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Consulting, Training and Advisory Services

A Study Of The Retail Sale

And Consumption Of Seafood In Sydney

VOLUME 1

Retailer Attitudes, Sales Data, General Discussion & Conclusions

by Ruello & Associates Pty Ltd

for the

Fisheries Research & Development Corporation

FISHERIES RESEARCH & DEVELOPMENT CORPORATION

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Foreword and Disclaimer

This report has been prepared for the
Fisheries Research & Development Corporation.

It is based on information gathered by the research team
from personal interviews with retailers and consumers
and from published reports and other materials.

We believe the report to be accurate
but it contains some evaluation of future events
and we accept no responsibility for the information herein,
hence readers should make their own enquiries
to satisfy themselves on all matters

Nick V Ruello, Principal
Ruello & Associates Pty Ltd

Acronyms and Terminology

ABS	Australian Bureau of Statistics
AUSEAS	Australian Seafood Extension and Advisory Service
FRDC	Fisheries Research & Development Corporation
f/s	fish and seafood
NSCS	National Seafood Consumption Study
MFMA	Master Fish Merchants Association
SFM	Sydney Fish Market

In accordance with the 1991 NSCS report, the term ***fish*** in this current report refers to finfish and the word ***seafood*** refers to shellfish (crustaceans and molluscs) and other animal species, unless otherwise indicated.

The term ***fishmongers*** in this volume refers to retail fish shops and retail market outlets which derive most of their income from the sale of fresh and frozen fish/seafood.

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EXECUTIVE SUMMARY

This study was initiated in response to industry requests for information on the retail sales levels and consumption of fish and seafood in Sydney (the major market for Australia's fishing and aquaculture produce) because of widespread concerns about declining sales levels.

The study was designed to provide recommendations on how to increase retail sales profitably and to repeat much of the 1991 National Seafood Consumption Study (NSCS); that is, to examine changes in fish/seafood consumption and retailers and consumers attitudes to fish and seafood since 1991. A similar study on consumption and consumer attitudes was initiated in Perth shortly after the Sydney study started.

This volume has the detailed findings of a survey of the sales and attitudes of 140 fishmongers, supermarket and fish and chips outlet operators and the discussion, recommendations and conclusions arising from all the consumer and trade studies. Volume two of the report has the findings from five focus group discussions with consumers, a total of 1142 interviews covering out of home consumption and 740 interviews on in home consumption and consumers attitudes.

Out of home fish and seafood consumption has grown appreciably in Sydney and Perth since the corresponding period in 1991 (19% and 37% per capita respectively) because of the increased frequency of eating out and the strong innovation in the various types of eateries and the foods and meals on offer.

In home per capita consumption however grew only by 8% in Sydney and fell by 27% in Perth. Total in and out of home consumption in Sydney increased by 13% while in Perth it did not change significantly since 1991. This study suggests that the main factors responsible for this outcome were the decreasing household size, growing competition from an increasing variety of convenience foods and meals and the strong growth in casual out of home eating.

The average Sydney retail sales per store has increased substantially in value since the 1991 NSCS but mostly because of inflation in fish prices. Most fishmongers and fish and chips outlets attempted to curb the rising fish prices and maintain sales volumes by cutting their profit margin and many did not recognise the drift of customers to other more convenient foods and out of home eating.

The supermarket chains recorded the strongest sales growth in fresh and frozen fish and seafood — and real growth in average weekly sales value — mostly because of the development of dedicated fresh fish counters in their stores since 1991; some of this growth came at the expense of the traditional fish retailers.

A notable finding from the out of home consumption study was that restaurants have lost market share to more casual midmarket eateries such as cafes, clubs and the better fish and chips outlets since 1991.

Canned fish/seafood is the category which recorded the greatest increase over the last eight years, more than doubling in sales frequency. In the fresh category, cooked farmed prawns, sushi, swordfish steaks, tuna and Atlantic salmon emerged as the stars while orange roughy was declining in popularity with retailers and consumers.

The consumer studies reported in Volume Two indicated that fish/seafood is still not "top of mind" with consumers when shopping and is most strongly associated with entertainment entrees and adding variety to the diet. Consumers reported that they wanted more information on how fish is caught/farmed and marketed, as well as simple cooking ideas which use common pantry ingredients.

Consumers still overwhelmingly favoured fresh to frozen, and Australian over imported, and expressed concerns about food safety, reliability of fish names and whether fish labelled as fresh had been frozen previously. These labelling issues and the general industry image should be improved by all sectors of industry if they want to maintain or enhance community support and demand for fish and seafood.

The health/nutrition benefits of fish are one of the key drivers behind fish consumption but consumers in focus groups in Sydney and Perth clearly reported that they know fish is "good for you" and that the health message is now old news. The health message therefore needs to be more creative and probably best used as an underlying or background theme in promotions.

Price remains as a major barrier to increased fish and seafood sales according to retailers and consumers but the real issue appears to be value not price per se. The common theme in all the findings in this study is that consumers are looking for convenience, quality and value. They want quick and easy meal solutions for in home and out of home consumption as evidenced by the success of canned fish, tuna steaks, fillets versus whole fish, cleaned-tenderised octopus, sushi and other convenience foods and the growing popularity of midmarket out of home eating.

This reports concludes that there is a need for greater product innovation and a more proactive customer oriented approach to promotion and retailing of seafood. Fish's future for in-home cooking may well lie as a major component of pasta, salads, stir fries and other popular inexpensive meals or on the side of the plate rather than as a large serve of white meat in centre of the plate as in the past.

Retailers do not necessarily need TV advertising, new technology or heavy investment in promotion to increase sales, they can do so simply by formulating a better marketing mix: enhancing their product range and quality, upgrading pricing and labelling practices, and targeting promotion to match their customers' wants.

In the 1990s industry moved from the fish into the food business by offering more fillets than whole fish. **The challenge for the new decade is for retailers to change from a business selling mostly raw seafood and become more of a meals service business** offering consumers greater convenience and value with more ready to heat/eat foods (and giving the vendor a greater profit margin than raw products).

1. INTRODUCTION

1.1 Background

A detailed study of the retail sales and consumption of seafood in Sydney was undertaken by a consortium of consultants in 1990/91 as part of the Fisheries Research & Development Corporation's National Seafood Consumption Study (Fisheries R & D Corporation 1992). This report has less relevance now because of the massive changes in the economic environment, food retailing and consumption in Australia since then.

In 1997 and early 1998 seafood retailers around Australia were bemoaning a decline in sales and there was much speculation about the causes of this widespread downturn. The high price of seafood, a lack of generic promotion, the growing number of working women, increasing consumption of seafood out of home and then the adverse publicity surrounding the Wallis Lake oysters-Hepatitis A incident were all cited as possible causes of the decline in business.

Sydney retailers in particular, the traditional fishmonger as well as the major supermarket groups, were reportedly affected by low sales levels and were eagerly looking for remedies to their economic malaise.

Sydney is the major market for much of the seafood produced in Australia because of its large population, but also because it is a hub for interstate trade and the source of much seafood for Canberra, Newcastle and Wollongong.

Therefore many producer companies and organisations around the country were prepared to contribute financially to research on seafood consumption and retail sales of seafood in Sydney to provide information on how to promote seafood and increase demand.

With the encouragement and financial support from these companies and organisations, Ruello & Associates successfully applied for a grant from the Fisheries R & D Corporation to provide the major funding for this research project on seafood consumption and retail sales.

1.2 Need For The Study

The food buying and eating habits of Australian consumers have undergone considerable changes in the 1990's as a result of the expansion of shopping centres, increasing sales of "wet fish" by supermarkets, new food processing and distribution technology and many demographic changes, amongst other things.

The staging of the Olympics in Sydney in the year 2000, growing concerns about food safety and the opportunity for import replacement of exotic fish species with some of Australia's underutilised ones all added to the need for reliable up to date information on seafood consumption and retail trade in Sydney.

This study was designed to repeat much of the research undertaken in the 1990/1 National Seafood Consumption Study, to examine trends and changes in seafood consumption, and consumer and trade attitudes to seafood particularly underutilised species, since 1991.

The research was carried out in three stages. Stage One was a qualitative study with consumer focus groups and Stage Two a quantitative survey of consumers in home and out of home consumption and attitudes. The detailed findings from these two stages are presented in Volume Two.

Stage three consisted of surveys of the sales and attitudes of various retailers (a total of 140 fishmongers, supermarkets and fish and chips outlets). The findings from the Stage Three surveys, a general discussion, overall implications, conclusions and recommendations from the entire study are presented in this volume (Volume One). The objectives for each stage of the research project are detailed in the *Objectives* section in each volume.

A complementary research project *A study of seafood consumption in Perth and the development of a guide to targeted promotion* was initiated in February 1999 and is published separately as FRDC Report 99/342.

2. RESEARCH OBJECTIVES

The objectives for this stage of the project (retailer study) were to :

a. Document the main fish and seafood purchases of three categories of retail outlets:

fishmongers,
retail food outlets : supermarkets, food stores and convenience stores
fish and chips shops and takeaway outlets

b. Examine the purchasing behaviour and attitudes of the various retail outlet operators to various species and products and seafood retailing generally.

c. Propose actions which can be taken to profitably increase the sale and consumption of seafood.

3. METHODOLOGY

The methodology employed in this study parallels that of the 1991 National Seafood Consumption Study (Fisheries R & D Corporation 1992) so that wherever possible comparisons could be made with the findings in the earlier study.

A total of 140 personal (face to face) interviews were conducted with three categories of retail outlets as shown below.

50 ***Supermarket/food retail*** : Supermarkets (major chains and independent), food stores (eg Clancy's) and convenience stores (7-11 etc)

50 ***Fish and chips/takeaway*** outlets (Fish and chips : selling mainly cooked hot fish and seafood product. Takeaway: selling mainly a wide variety of hot foods)

40 ***Fishmongers*** (mainly selling fresh and frozen seafood)

Category of business	Description	Sample (No. of outlets)
Supermarket/ food retail	Supermarkets Food stores Convenience stores	30 15 5
Fish and chips /takeaway	Fish and chips outlets Takeaway stores	30 20
Fishmonger	Fish shops and retail fish markets	40

The sample distribution of interviews amongst the three categories of outlets follows that of 1991 (determined according to the number of outlets in each category). The outlets were randomly selected from the Sydney 1998 phone listing of the various classifications.

Interviews were sought with the person with the greatest knowledge of seafood buying and selling for the business. This was usually the owner/manager in the fishmonger and fish and chips outlets and the seafood section manager in the other retail stores

The questionnaires for each of the three retail outlet categories are based on those used in 1991 but were modified in the light of obvious changes in industry and the need to pursue new issues. Each was pilot tested before field use by the two interviewers engaged in the research.

The three questionnaires are similar for the most part but each has several unique questions not found in the others. A copy of each questionnaire is attached as Appendix 1-3.

All interviews were conducted from mid February to mid March 1999 and interviewees were asked for information on sales volumes for *an average month, over summer and winter.* In 1991 two rounds of interviews were conducted in Sydney, in May and September, with a total of 190 outlets, and respondents were asked for quantitative information on the preceding month's sales.

The results in this volume have been presented so that they can easily be compared with those from 1991 study, wherever possible. However care should be taken in comparing or extrapolating information from the 1991 and 1999 Sydney and Perth FRDC studies (and with any other reports) because the 1999 consumer surveys only covered two quarters and not the four quarters. (The 1999 study was not designed to measure annual fish consumption).

All weights/volumes in this volume of the report refer to purchased weight, unless otherwise indicated.

4. DETAILED FINDINGS OF SUPERMARKET /FOOD RETAIL SURVEY

This section describes the attitudes and data gathered from face to face interviews with the key persons (managers or buyers) in the retail food sector ie supermarkets, food stores and convenience stores.

The sale of fish and seafood in the supermarket category of the retail trade in 1991 was mostly restricted to frozen product and the sale of thawed product loose or in tray packs (styrene trays overwrapped with clear film) labelled as *chilled* fish/seafood. Food stores and convenience stores essentially only sold frozen fish and seafood products in branded packages.

The 1999 **retailers survey** was designed to focus on sales of fresh (including *chilled*) and frozen finfish and shellfish; it does not deal with canned or branded packaged frozen fish/seafood products as did the 1991 study.

4 .1 Respondents Position in Store (Question 1)

The **30 supermarket** respondents held a diverse range of positions and titles as shown in the following table.

Table 4.1. Job title of 30 supermarket respondents

Store manager	Fish/seafood department manager/Team Leader	Department Manager/ Team Leader Deli, Meat & Fish or Dairy - Freezer
1	10	19

All of the **five respondents in the convenience** stores were the store managers. Fourteen of the **15 respondents in food stores** were also the store managers while the remaining one was the dairy department manager.

Thus of the **50 interviewees overall**, store managers represented 40% of the respondents while fish fish-seafood department managers/team leaders comprised 20% of the persons interviewed and the remainder were managers with various other titles.

In the 1991 NSCS there was no seafood manager positions in existence and the store manager or director/owner or partner in the business made up 91% of respondents and only three percent were department managers.

The creation of fish/seafood category manager and the inclusion of fish in department managers titles in the intervening period demonstrates the supermarkets sector's increased attention to fish and seafood.

Food stores and convenience stores tended to be smaller businesses, and often owner operated, and did not have special positions for fish and seafood management.

4.2 Retailer perception of alternate protein products (Q 3)

The perceptions which food retailers have about the different protein food products they offer their customers (poultry, meat, pork and fresh and frozen fish) has a strong influence on how they buy and sell these various products and hence these were analyzed in Question 3.

Respondents were asked which food type each particular statement might apply to; they could nominate none, one, or as many as they liked. The results are represented graphically in the perceptual map in Figure 1.

A guideline on the reading of such maps is provided in Appendix 4.

Fresh and frozen fish was most closely associated with the statements:

- *Customers request more information about its presentation or cooking*
- *Needs more consumer marketing support*
- *Needs more trade marketing support*

Fish is not strongly associated with positive attributes such as *" being easily available"* nor *" offers the customer good value for money to buy"*

In 1991 the map derived from retailers across the country's capital cities showed that the strongest association was with

- *Our staff don't have the knowledge to recommend it*

This was then followed by

- *needs more trade marketing support*
- *needs more consumer marketing support*

In summary, the map shows that fresh and frozen fish was the protein food perceived in the most negative light by the respondents.

It is evident that the current major issue for supermarket retailers is their customers requesting more information whereas eight years ago it was the retailers' shortage of knowledge that was of greatest concern.

