwan, USA, Japan, Indonesia and Italy. These additional 11 countries only represented 5.6% of the consumers.

When asked why the association of barramundi with a specific country, a quarter (22.4%) of the responses indicated that it was a matter of common knowledge that it was an Australian fish, while 11.6% specifically identified barramundi as a Northern Australian fish. A significant proportion also indicated that they did not know why they associated barramundi with a specific country. Only 1.2% of Australians assume barramundi is Australian because it's sold here. These findings are similar to those found in the ABFA research.

Imported vs Australian Barramundi selection. Nearly 50% of consumers indicated that knowing that 70% of the barramundi currently sold in Australia is imported, would encourage them to try and buy Australian barramundi. However a third (29%) of consumers' decision making would depend on price. Consumers indicated that an Australian barramundi 'guarantee' would not significantly impact on their future purchase decision making for Australian barramundi.

Pricing. Respondents were asked how much they would be prepared to pay for Australian barramundi fillets if imported barramundi fillets were \$15 per kilo. About three quarters (72%) of consumers indicated they would be willing to pay more for fresh Australian barramundi over imported barramundi, with the majority (53.4%) indicating up to a 30% premium and 18.6% of consumers willing to pay more than a 30% premium. The responses did not have any correlation to income; however, older consumers did indicate more willingness to pay a higher price for Australian barramundi.

3.11 Country of Origin Labelling

Respondents reported that about a third (29.7%) of their average number of weekly seafood meals were Australian seafood and a slightly higher proportion (32%) was imported. Specifically, couples without children reported more of their weekly seafood meals were Australian seafood, while young couples, teenagers and singles living alone consumed a higher proportion of imported seafood. Females were more likely to consume only Australian seafood than males.

People with lower consumption (2 meals or less per week) had higher consumption of Australian seafood, and those who consumed seafood only once a week were more likely to choose Australian seafood. Those that consumed more than 2 seafood meals per week were more likely to consume a mix of Australian and imported seafood, and those who consumed 3 or meals per week on average were more likely to include a proportion of imported seafood.

Only half of the respondents (51.7%) reported that that they knew whether the seafood was Australian or imported, and 28.1% of the respondents had no idea where 100% of the seafood they consumed came from.

Labelling. Nearly all consumers (95.5%) support country of origin labelling, and over 50% of consumers assumed that the seafood purchased was Australian if the country of origin was not identified on the label. A majority of consumers indicate that country of origin labelling influences their purchases, with 87.7% favouring Australian seafood and 1.4% favouring imported seafood, while 11.4% indicated no preference for either.

However while consumers thought CoO was important, freshness, how the seafood is cooked (menu option), price, support for Australian seafood industry, and species were rated as more important than country of origin when purchasing seafood in a restaurant/café and a takeaway.

Pricing. A large majority of consumers indicated that they would be willing to pay a premium price for Australian labelled seafood over imported seafood. Over two thirds (70.7%) indicated they would be willing to pay up to 30% more while 6.9% would pay over 30% more, and 22.4% would not pay any premium price for Australian labelled seafood.

A similar question was asked specifically regarding Barramundi and the amount the consumer would be willing to pay per kilo for Australian barramundi over imported barramundi (in dollar terms rather than a percentage). The results vary slightly, which indicates that respondents may round up when asked about specific pricing.

3.12 Use and Role of Social Media in Seafood Consumption

Another new set of questions regarding social media use was introduced in the 2015 Omnibus Survey. Although a majority of respondents (85.7%) indicated they did not use social media for information on seafood, Facebook was the most popular (10.8%), followed by YouTube (6.4%).

Males were slightly more inclined to use YouTube than females and all respondents aged under 44 are more likely to use Facebook, YouTube and blogs, while those over 44 years are more likely to not use social media for information on seafood. Those consumers with undergraduate university education and above are more likely to use YouTube and Twitter, while blogs are more likely to be used by those with postgraduate level university education or above. Consumers with a postgraduate level university education or above are also more likely not to use any social media.

About half (55.3%) of the respondents who used social media were looking for recipes, followed by prices (38.2%), and information on sustainability (29.4%). The reasons for using social media for information on seafood did differ significantly for both gender and age, with males more likely to look for information on price and 25 to 34 year olds, and 45 to 54 years olds more likely to look for where to buy.

A small percentage of total respondents (2.6%) made use of specialised apps, with the most frequently used apps being 'Taste' and various sustainability guides.

While use of social media is currently low, given trends and its higher usage by those under 44, use of social media is likely to increase in coming years.

4.0 Benefits and Adoption

Verifying actual consumption against reported consumption is complex given the known attitude behaviour gaps. A key benefit of this study lies in the ability to compare against the previous two Omnibus studies to identify overall trends. Data on actual consumption at retail level is almost impossible to identify (as indicated in the first Love Australian Prawns evaluation study) where ACIL Allen were unable to provide/source any reliable figures regarding sales.

In the short, medium and longer term, the outputs from this project offer a number of benefits.

The research will benefit the Australian community, seafood producers, processors and distributors by providing greater understanding of Australian consumers' preferences and attitudes toward seafood and providing guidance on marketing-related interventions for increasing seafood consumption.

The project provides the Australian Seafood CRC with fundamental data to communicate to industry and the Australian community in general regarding seafood consumption. The longitudinal nature of this research allows the Australian Seafood CRC to assess whether industry's efforts are having an effect in responding to these challenges.

The research provides important market performance data to individual companies (producers, processors and distributors). This data is invaluable for companies in providing products that match consumers' preferences. To purchase this data on an individual (i.e. company) basis would be prohibitively expensive, especially for small producer companies. The project also provides benefits to those seafood players who are not participants of the Australian Seafood CRC, for instance, the mussel industry and smaller seafood retailers.