Figure 1. Perceptual map of retailers' attitudes to protein sources

Products P 1 = meat, P2 =Pork, P3 = poultry, P4 =fish, P5 = none, P 6 =Don't know
Factors The factors are the 22 statements listed in Table 4.2 on the preceding page

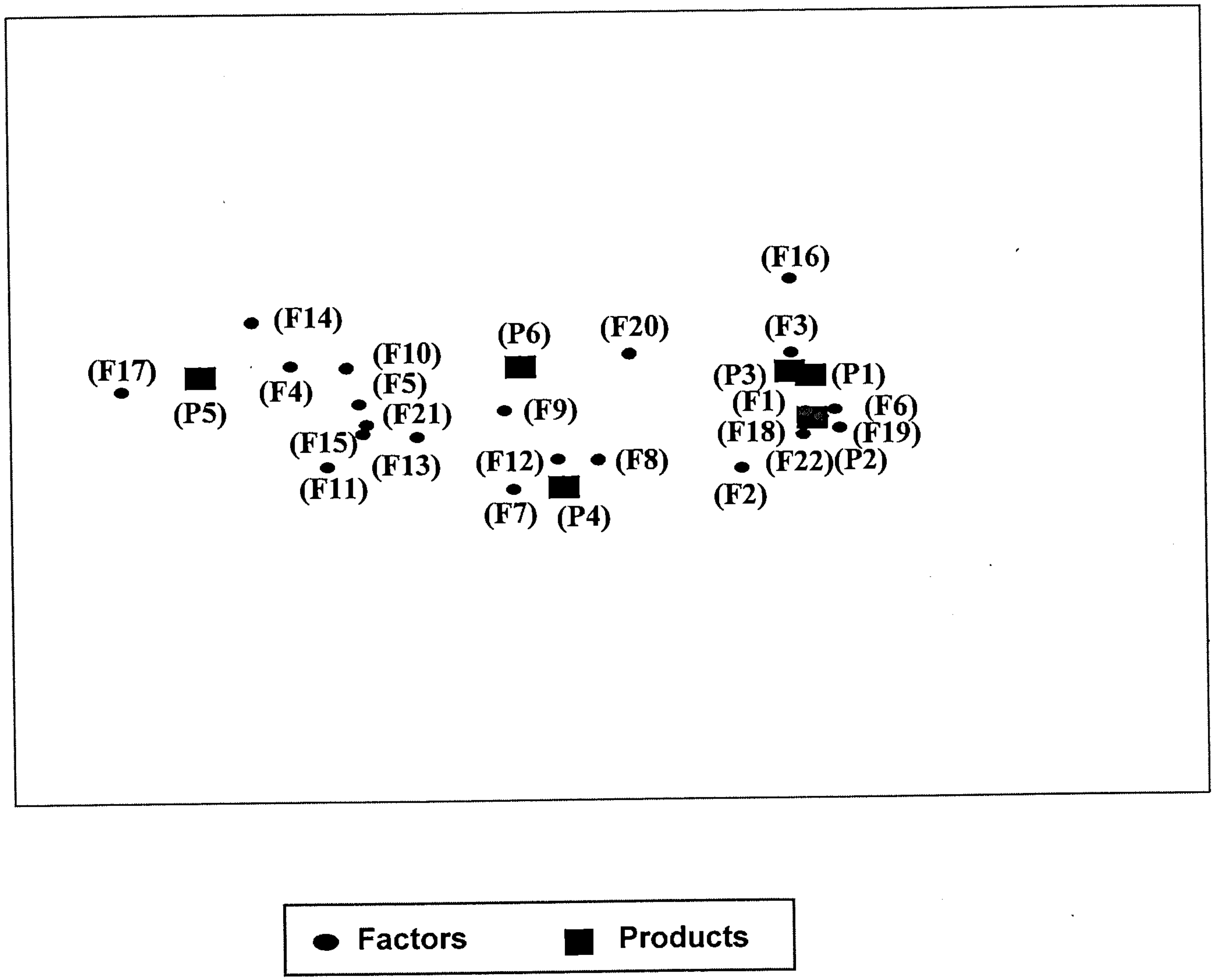

Table 4.2 Agreement with statement on the protein sources
(% of 42 respondents; multiple responses allowed hence totals do not =100)

Statement/Factor	Meat	pork	Poultry	Fish	None	D ont Know
1. Provides good margin to retailer	60	38	43	50	0	12
2. Suppliers give good promotional support	45	29	43	24	14	14
3. Well supported by advertising	62	38	57	31	14	5
4. Supply often not guaranteed for in-store promotions	10	5	10	29	57	7
5. Often too expensive for retailer to buy	12	10	10	36	50	5
6. Offers customer good value for money	60	43	76	57	0	2
7. Needs more consumer marketing support	12	7	26	62	29	2
8. Needs more trade marketing support	29	19	31	62	29	2
9. Likely to go off and have to be thrown out	17	14	29	40	40	0
10. Presents problem in waste disposal	12	7	19	31	60	2
11. Staff dislike packaging or handling it	7	2	10	50	48	0
12. Customers request more information about cooking	19	14	26	52	29	0
13. Staff lack knowledge to recommend	14	14	14	48	50	2
14. Requires little storage space	10	10	14	19	76	0
15. Considered too dear by customers	12	10	5	40	45	5
16. Preferred by more customers	38	10	60	12	7	10
17. Staff lack knowledge to buy it confidently	0	0	2	31	67	0
18. Easily available to buy	76	69	83	71	7	5
19. Looks good in store	81	71	88	7	2	0
20. Quality varies	33	21	45	31	33	7
21. Prices fluctuate too much	10	10	14	43	52	2
22. Essential part of our range	55	48	71	67	7	0

4.3 Stores Selling Fresh/chilled And Frozen Fish And Seafood (Q 4a)

Twenty four (48%) of the stores surveyed sold fresh/chilled fish and seafood and the same 24 stores also sold frozen f/s. The majority of the food stores and all of the convenience stores did not sell fresh or chilled fish or seafood.

Those stores selling fish and seafood were asked about the main problems experienced in selling each category (fresh/frozen). The majority of these stores reported some problem in selling fresh/chilled and half of them also reported that they had problems with frozen f/s too, as detailed in the table below.

Table 4.3 Number of stores selling fresh/chilled and frozen fish and seafood and the number reporting problems.

Question	Yes	No	Sample
Is **fresh/chilled** fish or seafood sold?	24	26	50
Main problems with selling **fresh/chilled** fish or seafood?	18	6	24 respondents
Is **frozen** fish or seafood sold?	24	26	50
Main problems with selling **frozen** fish or seafood?	12	12	24 respondents

Note: Because most food stores and the convenience stores did not sell fresh fish and seafood the respondents from these outlets had little comment on this category of f/s and most of the comments regarding different species of fish and seafood in the remainder of this report represent the ***viewpoint of supermarket operators.***

4.4 Main Problems In Selling Fresh Fish/Seafood (Q. 4 b)

Retailers were asked about the main problems they encountered in buying and selling fresh and frozen fish and seafood. A total of eighteen comments were received for this question from the 24 stores selling fresh fish, the other six stores (25%) had no main problems.

The short shelf life is regarded as the main problem with fresh f/s today and supply constraints were the next most important difficulty reported in Table 4.4 below.

Table 4.4 Main problems cited by retail outlets selling fresh

Reason	Number of mentions
Must sell quickly / goes off	7
Difficult to obtain / unreliable supply	5
Price / too expensive	3
Storage problems / must be refrigerated	2
Too difficult to look after fish	1

In 1991, a third of respondents reported that they had no problems in selling fresh/chilled fish and seafood products. Availability and unreliable supply were then cited as the main problem with fresh product and several other factors including *must sell quickly/ goes off* were also mentioned. With chilled product, *must sell quickly/goes off* was overwhelmingly the main problem cited and supply was not reported as a problem.

4.5 Main Problems in Selling Frozen fish/seafood (Q. 4 b)

Twelve of the 24 stores selling frozen fish/seafood reported that they had no problems in selling these products, the main problems reported by the remaining twelve stores are summarised in table 4.5 below.

Table 4.5 Main problems in selling frozen fish

Reason	Number of comments
Difficult to obtain/unreliable supply	7
No demand	3
Storage problems/amount of space required to store and display	2

In 1991, 58 % of respondents reported that they had no problems in selling frozen fish/seafood, the main problem cited by the other respondents was a lack of fridges/display and storage space closely followed by difficulty with supply and lack of demand and several other factors, but no single problem really stood out from those reported.

Frozen fish/seafood represented less problems than fresh f/s for retailers in 1999 too but supply shortage was again indicated as a problem in buying and selling frozen product but the precise problem was supply at prices attractive to the retailer.

4.6 Main Reasons For Not Selling Fresh fish/seafood (Q. 4 d)

Table 4.6 below summarises the respondents' reasons for not selling fresh fish

Reason	Number of citations
Perishable item/does not keep	15
Lack of space	13
Company policy	6
Competition/opposition too close	4
No demand/doesn't sell	4
Not seen as a fish shop	3
Negative press/food safety issues	1
No confidence in the quality assurance practices of the fishing industry. Price. Too much wastage. Too difficult to handle	1 each

Perishability and lack of space stand out as the reasons for not selling fish and seafood. But most of the above comments reflect the difficulties such businesses experience in selling fresh fish and seafood profitably particularly in the beginning when their turnover of fish and seafood was small.

Lack of fridge/display space and *no room/not enough space* were the two main problems cited in 1991; the third main reason was *not a fish shop*. At that time few supermarkets and food retailers had embraced the fresh food concept or saw themselves as suitable places to sell fresh fish or seafood and fish perishability per se was not a major issue.

Today the major supermarket groups and some of the food stores are far more interested in fresh seafood but see the seemingly short shelf life of f/s as a major barrier to profitable sales.

4.7 Main Reasons For Not Selling Frozen Fish/Seafood (Q. 4d)

The common reason cited for not selling frozen fish/seafood was that the interviewees felt that there was no demand for this type of product in their business. This relates to the next most common reason cited; companies do not provide freezer equipment or space because of this perceived lack of demand.

The attitude to frozen fish/seafood was summed up by one retailer who sold fresh packaged fish fillets but was not interested in selling frozen fillets, loose or packaged, if they were simply raw fillets. He saw the raw fillets as unappealing for his customers and hence unprofitable for the store.

Table 4.7 Main reasons for not selling frozen fish

Reason	**Number of citations**
No demand	15
Lack of freezer equipment/space	9
Company policy	7
Competition too close	2
Not seen as a fish shop	4
Total	**37**

In 1991 *no demand* was the main reason followed by *lack of freezer/display space* and *head office decision/not seen as a fish shop*.

With frozen fish and seafood the perceived barriers to sale have apparently remained unchanged.

4.8 What Would Encourage The Shop To Sell Fresh Or Frozen F/s (Q4 e).

Interviewees were asked why they did not sell fresh and/or frozen fish and seafood. Many respondents remarked that nothing would encourage them to sell fresh or frozen fish and seafood (Table 4.8a) essentially because they were not considered a profitable product line due to a lack of customer demand for the products.

Table 4.8a Encouragement needed to sell fish/seafood

Reason	Fresh	Frozen
Nothing	8 (31%)	17 (65%)
More refrigeration /equipment/space	4 (15%)	2 (8%)
Customer demand	4 (15%)	3 (12%)
Provision of special refrigeration	3 (12%)	0
Company policy	4 (15%)	3 (12%)
Daily deliveries	1 (4%)	-
QA accredited suppliers	1(4%)	-
Lower prices on f/s	1 (4%)	-
Don't Know	-	1 (4%)

The results from the 1991 study are summarised below. A review of the two tables (1991 and 1999) indicates that while there has been some improvement in retailers' attitude to fresh fish/seafood the disinterest or resistance to frozen f/s has grown and that there are still many more stores disinterested in selling fish/seafood in either form.

Table 4.8b Findings from 1991 study, on encouragement needed to sell f/s

Reason 1991	Fresh	Frozen
Nothing	38%	37%
Supply freezer equipment/space	9%	8%
Customer demand	25%	23%
Provide more space	17%	12%
Company policy	4%	10%
Require good/reliable supplier	11%	-
Require lower/better prices	5%	8%

4.9 Fish And Seafood Sales Statistics

The total monthly sales volume of the top ten species (6 fish and 4 seafood) averaged approximately 1300 kilograms per store selling fish/seafood (Table 4.9). This represented about three quarters of their overall sales each month which would be about 1088kg fish and 670kg of seafood.

The average dollar value of sales (all species) of the 50 stores was $3540; the weekly sales value of the stores selling fish/seafood $5,900.

The average weekly sales value of fish and seafood from the supermarket/food retailer in Sydney in 1991 averaged $723 per week. The strong increase since then (386%) is a result of the large increase in the range and volume of fresh seafood offered by stores as well as the substantial inflationary rises in fish and seafood prices.

Table 4.9 Sales volumes and value sold by store

Stores selling f/s only	**Average**	**High**	**Low**	**No of stores**
Total volume of top 6 fish species (kg)	805	1 980	51	24
Total volume of top 4 s. species (kg)	496	1 680	0	24

Stores selling f/s only	**Average**	**High**	**Low**	**No of stores**
Proportion of total sales accounted for by top 10 species	74%	95%	13%	19

All 50 stores	**Average**	**High**	**Low**	**No of stores**
Weekly turnover	$3540	$18 000	$0	23

4.10 Main Fish Species Sales Volumes (Q 5).

Smoked cod fillet was the most common fish product (leading species) sold by retailers (20 stores) although its sales volumes were surpassed by four other species.

The fish which recorded the greatest sales volumes of the leading species was boneless shark fillet which only ranked an equal fourth (along with red cod, Table 4.10a) in terms of number of stores stocking this product. All of the top five species (sales volumes or availability, Table 4.10a) are sold as fillets.

Table 4.10 a Volumes sold (fish) per month

Species	Number of shops selling	Total volume (kg)	Average volume (kg)	Low volume (kg)	High volume (kg)
barramundi	4	577	144	17	200
blue eye	1	80	80	80	80
cod fillet	1	17	17	17	17
cod red	11	1294	129	30	320
cod smoked	20	1832	96	17	320
dory oreo	3	85	28	20	40
dory smooth	4	220	55	40	100
flathead	3	352	117	24	280
grenadier blue	14	1864	143	25	240
leather jacket	2	155	78	65	90
ling	3	680	227	200	280
morwong/ sea bream fillet	14	2087	149	10	560
mullet	3	386	129	16	280
perch Nile	15	2480	177	15	400
roughy orange/sea perch	6	1229	205	150	240
salmon Atlantic	10	1095	110	20	475
salmon smoked	2	50	25	20	30
shark / boneless fillet	11	3914	356	60	1400
snapper	2	155	78	35	120
sole/flounder	5	612	122	20	300
trout rainbow	1	80	80	80	80
trout smoked	1	25	25	25	25
warehou	1	60	60	60	60

Smoked cod and red cod were both popular species with retailers in 1991 as were orange roughy and whiting (Table 4.10b); orange roughy has fallen behind apparently because of the massive rise in its price over the past eight years while the whiting fillet was an imported product that has apparently lost favour to newer cheaper species such as Nile perch.

Nile perch ranks second in terms of the number of stores that stock it and also in regard to its sales volumes. Nile perch fillet is an imported product that was new to the Australian seafood scene in 1991 and was not reported as a main seller by any store in the 1991 study.

Table 4.10b 1991 and 1999 ranking of best selling fish

Leading species 1991	**Ranking**	**Percentage of stores 1991**	**Percentage of stores 1999**
Cod smoked	1	41	40
Cod red	2	27	22
Whiting	3	23	0
Roughy orange/perch	3	23	12
Flounder fillets	4	18	0
Bream unspecified	4	18	28

4.11 Reasons For Buying/Selling Main Species (Q 5a)

The reasons commonly cited for the purchase and sale of main species were *fresh*, (rather than frozen), *boneless , popular/sells well, attractive price* and *Australian origin*.. For frozen fillets *no waste* was an additional appealing attribute for the retailer. The majority of the leading fish species nominated by retailers are sold mostly in the fillet form.

Table 4.11 Main types of finfish bought/sold and reasons cited

Main Fish Species	Reasons given by retailers for buying/selling
Perch Nile	boneless, price right, good taste; frozen: no waste for retailer; well known name, sells well.
Blue grenadier/hoki	boneless, cheap fillet; frozen: no waste; well known, sells well.
Salmon Atlantic	fresh, popular although is expensive, seen as a good fish to serve when entertaining, available as fillet/cutlet. sells well.
Smooth Dory	boneless, good well known name, sells well.
Cod Smoked	attractive colour, popular with the elderly: frozen no waste; cheap, sells well.
Morwong/ Deep Sea Bream Fillet	medium price range, fresh fillet, popular with families.
Cod red	frozen, no waste; well known.
Sole/flounder	cheap fish with a good taste.
Roughy orange/ sea perch	good selling fillet, but getting too expensive.
Shark/ boneless/Flake fillet	sells well, fresh fillet, popular with families, looks good, Australian, well known, is 100% boneless.
Barramundi	Australian product with a very well known name, sells well as fillet or plate-sized fish.