The findings of the research provide figures related to seafood consumption and seafood consumer behaviour over a five-year period. The longitudinal nature of the research can be used to assess how successful marketing decisions taken by the seafood CRC participants have been over the research period. Findings are directly actionable by the industry participants, and assist with key marketing decisions such as whether to engage in national, regional and/or company branding strategies and what specific message strategies and promotional claims might be effective for existing and new product offerings.

The major report (Appendix 4) will be made available to key stakeholders. Further dissemination of the findings of this research may also be achieved through appropriate media activity, such as articles in the Seafood CRC magazine and FRDC FISH magazine.

Further, results can be incorporated into education and training programs offered by the FRDC and, in addition, incorporated into the USC Food Marketing courses.

5.0 Further Development

The three Omnibus surveys present a cost effective way of gathering data of use to all Australian seafood businesses regardless of size, sector, location etc. The longitudinal questions in particular allow monitoring and tracking of issues over time, however for greatest value and highest reliability and validity of results, it is important that these issues are methodologically consistent in three key areas:

- **Sampling strategy.** In all three Omnibuses, the same sampling strategy was adopted; in that all three waves of research have been administered to an online panel of respondents with between 2,500 – 3,600 respondents in each wave, which broadly align to Australian demographic characteristics. Data collection was designed to ensure that responses were received from all states, age groups and genders, broadly in line with population demographic characteristics. The criteria for inclusion were consistent across all three waves with respondents having to be responsible or share the responsibility for their household grocery purchases. Respondents also needed to have eaten some seafood in the past 6 months.

Recommendation: Maintain this sampling strategy in future Omnibus studies.

- **Timing of data collection.** While the first two Omnibus studies were conducted over key summer holiday periods (December 2009 and December/January 2011). The 2015 study was deliberately in field in a non-holiday period prior to Easter (late March). As discussed in this report, this difference in timing can impact results, as seafood consumption peaks in the lead up to Christmas and over Easter, distorting comparisons with non-peak consumption periods (i.e. the majority of the year).

Recommendation: Ideally, future Omnibus studies should be conducted in non-peak seafood consumption periods and if possible in a similar period (so just before Easter) to minimise distortions due to the time of the year.

- **Questions content and instructions.** While question wording was kept consistent between all three Omnibus studies to maintain face validity, it was not possible to ensure survey design instructions were consistent as these were not reported in the first two Omnibus studies. Design instructions can aid in ensuring reliability and validity of data with a key design tactic being the randomisation and rotation of response categories to prevent issues of respondent fatigue distorting results. As per the discussion of Monday seafood consumption patterns, a possible cause of high levels of Monday consumption in the first two Omnibus studies may have been respondent fatigue due to non-rotation of starting days for the food diary questions. To allow future Omnibus surveys to adopt the same survey design features, Appendix 3 contains a full version of the survey, complete with randomisation and rotation points.

Recommendation: Future studies should adopt similar survey design features as per Omnibus 2015.

6.0 Planned Outcomes

The planned outputs of the project included:

1. identifying changes in consumer attitudes and behaviours over time (that could be related to CRC activities), and
2. identifying and benchmarking key issues impacting continued consumer trends (e.g. sustainability, provenance, traceability, social media).

It was planned that the outputs would inform further marketing activities at all levels, from producers/retailers through to government planning and policy.

In addition, 8 new Fish Bite files have been prepared, updating previous Fish Bites and addressing the new areas.

The outcomes from this project offer benefits in areas of economic, educational and social impact.

- ❖ **Economic impact:** By providing greater insight into Australian consumers' preferences and attitudes toward seafood and providing guidance on marketing-related interventions for increasing seafood consumption, seafood industry members can tailor their production and marketing strategies to optimise economic benefit.
- ❖ **Educational impact:** There is potential for increased knowledge across all seafood industry stakeholders. There is the opportunity to disseminate the information to a wider audience through appropriate media activity, and education and training programs.
- ❖ **Social impact:** The opportunity to improve marketing practices through the acquisition of knowledge allows benefit to flow to the wider public. Benefits are achieved through both greater access to product preferences and increased knowledge. Increasing the knowledge of the general public extends the opportunity of making informed choices that may improve health and well-being. Strengthening seafood businesses through increased knowledge also offers the potential for rural communities to generate growth, and reap both social and economic sustainability.

The aim was to identify changes in seafood consumer attitudes and behaviours overtime, and identify and benchmark key issues impacting continued consumer trends. This aim has been met and is reported in the full report in appendix 4.

6.1 Public Benefit Outcomes

Public benefit outcomes are indicated in the area of social impact:

- through both greater access to product preferences and increased knowledge the general public has the opportunity to make informed choices that may increase health and well-being. Additionally, through strengthening seafood businesses, there is the potential for improved social and economic sustainability in rural communities.

6.2 Private Benefit Outcomes

Private benefits are indicated in all three of the above impact areas:

- greater insight into Australian consumers' preferences and attitudes leading to improved production and marketing practices, optimising economic benefit for industry stakeholders,
- better informed industry stakeholders, regulators, policy makers and consumers, and
- the potential for the wider public through the positive impact on health and well-being.

6.3 Linkages with CRC Milestone Outcomes

The project 'A Final Seafood Omnibus: Evaluating changes in Consumer attitudes and behaviours' has successfully contributed to the following CRC Milestone Outcomes:

- **CRC Output: 2.7** – Removal or reduction of barriers to seafood consumption.
- **CRC Milestone: 2.7.1** – Barriers to and drivers of seafood consumption identified in at least two new domestic or overseas consumer groups annually.

7.0 Conclusion

The competitive pressures facing the Australian seafood industry remain largely unchanged over the past five years, and while many sectors of the seafood industry are developing a stronger consumer orientation, very few have progressed to a well-developed national marketing approach. The most advanced approach domestically is that of the Australian Prawn Industry who have just completed the second year of implementation of the Love Australian Prawns national marketing strategy (in - 25 -approx.. 400 seafood retailers and 800 Woolworths stores nationally). Other sectors have progressed internationally (abalone into China) and domestically the farmed barramundi sector are commencing implementation of a marketing strategy and the oyster industry has trialled point of sale strategies for oysters that will form the basis for developing a national approach. Hence the continued development of a comprehensive understanding of consumers' behaviours, perceptions and motivations with respect to seafood consumption is as important now as it was when the initial Omnibus studies were conducted in 2009 and 2011.