The reasons given for buying/selling the particular species have not changed since 1991, the enduring reasons are :

fillets, sell well if they have a popular/well known name, Australian and boneless.

4.12 Fish Form Purchased (Q 6)

Fillets clearly outnumber whole fish in popularity (table 4.12, next page) and boneless fillets are the preferred form. Shark fillets, the fish product which has become the best seller in terms of aggregate sales, have all of the positive attributes identified earlier:

- Fresh (rather than frozen)
- Australian origin
- Boneless
- Low to medium price range

Blue eye and Atlantic salmon are both bought and sold mostly as cutlets, but also as fillets too.

The only leading product nominated which is not a fillet is the sole/flounder however this product is plate size, frozen, seen as no waste and cheap compared to other Australian fish species such as snapper or rainbow trout which are commonly available fresh.

Evidence of a growing popularity of fillets over whole fish was emerging in 1991 but fillets clearly dominate the retail display in all types of outlets today and consumers and retailers are now increasingly seeking fillets completely free of bones.

Table 4.12 Fish form purchased (fish)

Species	**Total volume (kg)**	**Live**	**Whole**	**Fillet**	**Cutlet**	**Headed & gutted**	**Other**
barramundi	577			100%			
blue eye	80				100%		
cod fillet	17			100%			
cod red	1294			100%			
cod smoked	1832			100%			
dory oreo	85			100%			
dory smooth	220			100%			
flathead	352			100%			
grenadier blue	1864			100%			
leather jacket	155					100%	
ling	680			100%			
morwong/sea bream fillet	2087		1%	99%			
mullet	386		12%	88%			
perch Nile	2480			100%			
roughy orange/sea perch	1229			100%			
salmon Atlantic	1095			24%	76%		
salmon smoked	50			30%			70%
shark	3914			100%			
snapper	155		23%	77%			
sole/flounder	612		100%				
trout rainbow	80		100%				
trout smoked	25		100%				
warehou	60			100%			

4.13 Main Seafood Species Sales Volumes

Cooked prawns were the leading seafood product in terms of the number of stores stocking them (total of 20) and also the total sales volumes. Second in terms of availability and volumes were seafood extender (also called seafood salad or highlighter) and third placed in terms of availability and volumes was prawn meat (cooked).

In 1991 the leading seafoods were prawns, stocked by 32% of respondents selling f/s, mussels unspecified (9%) and seafood extender, oysters, seafood sticks, calamari and marinara which were all nominated by 5% of respondents.

Farmed prawns have come to prominence since the 1991 study, at which time they did not rate a specific mention. Their sale volume per store is now marginally more than double that of sea prawns at 322 versus 160 kg/month for stores stocking these products (Table 4.13) even though they are not as commonly available as the sea caught product.

Another development is the strong sales of green (uncooked) whole prawns in the retail scene. Whole green (ie uncooked) prawns were not mentioned or differentiated in the 1991 NSCS but were commonly available in all types of outlets stocking fresh fish and seafoods in this study.

If the sales volumes of cooked and green whole prawns are added together then prawn sales per store in 1991 are approximately five times the volume recorded in 1991. The average prawn meat sales volume has also increased by the same proportion.

Squid/calamari sales volume had also increased dramatically, to about ten times the level of eight years ago. The sales volume data on other seafood products is inadequate/insufficient for reliable comparison with 1991, but they suggest an increase in sales volume across all products. Octopus for example did not rate a specific mention in the 1991 study but it now has a sales volume averaging more than 200 kilograms per month in some stores.

Another notable change has been the widespread popularity of seafood extender a development from the earlier seafood/crab stick products which have seen a decline in popularity since 1991.

Table 4.13 Volumes sold (seafood)

Species	Number of shops selling	Total volume (kg)	Average volume (kg)	Low volume (kg)	High volume (kg)
crabs	1	200	200	200	200
extender	14	1708	131	40	520
lobsters	1	30	30	30	30
marinara mix	1	40	40	40	40
mussels	3	312	104	12	160
octopus	3	640	213	40	400
oysters (dozens)	9	1280	142	10	600
prawn meat	13	1335	111	10	280
prawns cooked farmed	9	2900	322	50	800
prawns cooked sea	11	1760	160	25	600
prawns green farmed	1	8	8	8	8
prawns green sea	6	720	120	10	200
seafood sticks	2	100	50	20	80
squid/calamari	5	864	173	100	230

4.14 Seafood Form Purchased (Q6)

Table 4.14 below shows the form in which the leading seafood products were bought (and sold). Contrary to the picture for fish products, the preference for shellfish is for whole seafood as well as processed product/meat.

The whole oysters listed in the tables are in fact opened oysters sold on the "half shell" and the *other* category includes oyster meat and bottled oysters. The *"headed & gutted"* category for squid/calamari is the cleaned tube which is commonly sliced and sold as calamari/squid rings; the "other " category is a mix of tubes and crumbed rings.

The makeup of the prawn purchases of 1999 represents something of a reversal of the retail display common in 1991 when whole prawns were a minor part of the trade and prawn meat (cooked) was the outstanding product in terms of availability and sales volume.

Table 4.14 Seafood form purchased

Species/product	Total volume (kg)	Live	Whole	Fillet	Cutlet	Headed & gutted	Other
crabs	200		100%				
extender	1708					23%	77%
lobsters	30		100%				
marinara mix	40						100%
mussels	312	26%	74%				
octopus	640		100%				
oysters (dozens)	1280		97%*				3%
prawn meat	1335					24%	76%
prawns cooked farmed	2900		96%				4%
prawns cooked sea	1760		100%				
prawns green farmed	8		100%				
prawns green sea	720		100%				
seafood sticks	100						100%
squid/calamari	864					23%	77%

4.15 National Origin Of Fish And Seafood (Q8)

The national origin of the leading fish products, as reported by respondents, varied from entirely Australian (Atlantic salmon and six others) to entirely imported (unidentified cod fillet). Overall 52% of the fish volume was reported as of Australian origin. Most fish/seafood were seen as coming from both Australia and overseas although this may not have been the case.

Nile perch for example is not produced in Australia and is imported; red cod is also an import as is the smoked cod. The mussels are indeed sourced from Australia and overseas because the green shell mussel is imported from New Zealand and the blue mussel is produced in Australia.

Table 4.15a National origin of fish and seafood

Species	Total monthly volume	% Australian	Imported %
barramundi	577	97	3
blue eye	80	100	0
cod fillet	17	0	100
cod red	1294	55	45
cod smoked	1832	5	95
dory/ oreos	85	56	44
flathead	352	100	0
grenadier blue	1864	45	55
leather jacket	155	100	0
ling	680	59	41
morwong/sea bream fillet	2087	70	30
mullet	386	100	0
perch Nile	2480	6	94
roughy orange/sea perch	1229	23	77
salmon Atlantic	1095	100	0
salmon smoked	50	40	60
shark/boneless fillets	3914	80	20
snapper	155	11	89
sole/flounder	612	15	85
trout rainbow	80	100	0
trout smoked	25	–	–
warehou	60	100	0

The exact origin of some product is difficult to determine because of confusion and uncertainty about fish names and confusion about the true geographical origin of the fish.

The category snapper for example covers a number of species found around Australia including the pink snapper *Pagrus auratus* ; this is a popular fish in NSW sourced from eastern Australia, Western Australia as well as New Zealand.

Table 4.15b National origins of seafood

Species/product		Total monthly volume kg	% Australian	Imported %
crabs		200	100	0
extender		1708	71	29
lobsters		30	–	–
marinara mix		40	–	–
mussels		312	44	56
octopus		640	63	38
oysters	Dozens	1280	100	0
prawn meat		1335	4	96
prawns cooked farm		2900	85	15
prawns cooked sea		1760	85	15
prawns green farmed		8	100	0
prawns green sea		720	91	9
seafood sticks		100	0	100
squid		864	24	76

The national origin of the seafood product as reported by respondents varies from entirely Australian (crabs) to entirely imported (seafood sticks) but most are available from local as well as overseas sources. The dominant product category, prawns cooked, is mostly sourced within Australia.

Overall, 71% of the volume of seafood used by the supermarket retailers was reported of Australian origin.

As with fish products however, there is some doubt as to the correct origin of products as indicated in the table above because of the respondents understanding or uncertainty of the true identity or origin. For example, it is unlikely that 15% of the cooked sea prawns were from overseas, as indicated by interviewees, because according to industry sources the sea prawns used are Australian.

The origins of the seafood products sold has not changed substantially since 1991 with the notable exception of octopus. The octopus imports have increased due to the growing popularity of the baby octopus which is imported from Asia in the whole and cleaned form.

4.16 Sources Of Fish And Seafood Supplies

Almost all of the fish and seafood stocked by supermarkets is sourced from specialist fish wholesalers or importers approved by the company. The "other" category in the following tables includes the cold storage warehouse company that holds and distributes various frozen products sourced from such importers or wholesalers.

This situation is essentially the same as 1991 when 92% of respondents were not able to choose their supplier and the suppliers were nominated by head office.

Table 4.16a Sources of fish species

Species	Total volume (kg)	F'man/ farmer	General W'saler	F'man W'saler /Co-op	Fish Mkt	Other
barramundi	577			100%		
blue eye	80			100%		
cod fillet	17			100%		
cod red	1294			53%		47%
cod smoked	1832			86%		14%
dory oreo	85			85%		15%
dory smooth	220			100%		
flathead	352			100%		
grenadier blue	1864			98%		2%
leather jacket	155			100%		
ling	680			87%		13%
morwong	2087			100%		
mullet	386			100%		
perch Nile	2480			63%		37%
perch roughy	1229			100%		
salmon Atlantic	1095			100%		
salmon smoked	50			78%		22%
shark	3914			100%		
snapper	155			100%		
sole/flounder	612			100%		
trout rainbow	80			100%		
trout smoked	25			90%		10%
warehou	60			100%		

Table 4.16b Sources of seafood

Species	Total volume (kg)	Fisherman/farmer	General wholesaler	Fish wholesaler/Co-op	Fish market	Other
crabs	200			100%		
extender	1708			91%		9%
lobsters	30					100%
marinara mix	40			100%		
mussels	312			100%		
octopus	640			100%		
oysters (dozens)	1280			100%		
prawn meat	1335			94%		6%
prawns cooked farm	2900			100%		
prawns cooked sea	1760			94%		6%
prawns green farmed	8			97%		3%
prawns green sea	720			84%		16%
seafood sticks	100			80%		20%
squid	864			100%		

4.17 Retailer Perception of Customers Expectations Of A Store (Q 11)

Question 11 was designed to identify what retailers thought their customers looked for in a store and what the retailer thought they could do to improve sales.

There was almost universal agreement (Table 4.17) that:
- having friendly staff
- customer can be confident that fish & seafood has not been frozen
- having a clean outlet/store

were very important (in the order given).

However opinion on whether the store *"Sells fresh fish & Seafood* (ie not frozen)" was polarised, with six respondents reporting that it was not at all important but the majority reported that it was important.

The statement *"offers Australian fish & seafood"* also attracted a diversity of viewpoints from very important to not at all important.

What both of these seemingly puzzling results highlight is the divergence of opinions amongst retailers which is probably a reflection of the differing demographics and customers wants around a large city like Sydney.

In 1991 a *"clean store"* and *"friendly staff"* were reported as very important and *"Sells fresh fish/seafood"* and *"Offers Australian fish/seafood"* were considered to be the two least important factors discussed. The statement *"Customer can be confident f/s has not been frozen"* was also rated as important. So overall it appears that little has changed in regard to retailers perception of what they believe their customer look for.

Table 4.17 What customers look for in a store

Factor	1. Very important	2	3	4	5	6	7. Not at all important	Don't know	Average score
1. Clean outlet/store	19	4	2					1	1.32
2. Sells fresh fish & seafood (ie. not frozen)	5	2	7	3		1	6	2	3.75
3. Has attractively displayed fish & seafood	13	7	2	1				3	1.61
4. Has consistently low prices	9	4	7	3	1		1	1	2.28
5. Is an outlet frequently shopped at	13	4	3	2	1		1	2	1.88
6. Offers Australian f & s	5	1	6	2	5		4	3	2.87
7. Offers f & seafood specials	12	4	5	3			1	1	2.16
8. Has staff informed about fish & seafood	11	5	5	1		1	2	1	2.40
9. Has consistently low prices in general	10	2	5	5	2	1		1	2.20
10. Is easily accessible to customers	13	10	1	1				1	1.60
11. Offers advertised specials regularly	15	6	2	1				2	1.54
12. Many different types of food available	19	2	3			1		1	1.52
13. Offers wide variety of fish & seafood	8	4	7	4			2	1	2.68
14. Has friendly staff	21	4						1	1.16
15. Has good reputation for quality fish & seafood	18	4	3					1	1.40
16. Customer can be confident f & s has not been frozen	21	2			1		1	1	1.28

4.18 Retailers Solutions For Increasing Sales (Q 13a)

The most common suggestion from retailers on actions likely to increase sales was the provision of more display area for fish and seafood, this was closely followed by a change in company policy (Table 4.18). These both suggest a need for change in company policy regarding the physical resources made available for the fish section in store.

The other common solution for market development was in-store promotion via taste testing, particularly for new products. Approximately a fifth of respondents were unable to suggest any action that the store could take to stock and sell more fish and seafood or felt nothing could be done.

Table 4.18 Actions by store to sell more fish/seafood.

Suggested Actions	Number of mentions
Increase sales display area	8
Change company policy	7
In-store promotions including taste testing	6
Nothing / don't know	5
In store merchandising	3

Some supermarket seafood managers told anecdotes of successful in-store promotions, such as asking customers to put their purchase receipts into a barrel for a draw to win a fishing rod for a Dad on Father's Day. Another successful promotion was a store putting up promotional signs and thereby highlighting fish and seafood from its entrance all the way to the fish counter.

These results are remarkably similar to those in 1991 when the provision of more freezer/fridge size/space and increase the space/store size were the two most common suggestions, and 19% of respondents felt nothing could be done or offered no suggestions.

4.19 Fishing Industry Actions To Increase Sales (Q. 13 B)

Despite a high number of "Nothing/don't know" responses as to what actions the fish industry in general needs to take for retailers to stock and sell more fish and seafood, there were nonetheless many different suggestions, as summarised in table 4.19a below.

Most respondents suggested that in-store promotions and taste testing were by far the most successful actions that the industry could fund or provide for the retail sector and there was limited support for generic advertising of fish and seafood.

The suggestions regarding the provision of more boneless fillets at cheaper prices present a strong challenge for the Australian seafood industry, particularly so given that most of these retailers saw a retail price point of $10 per kilogram as their ideal market situation.

Table 4.19 a Suggestions for industry actions

Suggested Actions	Number of comments
None/don't know	14
Provide/pay for in-store promotions to both staff & customers	9
Supply more boneless fillets, at cheaper prices	8
Increase the freshness of the product at point of delivery at store	6
More advertising	5
Smooth out the price fluctuations More fresh Australian product	3 each
Manage bad publicity; Manage bad image - eg the mislabeling of product	1 each

In 1991 *More advertising/promotion/information,* and *nothing* or no suggestions were the common replies. Other comments included provision of *free leaflets/recipes*. The common theme in 1991 and 1999 is the retail sector's expectation of greater support from the fish industry in market development via more promotion.

In addition to seeking the retailer's suggestions on initiatives for industry to undertake, retailers were asked to comment on the likely impact of various actions that the fishing industry believes can improve sales.

Table 4.19b Impact of possible actions to increase f/s sales (Q 14 , 26 respondents)

Potential action to increase fish & seafood sales	1. Great impact	2. Some impact	3. A little impact	4. No impact	Don't know	Average score
1. More consistent supply of fish	5	16	2	2	1	2.04
2. More frequent delivery of fish	4	4	2	15	1	3.12
3. Availability of info. on cooking & preparation	17	4	4		1	1.48
4. More advertising support for fish & seafood	23	2			1	1.08
5. Greater encouragement of aquaculture industry	13	10		1	2	1.54
6. Better quality product available through better handling	12	5	4	3	2	1.92
7. Supply of greater variety of prepared f & s meals ready to cook	5	10	6	3	2	2.29
8. Assurance that the seafood is safe to eat	18	6		1	1	1.36

The three actions with greatest potential impact were (in this order) :

- More advertising support for fish & seafood
- Assurance that the seafood is safe to eat
- Availability of information on cooking & preparation

The findings in this and the preceding table highlight the widespread request from retailers for promotional material on particular species by the fishing industry and/or their own companies.

Retailers reported that adoption of action 8 *"Assurance that the seafood is safe to eat"* is likely to have a great impact on their sales. Quality assurance was not a widely known term in the fishing industry in 1991 hence was not part of the NSCS retailers survey in 1991.

The retailers assessment of the potential impact of the other suggested actions this year was essentially the same as that found in 1991.

4.20 Potential Sales Of Underutilised & Aquaculture Species (Q 12)

The retailers outlook for growth in sales of selected underutilised fish and seafood from aquaculture and the wild fisheries were explored in question 12. Their outlook on the different species is summarised in Table 4.20a below.

Almost all species were seen by the majority of respondents selling f/s as having potential for increased sales for a variety of reasons summarised in table 4.20b (next page). The notable exception is pilchards/sardines with only about a third of the respondents optimistic about the market development prospects for this fish.

Table 4.20a below shows that retailers are far more optimistic about these species than they were eight years ago. Warehou, albacore tuna and silver perch were not part of the 1991 survey but retailers were generally optimistic about the market prospects of these species too, even though the warehou and silver perch are still relative new to the marketplace. Albacore tuna has been plentiful for many years but is used mostly as raw material for a canned product and still generally remains underutilised.

Table 4.26 Potential for growth of under-utilised species

Species	% of respondents optimistic 1999	% of respondents optimistic 1991
Wild fishery species		
Warehou	65	na*
Pilchards /sardines	35	6
Albacore tuna	50	na
Silver trevally	62	14
Farmed species		
Farmed prawns	69	24
Rainbow trout	73	25
Silver perch	50	na
Mussels	58	14
Oysters	69	21
Farmed barramundi	62	27

* not applicable (not in the 1991 survey)

The common theme underlying the retailers' optimism on all species examined is that the species/product is already on sale in store or is currently "selling well". Another interesting area of comment relates to the timing of purchases and consumption.

A common theme is the retailers request for promotion; this need for promotional support is clearly a recurring one that should be noted by seafood industry.

Table 4.20b Comments on under utilised fish /seafood species.

Species	Comment/Reasons	Number of citations
Warehou	Already selling	10
	Sells well when available	8
Pilchards	Already tried	5
	Worth a try	2
	Needs to be fresh to sell	2
Albacore Tuna	Already selling	8
	An occasional fish	2
	Worth a try	2
	Appeals to ethnic groups	1
Silver Trevally	Already selling	7
	Good for variety	5
	Good if price OK	1
	Appeals to ethnic groups	4
Farmed Prawns	Already selling	15
	Sells very well at Xmas	4
Rainbow Trout	Already selling well	19
Silver Perch	Worth a try	6
	Have sold it	4
	Appeals to the Asian market	3
Mussels	Already selling it	10
	Needs promotion	3
	Worth a try	2
Oysters	Already selling	13
	Need to promote safety	4
	Sell well on weekends	1
Barramundi	Already selling it	9
	A weekend fish	3
	Worth a try	4

Retailers observed that several species such as farmed barramundi, oysters and other shellfish are mostly used at the weekend and that farmed prawns were very popular over the Christmas period.

The generally positive sentiments on oysters are noteworthy in the light of the setback to oyster sales in 1998 after the publicity surrounding the Hepatitis outbreak linked to Wallis Lake oysters.

4.21 Outlook For Next Five Years (Q15)

Retailers were predominantly optimistic about their sales levels of fish and seafood over the next five years, with only a third expecting total sales to remain static or fall.

This situation is better than prevailing in 1991 when only 54% expected increased sales, 10% envisaged a decline and 29 % expected sales to remain the same

Table 4.21a Sales forecasts for the next five years

What will happen to sales in the next 5 years?	Increase	Decrease	Remain the same	Don't Know
	65%	19%	15%	0

The outstanding reason for optimism on future fish and seafood sales is the expectation of increasing population leading to increased demand for fish and seafood. The next most common reason was that retailers expected fish and seafood sales to grow in line with their recent success in moving to fresh seafood and away from thawed/chilled.

Another reason commonly cited was that supermarket management and staff are now more focussed on fish and seafood and see themselves as creditable fish merchants capable of competing with the traditional fishmonger.

By contrast the main reason for optimism cited in 1991 was that people were becoming more health conscious and fish was seen as a healthy food.

The most common reason cited by the pessimistic retailers is that the competition from traditional fishmongers was likely to remain strong. Other reasons were the consumers concerns about the environmental contamination of fish and seafood and the difficulties in attracting and keeping good staff .

Independent supermarkets were mostly pessimistic about future sales growth, mainly because their small sales volume means fresh fish retailing unprofitable, and some even reported that they had difficulty selling frozen fish too.

In 1991 the major reasons for pessimism were that fish *is too expensive/ becoming too expensive* and that competition from traditional fishmongers was too strong.

5. FINDINGS FROM THE FISHMONGERS SURVEY

This section has the detailed findings from the interviews with 40 fishmongers.

5.1. Respondent's Position In The Business (Question 1)

Almost all respondents were the owners or partners in the business (37 of 40, 92.5%) while the other three persons held a position as manager.

This was essentially similar to the survey in 1991 when 97 % of the respondents were owners/partners and 3% were employees.

5.2 Main Problems In Selling Fish And Seafood (Q 2)

When asked about the main problems in selling fish and seafood, 25 respondents (62.5%) nominated one to nine main problems in supplying and selling seafood while another 15 interviewees (37.5%) responded that there were no problems at all.

The problems identified were:

- High/Escalating fish prices/tight margins (13 mentions)
- Customers do not know how to handle and/or cook f/s (5)
- Difficulties in attracting/keeping good staff (4)
- Difficulty getting continuous supply of fresh (4)
- Customers poorly informed about f/s, want it caught this morning (3)
- High rents; Quality inconsistent (2 mentions each)
- High operating costs Cost of labour, Long hours, Heavy work/ lifting, Prices fluctuate too much, Increased competition, Short shelf life, Smell, Adverse media publicity , Unfair competition from businesses substituting species, Sales are too dependent on weather, Poor quality and safety of fish in some other businesses, Unskilled /poorly trained staff (1 each).

The major problem is clearly an economic one related to fish prices. Fish and seafood prices (particularly for orange roughy, a common best seller) have been rising at wholesale and retail level and resulted in some consumer resistance and lower margins for many fishmongers.

The second category of main problem, cited by eight (approximately a third) of those fishmongers with problems relates to the consumers lack of knowledge of fish/seafood or its handling and cooking.

Difficulties with supply (43% of respondents) and high fish prices (32%) were the two major problem issues in the 1991 study but customers lack of knowledge/skills was not reported as such a great difficulty then. Freshness and quality problems were reported by 25% while seven percent reported that they had no main problems in 1991.

Increasing fresh fish supply to Sydney from interstate (particularly from aquaculture) and overseas probably accounts for the declining problem with fish supply.

5.3. Significance Of Possible Problems (Q3)

The fishmongers assessment of the significance of selected possible problems on their business is presented in the following table. The most significant problem identified was *"unfavourable publicity about fish and seafood"* followed by the *"unavailability of staff with experience ..."* and then the *"Lack of knowledge of customers in preparing and cooking fish and seafood"* .

Table 5.3 Retailers' assessments of significance of various problems

Potential problem	**1. Very significant problem**	**2. Quite significant problem**	**3. Not very significant problem**	**4. Not a problem**	**Don't know**	**Average**
1. Variable quality of fish & seafood available	5	5	10	17		3.05
2. The proportion of f & s purchased cannot be sold and must be thrown away		3	12	22		3.51
3. Cost of disposing waste product		2	6	29		3.73
4. Unavailability of staff with experience in handling and selling fish & seafood	17	8	7	5		2.00
5. Amount of physical storage required for fish & seafood	2	3	6	21	3	3.44
6. Lack of knowledge of customers in preparing and cooking fish & seafood	15	6	8	6		2.14
7. Uncertainty about the freshness of f & s available	1	1	2	31		3.80
8. Uncertainty whether fish bought are correctly named		1		34		3.94
9. Difficulty of selling f & s if it is labelled frozen	10	13	4	6	2	2.18
10. Risk of buying fish & seafood "sight unseen"	1	2	4	26		3.67

(continued on the next page)

Continued from previous page

Potential problem	1. Very significant problem	2. Quite significant problem	3. Not very significant problem	4. Not a problem	Don't know	Average
11. Unfavourable publicity about fish & seafood	24	5	2	2	1	1.45
12. Customers dislike buying fish because of bones	13	11	7	3		2.00
13. Fish is too expensive to buy	9	7	11	9		2.56
14. Seafood is too expensive to buy	8	7	10	11		2.67
15. Difficulty pre-ordering and receiving fish & seafood		3	1	30		3.79
16. Low margins necessary to remain competitive	6	11	6	10	1	2.61
17. Stock levels that need to be held		4	4	25	1	3.64
18. Difficulty in obtaining good quality product	1	7	9	17		3.24
19. Lack of experience in attractively displaying f & s		2	3	27		3.78
20. Difficulty getting continuous supply at steady prices	9	8	9	8		2.47
21. Lack of training in fish handling and hygiene	4	6	6	17	1	3.09
22. Difficulty getting continuous supply of a good range of fish	5	6	11	12		2.88

Adverse media publicity was only mentioned by one respondent as a main problem during open discussion on the preceding question yet this was seen as the most significant problem when the list of potential problems was presented to interviewees. This probably reflects a recall of the extensive publicity given to the Wallis Lake oysters-Hepatitis outbreak and media attention about fish substitution in the 20 months preceding this study.

The significance of recruiting/holding experienced staff and the difficulties with customers lack of knowledge are generally consistent with the answers for the earlier open question on the fishmongers main problems.

The significance of (high) fish and seafood price and the level of profit margins varied widely (almost polarised views) and consequently both only have a medium rating amongst the problems covered in Table 5.3. Nonetheless, fifty percent of fishmongers reported low margins as quite a significant problem.

The four most significant problems in 1991, all rated as quite significant, were :

- Difficulty getting continuous supply at steady prices
- Lack of knowledge of customers
- Customers dislike fish because of bones
- Low margins required to remain competitive

5.4. Main Fish And Seafood Aggregate Sales (Q4)

The ten main species accounted for 20 to 90% of the total sales for 39 fishmongers with an average of 55%. This was similar to the situation in 1991 when it ranged from 10 to 95% and averaged approximately 60%.

The weekly sales level of the businesses surveyed ranged from $5,500 to $70,000 and averaged $25,064 per week Two businesses with a significant fish n chips sales section had total weekly sales levels exceeding $50,000. Two stores had weekly turnover less than $10,000 per week and they had no fish n chips section.

The 1991 average turnover was $13,800, and the sample included one business which reported sales level greater than $50,000. The increased turnover of fishmonger business since 1991 represents a growth of 81.6% in the eight years which far exceed the 15.2 % inflation in the CPI (consumer price index) over this period. Many fishmongers reported that the rise in dollar turnover was more a reflection of inflation in fish prices and not increased customer numbers or sales volume.

By extrapolating from the average weekly sales figure, the total weekly sales of the estimated 109 retail fish outlets (excluding Sydney Fish Market and Paddy's Markets retail markets) in Sydney is calculated as $2, 725,000.00 per week.

5.41 Average monthly sales volumes

Table 5.4 Total monthly volumes (kilograms reported by 39 outlets)

	Average	High	Low	Sample
Total volume of top 6 fish species (kg)	3912	10140	400	40 stores
Total volume of top 4 seafood species (kg)	1941	8100	365	39 stores

The total monthly sales volume of the six best selling fish ranged from less than half a tonne to more than ten tonnes (Table 5.4) while the four leading seafood products had monthly sales volumes ranging from a third to more than eight tonnes per month. Average sales volume of the leading species were 3.9 tonnes and 1.9 tonnes per month for fish and seafood respectively.

Equivalent figures for 1991 are not available but the top selling species accounted for 60 % of sales in 1991 versus 55% in 1999.

5.5. Incidence Of Customers Seeking Assistance (Q9)

Fishmongers were asked about the percentage of customers that would ask for advice on what species of fish to buy and then purchase it.

About a third of customers ask for advice and then take it but the percentage seeking assistance varies from zero to 100% of the customers frequenting a particular fishmongers premises.

Table 5.5. Customers seek advice and buying recommended species

	Average	High	Low
Q. How many customers ask for advice on what to buy, then buy it?	36%	100%	0%

This was almost identical to 1991 when the range was 10 to 90% and averaged 35.5%.

5.6. Main Fish Species Sales Volumes (Q6)

The leading species nominated by fishmongers and the monthly sales figures for these species expressed as kilograms of product bought are listed in Table 5.6. Orange roughy was the species with the greatest number of citations (22 stores, or 55%) as one of the six main fish species bought/sold but shark is the product with the highest monthly average volume bought/sold per outlet. In Sydney about a dozen species of shark are sold, mostly as *boneless fillets.*; orange roughy is also sold exclusively as a skinless fillet.

Atlantic salmon and flathead (in that order) closely followed orange roughy in terms of availability (Table 5.6) but flathead and orange roughy rank second and third respectively in terms of average monthly volume bought per store. Atlantic salmon is a popular best seller but its volume per month per store ranks it only as sixth in importance in the Sydney fishmongers' business (Table 5.6).

Table 5.8a shows the form in which the main sellers were bought. As indicated earlier shark and roughy are sold as fillets, and flathead is mostly sold in the fillet form often with skin and bones removed. Atlantic salmon is invariably bought gilled and gutted and is retailed in a variety of forms: gilled and gutted, fillets with skin, cutlets, and in the past year or two as portion controlled fillets.