This project sought to identify changes in consumers' attitudes and behaviours over the past 5 years and to further explore key issues impacting continued consumer trends. While very few changes in attitudes and behaviour that could be directly attributed to CRC activities were identified, this could largely be a reflection of the time lag being experienced in developing and implementing sector wide approaches to consumer-oriented strategies as highlighted above. This project has provided more detail and understanding of consumers' behaviours and attitudes in new areas that can further inform strategy development at all levels (ie individual business, sector and industry).

Future research should continue to monitor consumer behaviour and perceptions, particularly in relation to emerging issues such as the impact of sustainability and use of social media in seafood consumption decisions.

References

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Appendices

Appendix 1: Intellectual Property

LIST OF OUTPUTS PRODUCED:

The project has delivered the following outputs:

Omnibus Report to Industry

Data file

8 Fish Bite presentations

Appendix 2: Staff engaged on project

Name	Institution	Role
Professor Meredith Lawley	School of Business University of the Sunshine Coast	Principal Investigator
Ms Kym Cheatham	School of Business University of the Sunshine Coast	Research Assistant
Ms Judy Watson	School of Business University of the Sunshine Coast	Research Assistant
Mr Lucas Whittaker	School of Business University of the Sunshine Coast	Research Assistant
Dr Kathy Hastings	School of Business University of the Sunshine Coast	Research Assistant
Dr Syed Fazal Hasan	School of Advertising, Marketing and Public Relations Queensland University of Technology	

Appendix 3: Seafood Omnibus Survey 2015 (with instructions)

FINAL QUESTIONNAIRE: v04 QUOTAS

Description	QID	Code	%age	#
Total - Quota stop			100%	2500
Gender	S2	Male	40%	1000
		Female	60%	1500
Location	S3	1. Sydney	20%	511
		2. Other NSW	12%	294
		3. Melbourne	19%	465
		4. Other VIC	6%	157
		5. Brisbane	10%	240
		6. Other QLD	11%	263
		7. Perth	8%	201
		8. Other WA	2%	59
		9. Adelaide	6%	142
		10. Other SA	2%	43
		11. ACT	2%	42
		12/13.Hobart/ Other TAS	2%	58
		14/15. Darwin/ Other NT	1%	25

PROGRAMMING INSTRUCTIONS

SCRIPTER - Please use the following instructions on all questions using the below question types. Any custom instruction text will be shown under the question text in italics for that specific question.

Question Type	Instruction Text
SC	<i>Please select one only</i>
MC	<i>Please select as many as apply</i>
SC GRID X ROW	<i>Please select one answer per row</i>
MC GRID X ROW	<i>You can select multiple answers per row but please ensure that each row has at least one answer</i>
OE – CHA	<i>Please type your answer into the box below</i>
OE – NUM	<i>Please type a number into the box(es) below</i>
SLIDER	<i>Please click and drag the marker to the appropriate point on the scale. The 'Next' button will not appear until all statements have an answer</i>

You are invited to complete a questionnaire which will take approximately 20 minutes to complete. The questionnaire will collect information about your attitude to seafood and your consumption pattern of seafood. Participation is voluntary and participants can withdraw at any time with no consequences and without supplying any explanation. Consent will be implied by completion and submission of the survey. All responses are completely anonymous. If you have any complaints about the way this research project is being conducted you can raise them with the Principal Researcher (Professor Meredith Lawley), School of Business, 07 5459 4459 mlawley@usc.edu.au or, if you prefer an independent person, contact the Chairperson of the Human Research Ethics Committee at the University of the Sunshine Coast: (c/- the Research Ethics Officer, Office of Research, University of the Sunshine Coast, Maroochydore DC 4558; telephone (07) 5459 4574; email humanethics@usc.edu.au). The ethics approval number is HREC: A/15/671.

SCREENERS/INTRO

ASK ALL. MC TERMINATE IF S1=7

S1. Do you or does anyone in your family work in any of the following industries?

1. Automotive
2. Media and advertising
3. Marketing
4. Beef
5. Education
6. Consulting
7. Seafood
8. Construction
9. Market research
10. Soft drink manufacturer
99. None of the above

ASK ALL. SC TERMINATE IF S2 QUOTA = FULL

S2. Are you?

1. Male
2. Female

ASK ALL. OE NUM TERMINATE IF 1997 OR LATER

S3. What year were you born?

dAge

1. 1996 to 1991
2. 1990 to 1981
3. 1980 to 1971
4. 1970 to 1961
5. 1960 to 1951
6. 1950 or less

ASK ALL. SC TERMINATE IF S4 QUOTA = FULL

S4. Which of the following locations do you live in?

1. Sydney
2. Other NSW

3. Melbourne
4. Other VIC
5. Brisbane
6. Other QLD
7. Perth
8. Other WA
9. Adelaide
10. Other areas of SA
11. ACT
12. Hobart
13. Other Tasmania
14. Darwin
15. Other NT

ASK ALL. MC

TERMINATE IF S5≠4

S5. Which of the following have you consumed in the past 6 months?

Please tick as many as apply.

1. Beef or lamb
2. Chicken
3. Pork
4. Seafood
99. None of the above

ASK ALL. SC

TERMINATE IF S6=3 OR 4

S6. Which of the following best describes your role in household food/grocery shopping?

1. I am the main food/grocery buyer
2. I jointly share the food/grocery buying with another household member
3. I seldom do any food/grocery buying
4. I never do any food/grocery buying

ASK ALL. OE NUM 0-21

Please note that when the term seafood is used, it refers to fish, shellfish, crustaceans and all forms of seafood.

Q1. On average how many of your weekly meals have seafood (including canned fish like tuna) as a major component?