Table 5.6 Monthly sales volumes leading fish species

Species	Number of shops selling	Total volume (kg)	Average volume (kg)	Low volume (kg)	High volume (kg)
barramundi	5	2980	596	270	1550
bass groper	2	2080	1040	280	1800
blue eye	14	4935	353	40	820
bream silver	9	4903	545	110	1600
cod bar	1	140	140	140	140
dory John	2	415	208	205	210
dory smooth	2	1980	990	80	1900
flathead	20	22456	1123	85	3800
flounder	2	630	315	260	370
grenadier blue	1	615	615	615	615
kingfish	1	615	615	615	615
leather jacket	3	1845	615	410	820
ling	13	7605	585	50	920
mackerel Spanish	1	1600	1600	1600	1600
marlin	1	310	310	310	310
moon fish	1	80	80	80	80
morwong	18	11250	625	125	1200
mullet	8	6680	835	80	1845
mulloway	1	250	250	250	250
parrot	1	500	500	500	500
perch Nile	2	1045	523	225	820
perch red ocean	2	1290	645	60	1230
perch silver	1	410	410	410	410
pilchard	1	80	80	80	80
redfish	5	3910	782	400	980
roughy orange	22	15170	690	80	1970

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Table 5.6 *Continued from previous page*

Species	Number of shops selling	Total volume (kg)	Average volume (kg)	Low volume (kg)	High volume (kg)
salmon Atlantic	21	12150	579	70	1480
shark	15	18995	1266	205	5900
silverbelly (biddy)	1	165	165	165	165
snapper	17	10361	609	200	2050
snapper gold band	1	410	410	410	410
sprats	1	120	120	120	120
sweetlips	1	490	490	490	490
swordfish	16	6795	425	80	910
trevally	5	2820	564	205	850
trout rainbow	4	1090	273	125	410
tuna	10	4100	410	120	1845
warehou blue	1	360	360	360	360
warehou silver	2	1465	733	265	1200
whiting	1	1100	1100	1100	1100
whiting school (red spot)	2	1130	565	310	820
yellowtail	2	1260	630	410	850

In 1991 flathead (67% of stores), snapper (54%), orange roughy (52+%) and bream/morwong were all amongst the four top ranking species in Sydney in terms of frequency cited as best sellers.

Atlantic salmon was then only regarded as a main species by 7% of stores, tuna was also not popular (4%) and shark was only a main species for 23% of stores in 1991 Redfish and mullet have fallen in popularity since 1991 as they were cited as main species by 41 % and 34% respectively of stores then.

5.7 Reasons For Buying/Selling Main Species (Q 8b)

The reasons given by fishmongers for stocking particular main species are summarised in the table below. This table also shows the overall ranking or importance to Sydney retail fishmongers according to the average volume purchased per month per store.

Many of these main products share a small number of success factors, namely

- Boneless
- Skinless
- Nice mild taste
- Positive or trendy image from promotion.

Swordfish is a particularly noteworthy product because it was rarely seen in the Sydney Fish Market just five years ago but now ranks as the eighth most important species to the Sydney's retail fishmongers and widely available as steaks

Table 5.7. Reasons cited for stocking main species

(Species listed according to average monthly sales volumes and reasons shown with the most common reason for each product first) .

Product	Reasons cited for stocking
1. shark	It is boneless, and the name boneless helps sales. White firm versatile flesh, good/safe for kids
2. flathead	Well known traditional favourite. Sells well now as skinless boneless fillet. Tastes good, especially fried
3. roughy orange	Boneless and nice white colour. Nice mild taste skinless, good for kids, versatile. Still popular despite rising price.
4. snapper	Whole fish looks & tastes good, appeals to Europeans, Asians and Aussies. Well known, traditional, popular species. Versatile & easy to cook
5. ling	Boneless, nice medium flavour. Firm holds together well; versatile & easy to cook
6. salmon Atlantic	Well known, advertised and promoted, more recently re healthy oils. Upmarket image/name. Nice eating; good for cutlets, sashimi and portion control fillets with no waste
7. morwong (sea bream fillet)	A traditional favourite partic. with older people Can produce an inexpensive boneless fillet, skinless option also available.
8. swordfish	Promoted and publicised generally and with health/omega oils media coverage; nice to eat, boneless; easy to handle/cook; trendy, well known to Europeans, used in restaurants.
9. tuna	Nice raw as sashimi. Classy/trendy image from magazines and restaurants, publicised as healthy ; boneless and stronger flavoured.
10. blue eye	Versatile in cooking, especially good on BBQ. Good for cutlets (cheaper than salmon), nice eating , good price

5.8 Fish Form Bought (Q5)

Although most of the main fish species were bought whole or headed and gutted (Table 5.8) but few were sold in this form because most are retailed as fillets. The notable exceptions are Nile perch — which is imported as a frozen fillet — and blue grenadier which were largely bought as fillets; leather jackets were bought headed and gutted and then resold after removing the rough outer skin.

Marlin and swordfish were commonly bought without the head and cut into steaks which are mostly boneless; the "fillet" category of swordfish warrants mention because it refers to plastic wrapped boneless loins, a product which has only been available in the past year.

The *"other"* category for various species in Table 5.8 refers to gilled and gutted fish a common form of fish in contemporary Australian trade.

Table 5.8 Form purchased fish species (% of purchases)

Species	Total volume (kg)	Live	Whole	Fillet	Cutlet	Headed & gutted	Other
barramundi	2980	19%	48%	32%			
bass groper	2080		13%			82%	5%
blue eye	4935				1%	99%	
bream silver	4903		100%				
cod bar	140		100%				
dory John	415		100%				
dory smooth	1980		96%	4%			
flathead	22456		100%				
flounder	630		41%				59%
grenadier blue	615			100%			
kingfish	615		100%				
leather jacket	1845					100%	
ling	7605		8%	8%		12%	73%
mackerel Spanish	1600					100%	
marlin	310					100%	
tilefish (moon fish)	80		100%				

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Table 5.8 *continued from the previous page*

Species	Total volume (kg)	Live	Whole	Fillet	Cutlet	Headed & gutted	Other
morwong	11250		95%	5%			
mullet	6680		99	1			
mulloway	250		100				
parrot	500	100					
perch Nile	1045			100			
perch red ocean	1290		100				
perch silver	410	100					
pilchard	80		100				
redfish	3910		100				
roughy orange	15170		92	8			
salmon Atlantic	12150		13				87%
shark	18995		1			99%	
silverbelly (biddy)	165		100				
snapper	10361		74				26
snapper gold band	410		100				
sprats	120		100				
sweetlips	490		100				
swordfish	6795			9		90	1
trevally	2820		100				
trout rainbow	1090		75				25
tuna	4100		15	3			82
warehou blue	360		100				
warehou silver	1465		100				
whiting	1100		100				
whiting school (red spot)	1130		100				
yellowtail	1260		100				

The *"others "* category for Atlantic salmon refers to gilled and gutted fish mostly; but two retailers reported use of portion controlled fillets.

5.9. Main Seafoods Sales Volumes (Q 6)

Prawns were the outstanding seafood product category sold by fishmongers, because of the sales volume per store and the large number of fishmongers who nominated both uncooked prawns and cooked prawns as one of their six main seafood items.

Table 5.9 Main seafoods monthly sales volumes

Species	Number of shops selling	Total volume (kg)	Average volume (kg)	Low volume (kg)	High volume (kg)
bugs Moreton Bay	1	530	530	530	530
crabs blue swimmer	11	3814	347	44	615
crabs bs cooked	5	1110	222	60	660
crabs bs green	6	1046	209	60	410
crabs mud	4	1320	440	205	615
cuttlefish	2	3270	1635	370	2900
lobster cooked	1	310	310	310	310
lobsters	4	170	43	20	70
mussels	7	1685	241	85	490
mussels blue	6	1195	239	165	410
mussels green (NZ)	5	1925	385	185	700
octopus	13	6165	474	145	825
oysters	4	3350	838	90	1230
oysters Sydney rock	6	2575	429	120	820
pipis	1	410	410	410	410
prawn meat cooked	1	165	165	165	165
prawns cooked	24	15460	672	80	1840
prawns farm cooked	13	10025	771	110	3500
prawns green	30	18947	632	82	3700
scallop meat	1	100	100	100	100
scampi	1	245	245	245	245
squid	3	1110	370	60	850
squid tube	2	410	205	205	205
yabbies	1	35	35	35	35
yabbies cooked	1	205	205	205	205

Blue swimmer crabs (cooked and uncooked) were the next most common main seafood, followed by octopus.

Mussels were the fourth most frequent main seafood with both the blue mussels and the green mussel recording average monthly sales volumes exceeding 200 kilograms per store.

Oysters regained strong sales volumes again after the sales downturn in early 1998 following the Wallis Lake-Hepatitis incident.

Squid/calamari were not highly ranked in terms of volumes sold or citations as main sellers but they were sold in almost all fishmongers in Sydney as whole animals or cleaned tubes

In 1991 most frequently cited main sellers were prawns (97% of stores), crabs and oysters (both 48%), squid/calamari (34%) and mussels (32%) and octopus (16%).

Prawns clearly remain a best seller and octopus have increased in popularity since 1991. The relative popularity of mussels has not changed significantly but the popularity and sales volumes of oysters and squid/calamari have fallen according to the drop in the number of citations as main sellers. Seafood extender was cited as a main seller by 6% of Sydney fishmongers in 1991 but got no nominations this year.

A point of interest is the growing popularity of green (uncooked) prawns. There was no specific mention of this type of product in the 1991 data but green prawns have become a very popular item on Sydney barbeques according to fishmongers. The increasing use of uncooked crabs for home cooking is also noteworthy.

5.10 Seafood Form Purchased (Q5)

The list of nominated main seafood consists of a mix of whole shellfish as well as processed product/meat but it is noteworthy that this list is dominated by ready to eat products, cooked or raw.

The *"other "*category of oysters listed in the tables are opened oysters sold on the half shell and the "other" category of squid refers to cleaned tubes. The *"other"* category of octopus refers to the cleaned or *" butterfly "* imported octopus which have had their innards removed and then frozen ready to cook.

Table 5.10 Seafood form purchased (% by volume)

Species	Total volume (kg)	Live	Whole	Fillet	Cutlet	Headed & gutted	Other
bugs Moreton Bay	530		100				
crabs blue swimmer	3814	12	88				
crabs bs cooked	1110		100				
crabs bs green	1046		100				
crabs mud	1320	100					
cuttlefish	3270		100				
lobster cooked	310		100				
lobsters	170		65				35
mussels	1685		100				
mussels blue	1195		100				
mussels nz	1925		100				
octopus	6165		68				32
oysters	3350						100
oysters Sydney rock	2575						100
pipis	410	100					
prawn meat cooked	165						100
prawns cooked	15460	2	98				
prawns farm cooked	10025		100				
prawns green	18947		100				
scallop meat	100						100
scampi	245		100				
squid	1110		95				5
squid tube	410						100
yabbies	240		100				

All of these seafood were sold in the same forms as they were purchased with the possible exception of squid and uncooked prawns which may be cooked prior to retail sale in outlets offering a hot cooked fish and chips service and grill.

Oysters bottled in fresh water have disappeared from the main sellers list. Australian scallops on the half shell (chilled or frozen) are a new product launched since 1991 but they have not yet become a main seller in any store.

5.11 Reason For Purchasing/Selling Main Seafood Products (Q8b)

The reasons given by fishmongers for purchasing and selling their four main seafood species are summarised in the table 5.11 below (listed according to average monthly sales and shown with the most common reason first).

Table 5.11 Reasons for purchasing and selling the main seafood species

Species/product	Reasons for success
prawns cooked farmed	Consistently good quality and tasty Nice red colour; price more steady than sea prawns and better shelf life
sea / wild catch	Cooked prawns a popular Aussie pastime but Asians and European now enjoy them too Sell themselves, especially in summer; look good
prawns green (uncooked)	Great on the BBQ Versatile can be cooked/served in many ways, easily Particularly popular with Asian customers and for Asian cuisine. A yuppie/trendy thing especially in the weekends.
octopus	Popular now Even more convenient now with cleaned product; used for weekend BBQ; tried in restaurants and trendy
mussels green/NZ	Cheap; can be used in many ways, including pasta; use in marinara mix,
blue (Aust)	Many recipes available and now become popular Eaten/tried in restaurants; good tasting, easy to cook
crabs blue swimmer cooked	Cheaper than prawns and lobster but with upmarket image. Good value tasty crustacean; appeals to all ethnic groups; ready to eat
blue swimmer uncooked	Particularly popular with Asian customers and for Asian cuisine. Can be cooked/served in many ways eg on pasta
oysters Sydney rock	A traditional Aussie seafood, especially with older men, the aphrodisiac image. Taste and look good

5.12 National Origin Of Fish And Seafood Bought/Sold (Q7)

The national origins of the fish sold by fishmongers was mostly exclusively Australian but several species were fully imported: Nile perch because it is not available from Australian waters and blue grenadier because cheaper fillets are available from New Zealand. Several species such as John dory were sourced here as well as overseas, principally New Zealand.

Table 5.12a National origin of fish

Species	Total volume kilogram	Australian (% of volume)	Imported (% of volume)
barramundi	2980	84	16
bass groper	2080	12	88
blue eye	4935	49	51
bream silver	4903	100	0
cod bar	140	100	0
dory John	415	59	41
dory smooth	1980	100	0
flathead	22456	100	0
flounder	630	21	79
grenadier blue	615	0	100
kingfish	615	100	0
leather jacket	1845	100	0
ling	7605	93	7
mackerel Spanish	1600	100	0
marlin	310	100	0
tile fish (moon fish)	80	100	0
morwong	11250	95	5
mullet	6680	100	0
mulloway	250	100	0
parrot	500	100	0
perch Nile	1045	0	100
perch red ocean	1290	100	0
perch silver	410	100	0
pilchard	80	100	0
redfish	3910	100	0
roughy orange	15170	97	3

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Table 5.12 *continued from preceding page*

Species	Total volume kilogram	Australian (% of volume)	Imported (% of volume)
salmon Atlantic	12150	100	0
shark	18995	100	0
silverbelly (biddy)	165	100	0
snapper	10361	36	64
snapper gold band	410	100	0
sprats	120	100	0
sweetlips	490	100	0
swordfish	6795	100	0
trevally	2820	100	0
trout rainbow	1090	100	0
tuna	4100	100	0
warehou blue	360	100	0
warehou silver	1465	100	0
whiting	1100	100	0
whiting Sr	1130	100	0
yellowtail	1260	100	0

5.12.1 National origins of seafoods

Almost all of the seafood products amongst the best selling list were from Australian sources with the notable exception of cooked prawn meat, squid tubes and cooked lobster; prawn meat and squid tubes are produced in Australia but only in relatively small quantities (Table 5.12 next page).

Australian lobsters are usually plentiful but imported species are used by some fishmongers because of their lower price. Some green mussel (10%), a species which is not grown here, was incorrectly attributed to Australian origin.

The national origins of the seafood items has not changed much since 1991 with the exception of the octopus. Although there are Australian resources of octopus there has been an increasing sales volume of small cleaned octopus imported from Thailand in the past five years.

Table 5.12b National origin of main seafoods

Species	Total volume kilogram	Australian (% of volume)	Imported (% of volume)
bugs Moreton Bay	530	100	0
crabs blue swimmer	3814	100	0
crabs bs cooked	1110	100	0
crabs bs green	1046	100	0
crabs mud	1320	100	0
cuttlefish	3270	100	0
lobster cooked	310	100	0
lobsters	170	88	12
mussels	1685	61	39
mussels blue	1195	100	0
mussels green (NZ)	1925	10	90
octopus	6165	55	45
oysters **dozens**	3350	100	0
oysters Sydney rock **dozens**	2575	100	0
pipis	410	100	0
prawn meat cooked	165	0	100
prawns cooked	15460	100	0
prawns farmed cooked	10025	10	0
prawns green	18947	100	0
scallop meat	100	100	0
scampi	245	100	0
squid	1110	95	5
squid tube	410	0	100
yabbies	240	100	0

5.13 Sources Of Main Fish Species (Q 6))

The Sydney fish Market auction was the major source of most of the fish species (17/42) in Table 5.13a. The notable exceptions are imported fish, and orange roughy, and Atlantic salmon which were bought predominantly from wholesalers. A small number of fishmongers reported that they source Atlantic salmon directly from a farming company.