Enter specific number: _____

ASK IF Q1≠0. OE NUM RANGE 0-100

ADD COUNTER AND VALIDATION TO ENSURE TOTAL = 100

Q2. Of your average number of weekly seafood meals, what proportion are...

You must enter a figure for every response, including 0, and your responses must sum to 100 to continue

1. Australian seafood _____
2. Imported seafood _____
3. Not sure whether seafood is Australian or imported _____

ASK ALL. OE NUM RANGE 0-100

ADD COUNTER AND VALIDATION TO ENSURE TOTAL = 100

Q3. Consider the times when you are buying seafood to prepare at home. When you or another household member buy seafood to consume at home, approximately what proportion of your seafood purchases is from the following forms?

You must enter a figure for every response, including 0, and your responses must sum to 100 to continue

1. Fresh (unpackaged) ____
2. Fresh (vacuum or tray packed) ____
3. Frozen ____
4. Canned ____
98. Other (please specify) _____

ASK ALL. SC

Q4. Do you consider you eat enough seafood in your diet?

1. Yes
2. No

ASK ALL. OE NUM RANGE 0-21

Q5. How many serves of seafood should be consumed each week in a healthy diet?

Enter specific number _____

ASK ALL. SC

Q6. Would you say you are now eating more, or less seafood compared to five years ago?

1. Eating more seafood now than I was 5 years ago (~~go to 6a then 7~~)
2. Eating less seafood now than I was 5 years ago (~~go to 6b then 7~~)
3. Eating about the same as I was 5 years ago (~~go 7~~)
97. Don't know (~~go to 7~~)

ASK IF Q6=1, OE CHA

Q6a. And why are you eating more seafood now than compared to 5 years ago?

Open

ASK IF Q6=2, OE CHA

Q6b. And why are you eating less seafood now than 5 years ago?

Open

ASK ALL. MC

SHOW CODES IN 3 OR 4 COLUMNS (TO REDUCE SCROLLING)

Q7. Now we would like to know which of the following seafood you have eaten at least once in the past 12 months (both at home and when eating outside of home)...

1. Abalone
2. Anchovies
3. Australia Herring / Tommy Ruff
4. Barramundi
5. Basa
6. Bream

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7. Bugs (Moreton Bay / Balmain bugs)
8. Butterfish / Escolar
9. Carp
10. Clams and Cockles (incl. periwinkles, pipis)
11. Cod (includes Baccala)
12. Cobia
13. Crab
14. Crumbed battered fish but unsure what type
15. Dory (e.g. John Dory, Mirror Dory etc.)
16. Eel
17. Emperor
18. Fish Fingers
19. Flake
20. Flathead
21. Flounder
22. Garfish
23. Grenadier (eg. Blue Grenadier)
24. Hake
25. Herring (includes Kippers and Rollmops)
26. Hoki
27. Kingfish (e.g. Yellowtail Kingfish)
28. Leatherjacket (Ocean Jacket)
29. Ling
30. Lobster (Rocklobster, Crayfish)
31. Mackerel
32. Marinara Mix
33. Morwong
34. Mullet
35. Mulloway
36. Mussels – Whole (i.e. in shell unopened)
37. Mussels – Meat only
38. Mussels – canned or bottled
39. Nile Perch
40. Octopus
41. Oysters – fresh (i.e. in shell opened or unopened)
42. Oysters – canned or bottled
43. Perch (NOT Nile Perch)
44. Prawns
45. Salmon – Fresh (e.g. whole, fillets)
46. Salmon – Canned
47. Salmon – Smoked
48. Sardines / Pilchards – Fresh (e.g. Whole or fillets)
49. Sardines/ Pilchards – Canned
50. Scallops
51. Seafood basket (many different types of seafood)
52. Snapper
53. Squid (calamari, cuttlefish)
54. Sushi or Sashimi, but unsure of species or multiple species

55. Swordfish
 56. Trevalla
 57. Trevally
 58. Trout – Ocean Trout
 59. Trout – Coral Trout, Rainbow Trout and others
 60. Tuna – Fresh
 61. Tuna – Canned
 62. Warehou
 63. White bait
 64. White fish but unsure of species
 65. Whiting
 66. Yabby, Marron, Redclaw
97. Please specify others in separate text boxes:
Other 1 (*Please specify*) _____
Other 2 (*Please specify*) _____
Other 3 (*Please specify*) _____

ASK ALL

SC GRID X ROW

SHOW ONLY CODES SELECTED AT Q7

Q8. For each of the seafood that you said you had eaten in the last 12 months, approximately how frequently have you eaten it over the last 12 months?

COLUMNS

1. More than once a week
2. Once a week
3. Once a fortnight
4. Once a month
5. Once every 2 months i.e. 6 times a year
6. Once every 3 to 4 months – i.e. 3 to 4 times a year
7. Once every 6 months i.e. twice a year
8. Once a year

ASK ALL

SC GRID X ROW

SHOW ONLY CODES SELECTED AT Q7

Q9. Approximately what proportion of each seafood type was eaten in home vs out of home?

COLUMNS

1. Mostly out of home
2. About half-half
3. Mostly in home

ASK Q10-Q14 AS A LOOP FOR EACH DAY OF THE WEEK STARTING WITH A RANDOM DAY OF THE WEEK, BUT KEEP DAY ORDER. I.E. IF STARTING WITH TUESDAY, THEN FOLLOW WITH WEDS, THURS, FRIDAY AND SO ON.

MC. 99 = Exc. IF Q10 = 9 THEN GO TO NEXT DAY (REST OF LOOP DOES NOT APPLY).

Q10. Thinking about the last 7 days....

On the <INSERT DAY> in the last 7 days, please indicate the meals at which you ate some seafood.