Table 5.13a Source of main fish (% of volume purchased)

Species	Total volume (kg)	Fisherman/ farmer	General wholesaler	Fish wholes. /Co-op	Fish market	Other
barramundi	2980	11		45	44	
bass groper	2080			48	52	
blue eye	4935			68	32	
bream silver	4903				100	
cod bar	140				100	
dory John	415			90	10	
dory smooth	1980			4	96	
flathead	22456			14	86	
flounder	630			79	21	
grenadier blue	615			100		
kingfish	615				100	
leather jacket	1845				100	
ling	7605			15	85	
mackerel spanish	1600			50	50	
marlin	310				100	
tilefish (moon fish)	80				100	
morwong	11250			10	90	
mullet	6680			1	99	
mulloway	250				100	
parrot	500			100		
perch Nile	1045			100		
perch red ocean	1290				100	
perch silver	410	100				
pilchard	80				100	

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Table 5.13a *continued from the previous page*

Species	Total volume (kg)	Fisherman/farmer	General wholesaler	Fish wholesaler/Co-op	Fish market	Other
redfish	3910			16	84	
roughy orange	15170			64	36	
salmon Atlantic	12150	18		82		
shark	18995				100	
silver belly	165				100	
snapper	10361			64	36	
snapper gold band	410			100		
sprats	120			50	50	
sweetlips	490			100		
swordfish	6795			37	63	
trevally	2820				100	
trout rainbow	1090			100		
tuna	4100			18	82	
warehou blue	360				100	
warehou silver	1465				100	
whiting	1100				100	
whiting school (rs)	1130				100	
yellowtail	1260				100	

The categories Fishermen and Fishermen's Cooperatives were not a direct source of NSW fish for most Sydney fishmongers as such sales were not permitted under the NSW Fisheries Regulations prevailing during the period of research.

Wholesalers are cited as the only source of rainbow trout as this species is rarely on offer at the Sydney Fish Market auction. Silver perch was bought exclusively from a farmer by the one fishmonger citing this species as a main seller

The **national** data on the sources of fish species from the 1991 study does not indicate any striking changes in purchasing behaviour since then. It was noted however that the wholesalers at the Sydney Fish Market offered a far greater range of fresh fish and seafood than they did in 1991.

Table 5.13b. Source of seafood species (% of volume)

Species	Total volume (kg)	Fisherman/farmer	General wholesaler	Fish wholesaler/Co-op	Fish market	Other
bugs Moreton Bay	530			100		
crabs blue swimmer	3814	6		22	71	
crabs bs cooked	1110			11	89	
crabs bs green	1046			16	84	
crabs mud	1320				100	
cuttlefish	3270				100	
lobster cooked	310			50	50	
lobsters	170			100		
mussels	1685			100		
mussels blue	1195			100		
mussels nz	1925			100		
octopus	6165			58	42	
oysters	3350			100		
oysters Sydney rock	2575			100		
pipis	410			100		
prawn meat cooked	165			100		
prawns cooked	15460	20		38	42	
prawns farm cooked	10025	22		53	24	
prawns green	18947	10		90	0	
scallop meat	100			100		
scampi	245			100		
squid	1110	77		23		
squid tube	410			100		
yabbies	35			100		
yabbies cooked	205				100	

The majority of seafood used by Sydney fishmongers was bought from wholesalers, farmers or fishermen rather than the Sydney Fish Market auction, which was the only source of just three species.

This is because NSW grown oysters have been exempted from the NSW regulated fish marketing system and many of the other main seafood products are produced interstate or overseas — notably farmed prawns — and also do not need to be sold via the Sydney fish Market-NSW Cooperatives marketing system.

Estuarine or inshore ocean products such as school prawns and pipis however are more commonly on sale at the Sydney Fish Market rather than wholesalers.

The large supply of prawns from farms is the outstanding change since 1991 because farmed prawns were still a relatively new product in Sydney. The other notable change is the increasing volumes of octopus sourced from wholesalers because of the growing popularity of the imported cleaned octopus.

5.14. Sale Of Processed Fish And Seafood (Q11)

This question examined the incidence of in store preparation and the sale of various processed fish and seafood products, and the results are summarised in the following table along with the 1991 findings.

Table 5.14 Processed products

Product	Sold %	Prepared %	1991 Sold %
Fish/seafood shasliks	32.5	20	9
Marinara sauce/Marinara mix	82.5	50	93
Satay/chilli/etc.	62.5	42.5	6
Stuffed trout	25	12.5	3
Other	47.5	15	21

This table clearly shows an increase, since 1991, in the percentage of stores offering all of the nominated seafood products except for the marinara sauce/mix which recorded a slight fall in its availability. Also of interest is a change in the type of marinara mix offered.

In 1991 almost all stores sold an imported (frozen) marinara mix while in 1999 the majority of stores prepared their own fresh mix from local and imported material.

The *"other"* processed or value added product category included:

- fish cakes/rissoles, (home made and proprietary)
- sushi (principally bought in),
- vol au vents (bought in)
- quiche (bought in)
- taramasalata (bought in)
- and sashimi portions of fish cut in house.

This category has shown an increase in its magnitude as well as its diversity since 1991.

5.15. Fishmonger Perception Of Customer Expectation Of A Store (Q 9c)

Fishmongers consider the following factors, as the most important to their customers when they choose from which outlet to buy fish and seafood :

- Friendly staff
- Good reputation for quality fish and seafood
- Has attractive display of fish and seafood
- Customer can be confident fish and seafood has not been frozen

Full details are shown in the following table.

Table 5.15 Fishmongers perceptions of what customers look for in a store

Factor	1. Very important	2	3	4	5	6	7. Not at all important	Don't know	Average score
1. Clean outlet/store	24	6	4	1					1.49
2. Sells fresh fish & seafood (ie. not frozen)	25	8		1			2		1.64
3. Has attractively displayed fish & seafood	25	9		1					1.34
4. Has consistently low prices	4	9	2	6	2	6	5		3.91
5. Is an outlet frequently shopped at	12	12	1	5			1	3	2.13
6. Offers Australian f & s	15	10	2	1	1	2	5		2.69
7. Offers fish & seafood specials	5	11	1	3	4	5	7		3.92
8. Has staff informed about f &s	21	8	4	2		1			1.75
9. Is easily accessible to customers	13	8	3	4	1		1	5	2.20
10. Offers advertised specials regularly	1	6	3	3	1	6	15		5.14
11. Offers wide variety of f & s	17	11	3	3		1			1.89
12. Has friendly staff	31	4							1.11
13. Has good reputation for quality fish & seafood	30	5						1	1.14
14. Customer can be confident f & s has not been frozen	24	6	1			1		3	1.41

In 1991 fishmongers rated:

- *Clean outlet/store*
- *Has friendly staff*
- *Good reputation for quality fish & seafood*
- *Customer can be confident not frozen*

all as **very important** with an average score of 1.1 for all four.

The Sydney fishmongers perceptions on their customers have therefore not changed much since 1991 because *has attractive display* was also rated as **very important** but with an average score of 1.3 at that time.

5.16 Retailers Solutions For Increasing Sales (Q12a)

Eighteen percent of respondents reported that there was nothing they could do to improve sales but the other respondents gave more than a dozen different suggestions on actions they could take to improve their business. The most common proposal was to carry out more in store tastings /promotions and getting more space to offer a larger range was the second frequent suggestion.

The third most common proposal was to add a hot fish and chips section to improve their offering, capitalise on the growing interest in takeaway food and also to improve the businesses overall profit margins .

Table 5.16 below lists the fishmongers suggestions.

Suggestions for store action and frequency (% of 39 respondents)	
Nothing/don't know	18%
More in store tastings/promotions	18%
Get more space and a bigger range of products	13%
Add hot fish and chips	11%
Get cheaper fish and lower prices	8%
Offer more ready to cook products/skinless boneless fillets	8%
Promotes seasonal specials	5%
Better display lighting; offer more related lines eg sauces; offer live fish; each	3%

In 1991 the common suggestions were:

More advertising and promo	26%
More space bigger shop	22%
Lower prices and specials	20%
Nothing/don't know	10%

Fishmongers seem more uncertain than in 1991 about what can be done to improve business, although more promotion is still seen a good solution. Some fishmongers also see the addition of hot fish and chips to their business as a particularly profitable means of improving their sales.

5.17. Fishing Industry Actions To Increase Sales (Q13b)

Fishmongers had more than fifteen different suggestions for their industry but overwhelmingly cited more advertising and promotion and consumer education as the industry actions needed to increase sales (Table 5.16).

Radio and newspapers were the most popular media nominated for advertising or promotion and many of respondents felt that there was a need for industry wide action such as that undertaken by the chicken or meat industry on television. There was a strong message that the fishing industry needed to inform consumers about the way fish is caught, safely handled and distributed and how quick and easy it is to prepare and cook. Recipe leaflets with simple ideas on cooking methods and information on the industry were seen as an effective tool for this communication.

About 25% of the respondents mentioned that there should be an industry wide generic campaign to promote fish consumption and a fifth of these (two persons) proposed an industry wide levy to fund such a proposal.

Table 5.17a Fishmongers suggestions on industry actions to increase sales.

Suggestions for industry action and frequency (% of 39 respondents)		
More advertising and promotion		29%
More recipe/ info/education on fish and fishing industry		29%
Improve fish quality and make it easier to sell		18%
Get more cheaper fish and lower prices		16%
Improve hygiene and fish quality and fishmongers image		13%
Stop species substitution		8%
Prevent unfavourable publicity which harms business		5%
Get better informed people in retail		5%
Stabilise prices/less fluctuations; get kids eating fish; Remove auction system/deregulate; have more ready to cook products	each	3%

In 1991 the common suggestions were :

- More advertising /promotion /information 64%
- More education on health features of fish 20%
- Cheaper prices/ less fluctuations 16%
- Nothing/don't know 8%

Promotion was still seen as the industry's best means of improving sales and the provision of information for consumers again stands out as a popular form of promotion and generating increased sales.

Of equal interest was the reduced uncertainty about what industry should do, as indicated by the percentage of ***Nothing /don't know*** falling from 8 (in 1991) to 1% this year.

Another noteworthy point is the concern of fishmongers about the level of fraudulent fish species substitution amongst their colleagues.

In addition to seeking the fishmongers suggestions on initiatives for industry to undertake, they were asked to comment on the likely impact of various actions that the fishing industry believes can improve sales.

Most fishmongers reported that *More advertising support* was likely to have a "great impact" on their sales, and the greatest impact of the seven suggestions (average score 1.22).

It is noteworthy that *supply of greater variety of prepared fish and seafood* was reported as likely to have no impact by most respondents (Table 5.17b).

Table 5.17b Potential actions to increase fish & seafood sales (38 respondents)

Potential action to increase fish & seafood sales	**1. Great impact**	**2. Some impact**	**3. A little impact**	**4. No impact**	**Don't know**	**Average score**
1. A more consistent supply of fish	14	8	9	5	2	2.14
2. Availability of info. on cooking & preparation	19	10	6	2	1	1.76
3. More advertising support for fish & seafood	31	5		1	1	1.22
4. Greater encouragement of aquaculture industry	9	12	9	1	7	2.06
5. Better quality product through better handling	15	6	7	8	2	2.22
6. Supply of greater variety of prepared f & s meals ready to cook	3	6	6	23		3.29
7. Give customers an assurance that the seafood is safe to eat	7	10	6	4	11	2.26

Opinion on the impact of the encouragement of the aquaculture industry ranged from great to no impact, with an average score of 2.06 or *"Some impact"*.

The assessment of the likely impact of an assurance to customers that the seafood is safe to eat was also very mixed, but coupled with uncertainty; it had the highest number of *"Don't know"* response, and an average score of 2.26 suggesting *"A little impact"* only.

In 1991 *more adverting* and *availability of information* were rated one and two respectively, almost identical to 1999; this was closely followed by *better quality product*. as fishmongers expressed dissatisfaction with the quality of much of the fish on offer then.

There was no question regarding food safety assurance in 1991.

5.18 Potential Sales of Underutilised And Aquaculture Species (Q 14)

Mussels were the seafood product most frequently regarded as having the potential for sales growth while silver perch was the species with the lowest score regarding its future sales growth.

The percentage of respondents with an optimistic outlook for particular species/product was greater this year than in 1991 for all products except farmed prawns. Nevertheless 45% of respondents believed that there was potential for further growth in sales of farmed prawns even though they were already a main seller in most outlets.

The reasons behind the fishmongers current assessment of the prospects for particular species are discussed below.

Table 5.18 Potential for growth of under-utilised species

Species	**Has potential for growth 1999 % of respondents**	**1991 % of respondents**
Wild species		
Warehou	47	*
Pilchards/sardines	36	20
Albacore tuna	33	*
Silver trevally	25	19
Farmed species		
Farmed prawns	42	65
Rainbow trout	39	29
Silver perch	18	*
Mussels	45	23
Oysters	32	23
Farmed barramundi	39	30

* Not examined in 1991

5.18.1 Comments on aquaculture species

Mussels
Reasons for expecting increased sales:

Still unknown/untried by many customers (3 mentions)
Potential for sale as meat/value added products (2 mentions)
Popular with Italians/Europeans; Look good (1 each).

Other remarks: There was an underlying concern about the mussel quality by several fishmongers because they and the consumers find it difficult to assess if all of the product they handle is actually alive and wholesome.

Oysters
Reasons were :
No particular reason providing they are safe (6 mentions)
Expect increase with Asian consumers ; referring to Pacific oysters) (3 mentions)

Other remarks: Five respondents questioned the safety of oysters and one of these persons remarked that the oyster industry needed to undertake further promotion to assure the seafood trade and consumers about the safety of oysters. Going out of fashion, young people don't eat them.

Silver perch
Reasons were :
Good fatty firm fish few bones
Good substitute for barramundi
One respondent reported that it had potential because it was a new species in the marketplace, but only at lower prices.

Other remarks : "Asians only like it", needs promotion.

Barramundi
Reasons were:
Increasing availability of large fish allowed production of fillets at a more attractive price. Attractive looking fish/ nice, readily available (both 2)
Potential for value added products fillets and cutlets etc; Still relatively unknown product; Name is a great advantage.

Other Remarks
Several remarked that they could sell more if it was available at a lower price.

Rainbow trout

Reasons were:

Many people still do not know it/how to cook it (2 mentions)
It is cheap/price is low relative to other species (2)
Good looking plate size fish; Easy to cook; Consistent quality Reliable supply; Fillets easy to sell (1 mention each).

Other remarks

Needs promotion/advertising, it has been neglected by the industry (2 mentions)
Too bony; Should be bigger and sold as fillets.

Farmed prawns

Reasons were :

Consistently good/superior quality ; Availability at steady price (3 mentions each)
Good/sweet taste. No special reason (2 mentions each)
Long shelf life; Good quality; V popular; Wild catch prawn supply falling
Untapped opportunity for sale of uncooked farmed prawns (1 each).

The common element in the comments above are that there are still many potential customers who have not tried these species and that promotion would assist in market development.

5.18.2 Comments on underutilised species

The comments on wild species were fewer (as most had no special reasons) and are tabled below.

The common element in all four is the reference to price or low price. Another common element is the preference for certain species by a particular ethnic group in the Sydney community.

Table 5.18b. Fishmongers reasons for expecting sales increases

Species	Reasons
Albacore tuna	Cheap fish (3 mentions); Meaty; good eating; cheaper than yellowfin tuna (1 each)
pilchards/sardines	Very popular if fresh and cheap (3) difficult to get these days; liked by Italians (1 each)
Trevally silver	Has potential if it stays cheap (3) Makes a cheap fillet; liked by Pacific Island groups; adds variety to window (1 each)
Warehou	Good fish , for filleting (5) , especially blue warehou. Still not well known (3) Cheap (2)

5.19 Outlook For The Next Five Years (Q.16)

Fishmongers this year were far less optimistic and less certain about the future of their business than they were in 1991, as demonstrated by the data summarised in the following table.

Table 5.19 Expectations on sales over the next five years

% of respondents	Increase	Decrease	Remain the same	Don't know
What will happen to sales in the next 5 years?	60	5	27	8
1991 replies	72	14	9	4

Those with an optimistic outlook attributed this principally to:

- *people being more aware of the health benefits of fish*
- *people eating more fish ,especially the Asian customers*

The same reasons were cited for optimism in 1991.

Fishmongers who expected sales to decrease (two only) cited the increasing competition from supermarkets inside shopping centres as the reason for their pessimism. In 1991 the main reason underlying the pessimism was that *fish was becoming too expensive.*

The fishmongers who expected sales to remain the same in 1991 mostly said they could see no reason for any change in their business; other comments were that price rises would constrain demand, and that the population is not growing very fast and demand is unlikely to change.

6. FINDINGS FROM FISH & CHIPS AND TAKEAWAY OUTLETS

This chapter gives the detailed findings from the 50 interviews with operators of fish and chips outlets and takeaway stores in Sydney.

6.1 Respondents Position In The Business (Q1)

Forty two of the respondents (84%) were owners or partners and eight (16%) were managers of the business. Of the 30 fish & chips businesses visited 27 (90%) of the interviewees were proprietors.

This was almost identical to the situation in 1991 when 88% of overall respondents were owner partners and 10% were reported as manager/director.

6.2. Main Problems In Selling Fish And Seafood

Although the vast majority of the fifty businesses (76%) reported no main problems in buying and selling fish and seafood a substantial percentage of the fish n chips outlets (30%) had problems to report while the takeaway businesses were largely problem free.

The two takeaway outlets with *main problems* to report cited the high price of fish (difficulties in selling and reduced margins) as their main difficulty while high prices/poor margins were also the main problem, reported by six fish n chips outlets.

The other *main problems* reported by fish n chips outlets are shown in table below; each of these received only one mention.

Table 6.2 Main problems reported by fish n chips outlets

• High/Escalating fish prices/poor margins (6 citations)
Customers poorly informed about f/s, want it caught this morning. Difficulty getting continuous supply of good quality fresh. Long hours. Hard work/heavy lifting. Adverse media publicity. People do not like fish. Consumer concerns about fish/seafood safety. Consumers stick to favourites and upset if unavailable. Concerns about bones in fish (all one citation each)

In 1991, 35% of respondents reported no main problems in selling fish and seafood. Price (too expensive/fluctuations) was also reported as the main problem in 1991 by 18%,
closely followed by *freshness/not always fresh* (14%)
and then
quality not consistent (12%).

6.3 Significance Of Possible Problems In Selling Fish And Seafood (Q3)

The retailers assessment of the significance of selected possible problems on their business are summarised in the following table.

The most significant problems identified were:

"unfavourable publicity about fish and seafood" followed by
"the *customers dislike fish with bones..."* and then
" seafood is too expensive to buy"

In 1991 The three most important problems were *seafood is too expensive to buy* followed equally *by fish is too expensive to buy* and *low margins required to remain competitive. Customers dislike fish because of bones* was ranked as the fourth greatest problem eight years ago and a quite significant one.

This year opinion on *low margins* varied widely, but for 30% of respondents it was a very or quite significant problem.

Unfavourable publicity about fish and seafood had an average score of 3 in 1991 and was not rated as a very significant problem. As noted in the preceding section on fishmongers interviews, the extensive publicity given to the Wallis Lake oysters-Hepatitis outbreak and the media attention about fish substitution raised unfavourable publicity to the most significant problem status in this study.

Table 6.3 Significance of problems in selling fish and seafood (36 respondents)

Potential problem	1. Very sign.	2. Quite sign.	3. Not very sign.	4. Not a problem	Don't know	Average score
1. Variable quality of fish & seafood available	2	2	5	22	8	3.52
2. A proportion of f & s purchased cannot be sold and must be thrown away		1	5	28	5	3.79
3. Cost of disposing waste product	1	2	4	28	4	3.69
4. Unavailability of staff with experience in handling and selling fish & seafood	8	1	8	18	4	3.03
5. Amount of physical storage required for fish & seafood	3	1	4	22	5	3.50
6. Lack of knowledge of customers in preparing and cooking fish & seafood	3	7	7	16	4	3.09
7. Uncertainty about the freshness of f & available	1	1	8	23	4	3.61
8. Uncertainty about whether fish bought are correctly named	3		3	27	4	3.64
9. Difficulty of selling f & s if it is labelled frozen	6	5	3	14	8	2.89
10. Risk of buying fish & seafood "sight unseen"	1		5	25	4	3.74
11. Unfavourable publicity about fish & seafood	12	11	6	3	3	2.00
12. Customers dislike buying fish because of bones	9	11	8	4	3	2.22

(continued on the next page)

Table 6.3 *continued from previous page*

Potential problem	**1. Very sign.**	**2. Quite sign.**	**3. Not very sign.**	**4. Not a problem**	**Don't know**	**Average score**
13. Fish is too expensive to buy	7	8	11	7	4	2.55
14. Seafood is too expensive to buy	8	8	10	6	4	2.44
15. Difficulty pre-ordering and receiving fish & seafood	2		3	26	5	3.71
16. Low margins necessary to remain competitive	5	6	9	11	5	2.84
17. Stock levels that need to be held	1	1	8	23	3	3.61
18. Difficulty in obtaining good quality product	1	2	9	21	3	3.52
19. Difficulty getting continuous supply at steady prices	6	3	14	8	5	2.77
20. Lack of training in fish handling and hygiene	2	3	5	20	6	3.43
21. Difficulty getting continuous supply of a good range of fish	3	2	10	17	4	3.28

6.4 Consumer Trends Noticed By Retailers

Table 6.4 below summarises the retailers' observations on four nominated consumer trends and any others identified by the retailers themselves.

Table 6.4 *Trends noticed by respondents (%) over the previous 12 months*

Trend	Yes	No	Don't know
More concern about the impact of pollution on seafood safety	22	48	24
Purchase of more grilled rather than fried fish	42	32	20
Concerns about the safety of food	22	44	24
More concern about the accuracy of the name of the fish sold	16	56	28
Others	36	64	0

The *other* trends nominated by retailers were:

- Far greater diet/health conscious and concerns about cholesterol (4 mentions)
- Increasing tendency to buy cooked for takeaway and less in home cooking (twice)
- More cooking of fish to order from the display window
- Increased fish/seafood consumption at Christmas than in previous years

In 1991 the *other* trends commonly noticed in Sydney were

- Less fat /salt/sugar
- Healthier/ fresher foods/salads/fruit/vegetable
- Conscious of cholesterol

in the order listed above.

6. 5 Sale Of Uncooked Fish And Seafood (Q 10)

Forty seven percent of the stores interviewed sold uncooked fish and seafood, this was a decline on the 57% reported in the 1991 study in Sydney.

6.6. Main Fish And Seafood Sales Statistics

The top ten species (six best selling fish and four best seafoods) made up from 40 to 100 percent of the stores' turnover (Table 6.6a) with the fish and chips stores having an average of 73% while the takeaway stores averaged 98% (mainly because many did not stock ten items in total).

Table 6.6a Proportion of total sales accounted for by top 10 species (49 respondents)

Proportion of total sales accounted for by top 10 species	Average	High	Low
	83%	100%	40%

In 1991 the range was 5-100% with an overall average of 85%

Weekly sales value for fish and seafood

The average weekly turnover for fish and seafood sales was approximately $6263 (Table 6.6b), a rise of almost 87% since 1991. This far exceeds the inflation in the CPI (consumer price index) of 15% in the eight year period, but many operators noted that fish prices accounted for the increase in sales figures and not increased customer counts or sales volumes. The average weekly sales of the fish and chips outlets was $10,786.00

Table 6.6b Weekly sales figures

	Average	High	Low	Sample
Weekly turnover				
1999	$6,263	$28,000	$50	39
1991	$3,355	>$10,000	$50	38
% from uncooked products				
1999	12%	50%	0%	47
1991	17%	60%	0%	51

By extrapolating from the average weekly sales figure, the total weekly sales of the estimated 97 fish and chips outlets (not takeaways) in Sydney was calculated as $1,046,242.00 per week.

Table 6.6c *Total monthly volumes of fish and seafood sold by store 1999.*

	Average	High	Low	Sample
Total volume of top 6 fish species (kg)	732	6210	5	46
Total volume of top 4 seafood species (kg)	313	1665	0	46

Equivalent figures are not available for 1991

6.7. Main Fish Species Sales Volumes (Q4)

The sales statistics on the fish species/products nominated as the six main species are shown in Table 6.7. Hake and flathead were both nominated by 21 stores (42%) as amongst their six best selling fish but blue grenadier tops the list in terms of highest average monthly sales volume per store. Blue grenadier and hake are sold by fish and chips outlets and takeaways.

Table 6.7 Volumes sold by species (fish)

Species	Number of shops selling	Total volume (kg)	Average volume (kg)	Low volume (kg)	High volume (kg)
barramundi	15	1636	117	25	245
blue eye	5	1300	325	60	660
bream silver	1	20	20	20	20
cod fillet	1	610	610	610	610
dory John	9	1110	139	40	250
dory oreo	1	9	9	9	9
flathead	21	4372	230	5	1230
flathead black	1	130	130	130	130
garfish	1	245	245	245	245
gemfish	1	200	200	200	200
grenadier blue	13	3601	300	20	800
hake	21	4163	208	21	880
ling	3	1754	585	9	1500
morwong	15	2535	181	10	600
mullet	2	740	740	740	740
mulloway	1	145	145	145	145
perch Nile	5	443	89	22	150
perch ocean	3	195	98	80	115
roughy orange	16	3147	197	22	1500
salmon Atlantic	11	1550	155	20	390
shark	3	345	115	45	175
snapper	17	2933	183	12	1000
swordfish	4	826	207	80	290
tuna	4	1160	387	110	760
whiting	4	400	100	5	220
whiting sand	1	80	80	80	80

Hake is a fillet that is sourced overseas, almost always frozen, and usually sold simply as "fried fish", mostly in the take away outlets, without reference to its specific name. It is not commonly displayed for sale for in home cooking.

Blue grenadier, by contrast is used predominantly in fish and chips shops, mainly for cooking but also displayed for sale as a fillet for in home cooking. It was commonly referred to as hoki, the New Zealand name, rather than the Australian name.

Snapper and Atlantic salmon which are bought by the retailer with the head on but are then retailed as a fillet, cutlet or less commonly with the head attached (except for the plate size Australian snapper). As noted earlier in the report on fishmongers sales, tuna and swordfish are commonly retailed in a boneless form.

This category of outlets relies more on cooked fish sales than on raw product and hence has a smaller list of main species than that noted earlier for fishmongers. The takeaway outlets rely for their income on non fish/seafood items and their main sellers were frequently less than four and consisted just of hake fillet and squid, and perhaps seafood sticks.

In 1991 the most commonly cited main species were hake (57% of stores), flathead (41%), bream unspecified and orange roughy (about 31% [some uncertainty over names and classification of data]).

The biggest changes since then are the substantial improvement in popularity of barramundi (2%) , blue grenadier (only 6% in 1991) and snapper up from 22% eight years ago. The increased sales of blue grenadier probably explain much of the decline in the position of hake since 1991.

6.8. Reasons For Buying/ Selling Main Fish Species (Q8b)

The reasons nominated for buying and selling the best sellers are listed in the table below, with the most common reason for each product listed first.

The common feature of all of these best sellers is that they are commonly sold as a fillet and many are sold after all the bones have been removed. Other common success factors in these fish are that they have light coloured and light flavoured flesh.

Another recurring theme is the name or image of the fish; a well known name or upmarket image was seen to assist in marketing success.

Table 6.8 Reasons for buying/ selling main fish species

Species/product	Reasons nominated
Grenadier blue	Good value/cheap and popular now, boneless tasty thick fillet, adds variety to the product range in store. Predominantly sold in fish and chips outlets
flathead	An old favourite well known and liked; sells well deboned and now seen in restaurants; white flesh
Orange roughy /perch fillets	Boneless white fillet; still selling despite rising price; light flavour; well liked upmarket name/image; a good sized fillet
hake	A nice cheap reliable fillet, easy to handle and cook; a long standing product that customers like; boneless
Morwong/sea bream fillets	Well known name, popular with customers; a tasty inexpensive fillet, can be deboned; good for kosher mince
snapper	Popular; well known name especially with elderly people; tasty, sells itself, can be deboned.
salmon Atlantic	Prestigious name; well promoted; trendy, especially with yuppies; seen/eaten in restaurants; must have it despite a high price
dory John	Popular fish ; good upmarket image; tastes good ; provides an upmarket product in the range
barramundi	Good name/image, fashionable, Good eating; thick boneless fillet; well known for a long time
blue eye	Versatile as fillet or cutlet, cheaper than salmon; good grilled or BBQ; few bones, boneless fillet; name cod helps sales

6.9. Fish Form Bought (Q5)

The main selling fish species are bought mostly as fillet or whole but about three quarters of them are subsequently resold as fillet. Atlantic salmon is the outstanding exception as it is sold by the growers in the gilled and gutted form (*"other "* category) and is resold as fillets, cutlets or as is.

Table 6.9 Fish Form purchase

Species	Total volume (kg)	Live	Whole	Fillet	Cutlet	Headed & gutted	Other
barramundi	1636		5%	95%			
blue eye	1300		19%	25%		55%	
bream silver	20		100%				
cod fillet	610			100%			
dory john	1110		74%	26%			
dory oreo	9			100%			
flathead	4372		89%	11%			
flathead black	130		100%				
garfish	245		100%				
gemfish	200			100%			
grenadier blue	3601			98%		2%	
hake	4163			100%			
ling	1754		86%	1%			14%
morwong	2535		67%	33%			
mullet	740		100%				
mulloway	145		100%				
perch Nile	443			100%			
perch ocean	195			100%			
roughy orange	3147		52%	48%			
salmon Atlantic	1550		5%				95%
shark	345			13%		87%	
snapper	2933		69%	19%			12%
swordfish	826			30%		70%	
tuna	1160		66%	25%			9%
whiting	400			100%			
whiting sand	80		100%				

While tuna is listed in the table as more commonly being bought *whole* it is actually gilled and gutted by the fishermen prior to sale in most situations.

The grenadier fillet used by the respondents in this survey was also imported although it and hake can be obtained as fresh headless fish from Victoria and New Zealand respectively.

Shark is purchased as a headless gutted fish and filleted and sold as skinless boneless fillets in the raw or cooked state. The barramundi is predominantly purchased in the fillet form from overseas or domestic production and only a small volume of whole fish is sold by this retail sector.

Swordfish is purchased as headed and gutted fish and then sold as boneless steaks while blue eye is also commonly purchased as headed and gutted fish and then retailed as boneless fillet or cutlets.

There is no comparable information available for the 1991 study in Sydney but the national data do not reveal any striking changes since then in regard to the form purchased. However it was noted more and more species such as orange roughy, oreo dory, ling and grenadier are now available in the fillet form from fish caught in Tasmania as well as New Zealand.

Another noteworthy change since 1991 is the sale of more and more fillets in the completely boneless form. The outstanding one is with flathead; the production of boneless flathead fillets by processors, wholesalers or in house by retailers, particularly from large fish from the Great Australian Bight, has led to strong sales of flathead.