It could have been the main part of the meal or even just an ingredient or an accompaniment. *Please select all that apply.*

Please consider all meals including breakfast (brunch), lunch, dinner as well as any other meal occasions including snacks as well as work lunches and dinners. Please also consider all forms or types of seafood including all fish or shellfish; and prepared canned, smoked, or bottled seafood products as well as takeaways, sushi and fresh seafood.

<INSERT DAY>

1. Breakfast (brunch)
2. Lunch
3. Dinner
4. Snack or other meal occasion
9. None (EXC)

ASK IF Q10=1-4 FOR CURRENT DAY / LOOP

SR GRID X ROW

SHOW ROWS FOR THOSE SELECTED IN Q10 (CODES 1-4)

Q11. Where did you eat the meal that you ate some seafood with last <INSERT DAY>

	At home	Out of home (includes at work)
Breakfast (brunch)	1	2
Lunch	1	2
Dinner	1	2
Snack or other meal occasion	1	2

ASK IF Q10=1-4 FOR CURRENT DAY / LOOP

SHOW ROWS FOR THOSE SELECTED IN Q10 (CODES 1-4)

i) DROPDOWN BOXES SHOULD CONTAIN ALL CODES SELECTED IN Q7. RESPONDENT TO SELECT ONLY 1 PER ROW.

ii) SR X ROW

Q12. Please complete the following table for those meals last <INSERT DAY> that you ate some seafood with:

(i) What was the main type of fish / seafood that you ate with your meal? *Please select one from the dropdown box for each meal showing*

(ii) Was it a) the main part of a meal, or

b) an ingredient or an accompaniment?

Please select one answer for each meal showing

	Main type of fish/ seafood eaten at that time/ day	Seafood was the main part of this meal vs ingredient/ not main	
		Main part	Not main part
Breakfast (brunch)	SHOW ALL CODES <u>SELECTED</u> IN Q7 IN DROPDOWN BOX	Main part	Not main part
Lunch	SHOW ALL CODES <u>SELECTED</u> IN Q7 IN	Main part	Not main part

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	DROPDOWN BOX		
Dinner	SHOW ALL CODES <u>SELECTED</u> IN Q7 IN DROPDOWN BOX	Main part	Not main part
Snack or other meal occasion	SHOW ALL CODES <u>SELECTED</u> IN Q7 IN DROPDOWN BOX	Main part	Not main part

**ASK IF Q11=1 (AT HOME) FOR ANY OF CODES 1-4 FOR CURRENT DAY / LOOP
SHOW COLUMN(S) FOR THE MEAL(S) SELECTED IN Q11=1 (AT HOME)
SR PER COLUMN**

Q13. Where did you (or someone in your household) buy or obtain the seafood you consumed at home for your meal(s) last <INSERT DAY>?

Breakfast (brunch)	Lunch	Dinner	Snack or other meal occasion
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Rows:

1. Commercial fisher
2. Wholesaler / Co-operative
3. Fish market or general market
4. Fish shop (selling mostly uncooked seafood)
5. Fish shop (selling mostly cooked seafood)
6. Restaurant / takeaway (including sushi stalls)
7. Delicatessen section of Supermarket / food store
8. Stand-alone chilled section of the Supermarket
9. Freezer section of the supermarket
10. Canned food section of the supermarket
11. Convenience store
12. Delicatessen
13. Caught by a household member
14. Gift from non-household member
15. Specialist oyster bar/ restaurant (SHOW ONLY IF Q12i = CODE 41)
16. Delivery van
17. Other (please specify) _____
18. Can't remember (EXC)

**ASK IF Q11=2 (OUT OF HOME) FOR ANY OF CODES 1-4 FOR CURRENT DAY / LOOP
SHOW COLUMN(S) FOR THE MEAL(S) SELECTED IN Q11=2 (OUT OF HOME)
SR PER COLUMN**

Q14. You said that you ate seafood out of home. Where did you purchase/eat the seafood you consumed out of home for your meal(s) last <INSERT DAY>?

Breakfast (brunch)	Lunch	Dinner	Snack or other meal occasion
--------------------	-------	--------	------------------------------

Rows:

1. Brought from home
2. Work /work cafeteria

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3. Restaurant
4. Function centre
5. Club
6. Hotel
7. Coffee lounge / café
8. Fish and chip shop
9. Fast food outlet / takeaway (including sushi stall)
10. Sandwich/milk bar / deli
11. Food court
12. Supermarket / convenience store
13. Specialist oyster bar / restaurant
98. Other (please specify) _____
97. Don't know (EXC)

REPEAT LOOP Q10 TO Q14 FOR ALL 7 DAYS.

ASK IF Q7=41, SC

Q15. When buying fresh oysters my preferred format is...

1. Unopened (and I shuck them myself)
2. Opened in a half shell
3. Bottled

ASK IF Q7=41

SC GRID X ROW

Q16. Now thinking about when you purchase fresh oysters, how important to you are each of the following attributes? Please answer from 0 to 10, where 0 is not at all important and 10 is extremely important.

	0 Not at all important	1	2	3	4	5	6	7	8	9	10 extremely important
1. Price											
2. Geographical origin of oyster i.e. where it was grown											
3. Date of harvest											
4. Opened on site to order											
5. Available unopened											
6. Species of oyster											
7. Buy a good quality oyster even if the price is higher											

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8. Smaller size of the oyster											
9. Larger size of the oyster											

**ASK ALL,
SC GRID X ROW. KEEP RADIO BUTTONS FORMAT
RANDOMIZE STATEMENTS**

Q31A. Please rate the following statements.

Six point agreement scale where

- 1 = strongly disagree
- 2 = disagree
- 3 = tend to disagree
- 4 = tend to agree
- 5 = agree
- 6 = strongly agree

- 43. Seafood is more difficult to find at the store where I shop, as compared to meat and poultry
- 44. Seafood is readily available in suitable portion sizes
- 45. There is a lack of pre-prepared seafood available
- 46. I would serve more seafood if it were more readily available
- 66. I prefer to eat seafood that is locally caught or farmed.
- 1. I generally use recipes when cooking seafood
- 2. Recipe cards encourage me to cook more seafood
- 3. I prefer Australian seafood to imported seafood
- 13. I serve seafood because it is quick and easy to prepare
- 14. To me, it takes very little effort to prepare seafood for a meal
- 15. To me, it takes a lot of time to prepare seafood for meal
- 16. I serve seafood to provide some variety for what we eat
- 17. I serve seafood because it can be served in many different ways
- 18. I prefer to serve other types of meat or poultry to seafood
- 19. Seafood is a good option for a light meal
- 20. It is important to me to have variety in my diet
- 21. Seafood is a good option for a lower -fat meal
- 22. Seafood is easier to eat and digest than meat or poultry

**ASK 50% OF RESPONDENTS,
MC GRID X ROW
CODE 99 EXCLUSIVE**

Q17. Please indicate which, if any, of the following foods you associate with each of the statements.

Please tick as many as apply in each row

	1. Lamb	2. Beef	3. Chicken	4. Pork	5. Prawns	6. Oysters	7. Barra mundi	99. None of
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									these
1. Easy to prepare									
2. Generally rather expensive									
3. Needs to be eaten immediately after purchase									
4. Is healthy to eat									
5. Is versatile, as it can be prepared in lots of different ways									
6. Good value									
7. Natural									
8. Low in fat									
9. Something I'd like to eat more of									
10. Something I would serve at a dinner party									
11. Good for a light meal									
12. Good for a special occasion									
13. Good for an everyday meal									
14. Freezes well									
15. Boring									
16. Best eaten when dining out									
17. A luxury food									
18. Widely available									
19. Always safe to eat									
20. Rich in Omega-3									
21. Sustainable									

ASK 50% OF RESPONDENTS, (THOSE THAT DID NOT ANSWER Q17)

MC GRID X ROW

CODE 99 EXCLUSIVE

Q18. Please indicate which, if any, of the following seafood you associate with each of the statements.

Please tick as many as apply in each row

	1. Prawns	2. Oysters	3. Yellowtail Kingfish	4. Sardines (fresh not canned)	5. Salmon (fresh not canned)	6. Barramundi	99. None of these
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1. Easy to prepare							
2. Generally rather expensive							
3. Needs to be eaten immediately after purchase							
4. Is healthy to eat							
5. Is versatile, as it can be prepared in lots of different ways							
6. Good value							
7. Natural							
8. Low in fat							
9. Something I'd like to eat more of							
10. Something I would serve at a dinner party							
11. Good for a light meal							
12. Good for a special occasion							
13. Good for an everyday meal							
14. Freezes well							
15. Boring							
16. Best eaten when dining out							
17. A luxury food							
18. Widely available							
19. Always safe to eat							
20. Rich in Omega-3							
21. Sustainable							

**ASK ALL,
SC GRID X ROW. KEEP RADIO BUTTONS FORMAT
RANDOMIZE STATEMENTS**

Q31B. Please rate the following statements.

Six point agreement scale where

1 = strongly disagree

2 = disagree

3 = tend to disagree

4 = tend to agree

5 = agree

6 = strongly agree

47. I do NOT like cooking

48. I am very interested in where the food I eat comes from
49. It says something positive about a person, if he/she eats seafood
50. My choice of food influences other people's image of me
51. Cooking and eating seafood is a key part of my lifestyle
52. I often order seafood when I am eating out
53. I often serve seafood when I entertain people at home
54. I am NOT interested in cooking and serving seafood
55. When I cook seafood, I feel like an accomplished cook
30. I ate seafood which had been cooked at home on a regular basis as a child
31. I observed seafood being prepared at home as a child
32. I ate seafood from take-away/fish and chip shops on a regular basis as a child
33. Our family only ate seafood on religious occasions (e.g. Easter or Xmas) when I was a child
34. Our family ate seafood on certain occasions (e.g. every Friday) when I was a child
35. Eating seafood is something I do without having to consciously remember
36. Seafood is regularly included on my shopping list
4. I prefer to purchase fresh fish from a specialised seafood outlet

ASK ALL. SC

Q19. How do you tend to make seafood purchases, are they...?

1. Mostly planned before you go to the store
2. Mostly on impulse when you enter the store
3. About half planned and half impulse

ASK ALL. SC

Q20. In general do you prefer seafood that is farmed or wild caught?

1. Prefer farmed (~~go to 2a~~)
2. Prefer wild caught (~~go to 2b~~)
3. I don't mind one or the other (~~go to next section~~)
97. Don't know (~~go to next section~~)

ASK IF Q20=1, MC

Q20a. And why do you favour farmed seafood?

Please tick as many as apply

1. Concerns about over-fishing /depletion of stocks / environment
2. More consistent taste
3. Safer, free from natural diseases and contamination risks
4. Avoids 'by catch' i.e. no other fish are caught/discarded
5. Like to know where fish are caught / how they are grown
6. Farming is more humane
98. Other (please specify)

ASK IF Q20=2, MC

Q20b. And why do you favour wild caught seafood?

Please tick as many as apply

1. Tastes better
2. Risks of disease with farming
3. More natural

4. Healthier
5. More nutritious
6. Farmed animals may be fed hormones
7. Farming is inhumane
98. Other (please specify)

ASK ALL. SR

Q20c. Which of the following best describes your role in fresh seafood purchases for your household; that is seafood that is not canned or bought from the freezer section of a supermarket?

1. I am the main fresh seafood buyer
2. I jointly share the fresh seafood buying with another household member
3. Someone else in the household who seldom does any food/grocery shopping buys most of our fresh seafood
4. My household does not buy fresh seafood

ASK ALL. OE CHA

Q21. How would you define sustainability in relation to seafood?

Open

ASK ALL SCALE 0-10

Q22. How would you rate your level of knowledge of sustainability in relation to seafood?

10 point scale 0 = no knowledge, 10 = extremely knowledgeable

ASK ALL SCALE 0-10

Q23. How important is it that the seafood you purchase has been harvested (caught or grown) in a sustainable way?

10 point scale 0 = not at all important, 10 = extremely important

ASK ALL SCALE 0-10

Q24. How likely is it that you would purchase seafood that you know has NOT been sustainably harvested?

10 point scale 0 = not likely at all to 10 = extremely likely

ASK ALL

OE 3 BOXES,

ADD CODE 97 EXCLUSIVE, TICK BOX

Q25. Are you aware of any unsustainable seafood species (please list up to 3)?

Species 1 (please specify) _____

Species 2 (please specify) _____

Species 3 (please specify) _____

97. Don't know of any

ASK ALL. SC

Q26. Do you actively look for seafood from a sustainable source when purchasing seafood?

1. Yes
2. No

ASK ALL. SC

Q27. How much of a premium price would you be willing to pay for seafood that you knew was sustainably harvested (caught or grown)?

1. Would not be prepared to pay a premium
2. Up to 10%
3. 11 to 20%
4. 21 to 30%
5. 31 to 40%
6. 41 to 50%
7. Over 50%

ASK ALL. MC CODE 9 EXCL

Q28A. Which of the following organisations are you aware of?

1. Greenpeace
2. World Wildlife Fund
3. Global Aquaculture
5. Marine Stewardship Council
9. None of these

SHOW CODES 1-5 AS SELECTED AT Q28a + CODES 4, 6, 7

RANDOMIZE CODES

RANKING FORCE ALL THAT ARE SHOWING

Q28B. Please rank the following organisations from the most credible to the least credible in terms of accrediting sustainable fishing practices.

A score of 1 = most credible, 2 = next most credible, 3 = next most, and so on. Please use each number only once.

1. Greenpeace
2. World Wildlife Fund
3. Global Aquaculture
4. The Australian Government
5. Marine Stewardship Council
6. Company or brand like 'John West'
7. Supermarket like 'Woolworths'

ASK ALL

RANKING, FORCE 1 TO 8

RANDOMIZE ROWS

Q29. Please rank the following attributes of seafood products from the most important to the least important when buying seafood. A score of 1 = most important to 8 = least important. Please use each number only once.

1. Price
2. Particular species
3. Country of origin
4. Ease of preparation of seafood
5. Serving/portion size
6. Sustainably caught/harvested
7. Reputable brand or company

8. Accompaniments (sauce/marinade etc.)

ASK ALL. MC

Q30. If you prefer to purchase sustainable seafood but do not always do so, why?

Tick as many as apply

1. Not sure which seafood is sustainable
2. Lack of availability of sustainable seafood where I regularly shop
3. Higher price of sustainable product
4. Lack of information at point of sale to determine whether it is sustainable
5. Lack of trust in information that is provided at point of sale
6. Lack of time to evaluate choices while shopping
98. Other (*please specify*)

ASK ALL,

SC GRID X ROW. KEEP RADIO BUTTONS FORMAT

RANDOMIZE STATEMENTS

Q31C. Please rate the following statements.

Six point agreement scale where

- 1 = *strongly disagree*
2 = *disagree*
3 = *tend to disagree*
4 = *tend to agree*
5 = *agree*
6 = *strongly agree*

5. Seafood that has been snap frozen at sea is as good as fresh seafood
 6. I like eating seafood
 7. I feel satisfied after eating seafood
 8. I feel hungry again quickly after eating seafood
 9. I do NOT like the smell of seafood
 11. I do NOT like to touch seafood
 12. Taste rather than health is the most important attribute of seafood
 23. Eating seafood is safe
 24. I am concerned that seafood may not have been handled in a hygienic way
 25. I am concerned that seafood may have been treated with hormones and/or antibiotics
 26. I am concerned about high mercury levels in seafood
 27. Eating seafood is risky
 28. Seafood should be fresh and never frozen
 29. Fresh seafood should be eaten within one or two days of purchase
- SHOW STATEMENTS 67-70 ONLY IF S2=2**
67. There is a male in my household who occasionally purchases seafood
 68. Males who purchase seafood mostly do so on the weekend
 69. Males who purchase seafood, typically purchase it from specialist seafood outlets
 70. Males who purchase seafood are usually prepared to spend more on average than females

ASK ALL. OE CHAR

Q33. What country do you associate with Barramundi?

Open

ASK ALL. OE CHAR

Q34. Why do you associate Barramundi with that specific country?

Open

ASK ALL. SC

Q35. Over 70% of the barramundi currently sold in Australia is imported. Will knowing this impact your future purchasing decision for barramundi?

1. No change
2. Yes will change and will look/ask for Australian barramundi
3. Will depend on price

ASK ALL. SC

Q36. If you could be guaranteed that the barramundi you buy is Australian would that change your purchasing behaviour?

1. No change
2. Yes will change and will look/ask for Australian barramundi
3. Will depend on price

ASK ALL. OE NUM

WHOLE NUMBER RANGE 15-30

Q37. If imported barramundi fillets were priced at \$15 per kilo, how much would you be prepared to pay per kilo for fresh barramundi fillets that you knew were Australian?

Enter \$ amount

ASK ALL

SC GRID X ROW RML SLIDER

Q38. When purchasing seafood in a restaurant or café, please indicate the extent to which the following factors are important to your selection? (1 = not important, 5 = very important)

1. Country of origin
2. Region of origin
3. Freshness
4. Support for Australian seafood industry
5. Price
6. Species
7. Wild caught vs farmed
8. Menu option
9. Sustainable fishery

ASK ALL

SC GRID X ROW RML SLIDER

Q39. When purchasing seafood in a take-away outlet, please indicate the extent to which the following factors are important to your selection? (1 = not important, 5 = very important)

1. Country of origin
2. Region of origin
3. Freshness

4. Support for Australian seafood industry
5. Price
6. Species
7. Wild caught vs farmed
8. Menu option
9. Sustainable fishery

ASK ALL. SC

Q40. If you see seafood on a menu without an 'imported' or country of origin label, where do you assume it is from?

1. Within the state
2. Australia
97. Don't know

ASK ALL. SC

Q41. The Northern Territory is currently the only state in Australia where seafood not harvested from Australia must be clearly labelled as 'imported' on menus in restaurants, cafes, takeaways and other food service outlets. Dishes which contain multiple seafood ingredients, one or more of which have not been harvested in Australian waters, are to be labelled 'contains imported seafood products'.

Would you support this legislation applying to all states in Australia?

1. Yes
2. No

ASK ALL. SC

Q42. How would knowledge of the country of origin of seafood in a food service outlet influence your choice of seafood?

1. Would favour Australian seafood
2. Would favour imported seafood
3. No preference

ASK ALL. SC

Q43. How much of a premium price would you be willing to pay for Australian labelled seafood over seafood that is imported?

1. Would not be prepared to pay a premium
2. Up to 10%
3. 11 to 20%
4. 21 to 30%
5. 31 to 40%
6. 41 to 50%
7. Over 50%

ASK ALL. MC CODE 7 EXCLUSIVE

Q44. From which of the following social media have you gained information about seafood?

Tick as many as apply

1. Facebook
2. YouTube

- 3. Blogs
- 4. Instagram
- 5. LinkedIn
- 6. Twitter
- 98. Other (*please specify*)
- 7. I do not use social media to gain information about seafood

ASK IF Q44≠7, MC

Q45. What type of information about seafood do you get from social media?

Tick as many as apply

- 1. Where to buy
- 2. Prices
- 3. Recipes
- 4. Sustainability
- 5. What is in season
- 6. Seafood companies
- 98. Other (*please specify*)

ASK ALL. SC

Q46. Do you use any apps to get information about purchasing and cooking seafood?

- 1. Yes (*please specify which app*) _____
- 2. No

ASK ALL. SC

Q47. Do you use any apps to help get information about sustainable seafood?

- 1. Yes (*please specify which app*)
- 2. No

ASK ALL SC GRID X ROW

Q48. Now thinking about seafood, how important to you are each of the following types of information? Please answer from 0 to 10, where 0 is not at all important and 10 is extremely important

	0 Not at all important	1	2	3	4	5	6	7	8	9	10 Extremely important
1. How the seafood I am purchasing has been caught or farmed											
2. Where the seafood I am purchasing was caught or farmed											

<p>3. When the seafood I am purchasing was caught or farmed</p>												
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**ASK ALL,
SC GRID X ROW. KEEP RADIO BUTTONS FORMAT
RANDOMIZE STATEMENTS**

Q31D. Please rate the following statements.

Six point agreement scale where

- 1 = strongly disagree*
- 2 = disagree*
- 3 = tend to disagree*
- 4 = tend to agree*
- 5 = agree*
- 6 = strongly agree*

- 37. I don't know much about how to prepare and serve seafood
- 38. I am confident to prepare and serve seafood
- 39. Seafood is easy to prepare and serve
- 40. I know how to store seafood safely
- 41. I would buy more seafood, if I was more confident in my ability to select good quality seafood
- 42. If I knew of more ways to prepare and serve seafood, I would eat more of it
- 56. I need more information at the point of sale for seafood to make an informed choice
- 57. I need more accurate information on the labelling for seafood to make an informed choice
- 58. I trust the information provided to me at the point of sale for seafood
- 59. I check labels on food products to decide which to buy
- 60. I compare prices of products to ensure I receive the best value for money
- 61. I eat seafood on Mondays because that is when I typically try to start a healthy eating plan or diet.
- 62. I often eat seafood on Monday to use up the fresh seafood I bought on the weekend
- 63. I have tried a different species of fish in the past 3 months
- 64. I don't like to try new and unfamiliar species
- 65. I look for different species of fish to try

Demographics

ASK ALL. SC

Q49. Which of the following best describes the make-up of your household?

- 1. Couple/single parent with only young children (12 years and under) at home
- 2. Couple/single parent with teenage children at home
- 3. Couple/single parent with only adult children (20 years and older) at home
- 4. Couple/single parent with both younger children (12 years and under) and teenagers at home
- 5. Couple/single parent with both teenage and adult children at home
- 6. Couple with no children or children left home

7. Single, living alone
8. Shared household with friends
9. Other

ASK ALL. MC SELECT UP TO 2 ONLY

Q50. We know that culture and ethnicity make a difference to peoples food choices, so could you please indicate which of the following ethnicities your household identifies with. Tick up to two (2) ancestries only. Examples of other ancestries include: Greek, Vietnamese, Hmong, Dutch, Kurdish, Maori, Lebanese and Australian South Sea Islander.

1. English
 2. Irish
 3. Italian
 4. German
 5. Chinese
 6. Scottish
 7. Australian
98. Other 1, (please specify)
99. Other 2, (please specify)

ASK ALL. SC

Q51. Which of the following best describes your employment status?

1. I work full time
 2. I work part time
 3. I am a full time student and not working
 4. I am a part time student and not working
 5. I am both working and studying
 6. I am retired
 7. I am engaged in full time home duties
 8. I am not in paid work but am looking
 9. I am on a pension (other than an age pension)
98. Other (*please specify*)

ASK ALL. SC

Q52. What is your household annual income before tax?

1. Under \$20,000
 2. \$20,000 to \$39,999
 3. \$40,000 to \$59,999
 4. \$60,000 to \$79,999
 5. \$80,000 to \$99,999
 6. \$100,000 to \$119,999
 7. \$120,000 to \$139,999
 8. \$140,000 to \$159,999
 9. \$160,000 or more
96. Prefer not to answer

ASK ALL. SC

Q53. What is the highest level of education you have completed?

1. Primary school

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2. Secondary school
3. Technical training/TAFE
4. University or other tertiary undergraduate
5. University or other tertiary postgraduate

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Appendix 4: Seafood Omnibus 2015 Report to Industry

Supplied as a separate file