6.10 Main Seafoods Sales Volumes (Q4)

Squid was the seafood product most frequently reported as a main seafood product bought/sold although it was outsold by farmed prawns and three other products in terms of average monthly sales (Table 6.10).

Cooked and uncooked prawns dominated the trade in terms of volumes and farmed prawns came to the fore in volume sold per outlet. The unspecified category of cooked prawns was largely sea caught prawns but most of these stores also sold significant volumes of farmed prawns at times too.

Table 6.10 *Volumes sold by species (seafood)*

Species	Number of shops selling	Total volume (kg)	Average volume (kg)	Low volume (kg)	High volume (kg)
crabs	2	45	45	45	45
crabs blue swimmer	3	110	37	10	80
crabs bs cooked	1	20	20	20	20
crabs claw	3	104	52	4	100
crabs mud	1	20	20	20	20
lobsters	3	110	55	10	100
mussels	5	925	231	25	615
mussels meat	1	5	5	5	5
octopus	12	1467	133	16	410
oysters **(dozens)**	6	1150	230	40	500
oysters Sydney rock)	6	1115	186	65	330
prawn cutlets	8	407	51	9	120
prawn meat	1	17	17	17	17
prawn meat cooked	2	210	105	5	205
prawns cooked	19	2681	158	10	600
prawns farm cooked	9	1695	212	105	310
prawns green	11	1533	153	20	410
scallops	3	145	48	5	80
seafood extender	4	50	17	13	20
seafood sticks	14	267	19	4	80
squid	27	2341	90	9	310

Squid was bought predominantly as frozen tubes and sold as a raw product or cooked (as fried squid rings). Seafood sticks remained a popular seafood item in take away outlets in particular and they too were sold mostly as a fried ready to eat item.

Oysters were still one of the main seafood products stocked by this category of outlets despite the media publicity following the 1998 Wallis Lake incident. The unspecified oyster category was both Sydney rock oyster and Pacific oysters

In 1991 prawns were the outstanding seafood seller (nominated as a best seller by 65% of outlets) followed by oysters (29%) scallops and seafood sticks (both 25%) and then squid/calamari at 22% of stores.

The greatest change in importance has been recorded in octopus which was only cited as a main seller by 2% of respondents in 1991 but by 25% of outlets this year. Other noteworthy changes are the decline in importance of scallops and the growing popularity of squid/calamari .

6.11 Reasons For Buying/Selling Main Seafood Species (Q8b)

Table 6.11 below summarises the comments on why the six leading main species (ranked according to monthly sales volume per store) were bought /sold by fish and chips and takeaway outlets (the most common reason for each product listed first)

Table 6.11. Reasons for stocking main species

Species / product	Reasons for stocking
1. Cooked prawns farmed	Sweet and tasty Strong attractive colour; long shelf life; popular at weekends; now well known
2. Prawns cooked	Popular, especially at weekends Tasty ready to eat
3. Prawns uncooked	Popular well known line, especially at weekend Fit into Aussie BBQ lifestyle
4. Octopus	Trendy and different Popular now especially for weekend BBQ; can grill in store
5. Squid	Popular well known now Great fried battered or crumbed; tasty; kids like it , no bones
6. Seafood sticks	Good for frying An old favourite; adds some variety in store good in seafood basket; cheap, kids like them

These products are all sold ready to eat or essentially ready for easy cooking as on the barbeque and the weekend was widely seen as the peak period for the sale and/or consumption of these products.

Another noteworthy comment, particularly relevant to new product/market development, which was repeated in this table is the reference to children and their like of fried squid rings and seafood sticks.

The common elements shared by products in this table are their quick and easy cooking/eating and lack of bones.

6.12. Seafood Form Purchased (Q5)

Most of the seafoods were ready to eat products and bought in the whole form but there were a few outstanding exceptions in mussel and scallops which were mostly bought and sold as meat, cooked and raw respectively. Prawns were also bought in the meat form, both cooked and uncooked.

Table 6.12. Seafood Form purchased,

Species	Total volume (kg)	Live	Whole	Fillet	Cutlet	Headed & gutted	Other
crabs	45		100%				
crabs blue swimmer	110		100%				
crabs bs cooked	20		100%				
crabs claw	104		4%				96%
crabs mud	20		100%				
lobsters	110		100%				
mussels	925		100%				
mussels meat	5						100%
octopus	1467		83%				17%
oysters	1150		5%				95%
oysters Sydney rock	1115						100%
prawn cutlets	407		2%		98%		
prawn meat (uncooked)	17						100%
prawn meat cooked	210						100%
prawns cooked	2681		99%		1%		
prawns farm cooked	1695		100%				
prawns green	1533		92%		8%		
scallops	145						100%
seafood extender	50		100%				
seafood sticks	267		100%				
squid	2341		3%				97%

The *"other* "category of oysters listed in the tables were opened oysters sold on the half shell and the *"other"* category of squid refers to cleaned tubes.

A direct comparison with the 1991 study cannot be made but a noteworthy change is the 17% of octopus in the *other* category in 1999 which refers to the cleaned and tenderised product.

6.13. National Origin Of Fish And Seafood Species (Q 7)

The majority of best sellers were produced in Australia but the two principal species used in the cooked fish trade, hake and blue grenadier, were sourced overseas even though there is fresh and frozen grenadier produced in Tasmania (Table 6.13). The Australian portion by volume of the aggregate monthly fish sales was 60%.

Hake and Nile perch are exclusively sourced overseas because they are not produced in Australia.

Table 6.13a National origin of fish species

Species	Total volume Month (kg)	Australian	Imported
barramundi	1636	25%	75%
blue eye	1300	73%	27%
Bream silver	20	100%	0%
cod fillet	610	0%	100%
dory john	1110	43%	57%
dory oreo	9	0%	100%
flathead	4372	97%	3%
flathead black	130	100%	0%
garfish	245	100%	0%
gemfish	200	100%	0%
grenadier blue	3601	0%	100%
hake	4163	0%	100%
ling	1754	99%	1%
morwong	2535	84%	16%
mullet	740	100%	0%
mulloway	145	100%	0%
perch Nile	443	0%	100%
perch ocean	195	41%	59%
roughy orange	3147	75%	25%
salmon Atlantic	1550	100%	0%
shark	345	87%	13%
snapper	2933	57%	43%
swordfish	826	100%	0%
tuna	1160	100%	0%
whiting	400	59%	41%
whiting sand	80	100%	0%

While the majority of the seafood species used by the fish and chips and takeaway outlets are produced in Australia about a third were almost exclusively imported and these are invariably processed products or meat (Table 6.13b). The notable exception to this generalisation is scallops where the imported product just exceeded the Australian product in volume.

The Australian portion of the aggregate monthly sales of the main species tabled below is 73%

Table 6.13b National Origin of seafood

Species	Total volume Month (Kg)	Australian	Imported
crabs	45	100%	0%
crabs blue swimmer	110	100%	0%
crabs bs cooked	20	100%	0%
crabs claw	104	0%	100%
crabs mud	20	100%	0%
lobsters	110	100%	0%
mussels	925	97%	3%
mussels meat	5	0%	100%
octopus	1467	64%	36%
oysters	1150	100%	0%
oysters Sydney rock	1115	100%	0%
prawn cutlets	407	0%	100%
prawn meat	17	0%	100%
prawn meat cooked	210	0%	100%
prawns cooked	2681	98%	2%
prawns farm cooked	1695	100%	0%
prawns green	1533	98%	2%
scallops	5	45%	55%
seafood extender	37	40%	60%
seafood sticks	267	3%	97%
squid/calamari	2341	3%	97%

6.14 Sources Of Fish And Seafood (Q6b)

Table 6.14a. summarises the data on source of fish species by the fish and chips and the takeaway outlets. The purchase patterns of fish and chips businesses differed considerably from those of take away outlets because the latter mostly used only a few varieties of fillets or seafoods, mostly frozen, which they easily have delivered to their door by general wholesalers or specialist fish/seafood wholesalers.

Table 6.14a. Sources of fish species

Species	Total volume (kg)	Fisherman/ farmer	General wholesaler	Fish wholes. /Co-op	Fish market	Other
barramundi	1636		5%	91%	4%	
blue eye	1300			55%	45%	
Bream silver	20			100%		
cod fillet	610			100%		
dory john	1110			62%	38%	
dory oreo	9		100%			
flathead	4372		1%	13%	77%	9%
flathead black	130			100%		
garfish	245				100%	
gemfish	200				100%	
grenadier blue	3601		17%	83%		
hake	4163		29%	67%	4%	
ling	1754		1%		99%	
morwong	2535		2%	24%	74%	
mullet	740			100%		
mulloway	145			100%		
perch Nile	443		15%	85%		
perch ocean	195			59%	41%	
roughy orange	3147		5%	95%		
salmon Atlantic	1550			100%		
shark	345		13%	51%	36%	
snapper	2933		2%	47%	50%	
swordfish	826			60%	40%	
tuna	1160			25%	75%	
whiting	400		8%	93%		
whiting sand	80				100%	

The fish and ships operators used a greater variety of fresh and frozen products and had a greater propensity to visit the Sydney Fish Market and buy at the auction and from the specialist fish/seafood wholesalers.

The main species (eg grenadier) were predominantly purchased from fish/seafood wholesalers and other less important species (eg ling) which were not regularly offered by wholesalers were purchased at auction. Other species such as swordfish and snapper were commonly sourced at auction and from wholesalers (Table 6.14a).

The **national** data on the sources of fish species from the 1991 study does not indicate any striking changes in purchasing behaviour since then. It was noted however that the wholesalers at the Sydney Fish Market offered a far greater range of fresh fish and seafood than they did in 1991.

Table 6.14b. Sources of seafood species/products

Species	Total volume (kg)	Fisherman/farmer	General wholesaler	Fish wholesaler/Co-op	Fish market	Other
crabs	45				100%	
crabs blue swimmer	110			64%	36%	
crabs bs cooked	20			100%		
crabs claw	104		4%	96%		
crabs mud	20			100%		
lobsters	110			9%	91%	
mussels	925			100%		
mussels meat	5		100%			
octopus	1467			64%	36%	
Oysters **dozens**	1150		5%	95%		
oysters Sydney rock	1115	9%		91%		
prawn cutlets	407		10%	90%		
prawn meat	17			100%		
prawn meat cooked	210			100%		
prawns cooked	2681		2%	21%	77%	
prawns farm cooked	1520			100%		
prawns green	1533		9%	89%	1%	
prawns tiger cooked	175			100%		
scallops	5			100%		
scallops meat	80			100%		
scallops Tasmanian	60		100%			
seafood extender	37			100%		
seafood salad	13		100%			
seafood sticks	267		45%	55%		
squid/calamari	2341		17%	83%		

The majority of seafoods utilised in fish and chips outlets and takeaway businesses is sourced from general or specialist fish wholesalers (7 and 62% respectively); largely because of the interstate or overseas origins of many of the main sellers listed. Thus the Sydney Fish Market was the source of only 30% of seafood.

As noted earlier the general wholesalers also played a strong supply role for the takeaway outlets because of the wide range of products they deliver to these retailers.

The **national** data on the sources of seafood from the 1991 study does not indicate any striking changes in purchasing behaviour since then.

6.15 Retailer Perception Of Customer Expectation Of Outlet (Q10)

The respondents perception of what customers look for in their stores are summarised in Table 6.15 on the following page.

This table indicates that retailers believed:

- *Has friendly staff*
- *Clean outlet/store*
- *Has good reputation for quality fish and seafood*

were the three most important factors (in the order listed) and were all very important to their customers when they chose from which store to buy from.

In 1991 the **national** results were similar to those found in Sydney this year, and the three most important factors identified were:

- *Clean outlet /store*
- *Has good reputation for quality fish and seafood*
- *Has friendly staff*

But in 1991

- *Easily accessible*
- *Outlet frequently shopped at*
- *Staff informed about fish and seafood*

were also rated as very important too. Thus the importance of accessibility, being a popular outlet, and informed staff have apparently declined in importance since then (according to respondents).

Table 6.15. Retailers perceptions of what customers look for in a store

Factor	1. Very important	2	3	4	5	6	7. Not at all important	Don't know	Average score
1. Clean outlet/store	20	7			1			6	1.39
2. Sells fresh fish & seafood (ie. not frozen)	15	1		1		2	6	8	3.00
3. Has attractively displayed fish & seafood	12	1		2	1		4	10	2.75
4. Has consistently low prices	7	2		5	2	2	9	7	4.30
5. Is an outlet frequently shopped at	1	8	1	4	2		3	11	3.53
6. Offers Australian f & s	4	5	2		3		11	7	4.48
7. Offers fish & seafood specials	1	3	2	2	5	1	10	8	5.08
8. Has staff informed about f &s	5	9		2	2	1	4	9	3.26
9. Is easily accessible to customers	4	7	3	1	1	2	6	7	3.75
10. Offers advertised specials regularly	1	3	4		2	1	13	7	5.25
11. Offers wide variety of f & s	5	3	2	3	2		8	8	4.13
12. Has friendly staff	19	6						6	1.24
13. Has good reputation for quality fish & seafood	13	7				1	2	9	2.04
14. Customer can be confident f & s has not been frozen	7	6			1	1	5	10	3.25

6.16. Retailers Solutions For Increasing Sales (Q12a)

Fish and chips store operators and takeaway outlet operators had substantially different suggestions on what they would need to do to increase their sales of fish and seafood.

The takeaway outlets commonly reported that there was nothing they could do, or that they were not interested because fish and seafood represented just a small part of their overall business revenue and therefore unimportant.

The fish and chips operators were generally more concerned and offered about a dozen different suggestions on how business could be improved; nevertheless several did mention that they were content with current sales levels and that they were not interested in doing anything different.

Table 6.16 below shows all of the responses of the fish and chips and takeaway operators and the percentage frequency of the different comments

Suggestions for store action and frequency (% of 45 respondents)	
Nothing	38%
Happy with current sales levels/doesn't matter	14%
Promote the store with leaflets and letter box drop	13%
Tastings and in-store promotion	7%
Install new counters or product-price display boards	4%
Hang up some new promotional posters	4%
Change product range	4%
Get more work and display space; open an extra day; lower prices and margins; offer better service.	each 2%

In 1991:

- *More advertising and promotion (25% of respondents)*
- *More customer demand (18%)*
- *Better/more display area (18%)*
- *Ensure good quality (12%)*
- *Nothing/none (14%)*

were the five most common suggestions for increasing the purchases and sale of fish/seafood. These data indicate a decreasing commitment/increasing disinterest in fish and seafood by the fish and chips and takeaway outlets in the eight years.

6.17. Fishing Industry Actions To Increase Sales (Q12b)

Fish and chips store operators were more positive and confident than takeaway store operators about what the fishing industry could do to boost their sales of fish and seafood. The 16% of operators who reported that they were not interested in what the fishing industry did to promote sales (Table 6.17a) were all takeaway store operators, as were the 7% who replied "nothing".

Both types of operators however shared the belief that more advertising and promotion was the best way to boost sales, but the fish and chips operators also suggested that the health benefits of fish need to be promoted further especially to young people in order to ensure future demand.

Table 6.17a. Industry suggestions for industry action

Suggestions for industry action and frequency (% of 45 respondents)	
More advertising and promotion	38%
Lower fish prices/stop price rises	25%
Not interested/doesn't matter	16%
Promote the health benefits, especially to young people	16%
Educate consumers with recipe/info leaflets	11%
Nothing	7%
Educate and convince consumers that frozen fish is good too	4%
Stop fish substitution	4%
Prevent unfavourable publicity in industry; improve fish quality; make new products available; assist new entrants to industry	each 2%

In 1991 :

- *More advertising/promotion/information (47%)*
- *Cheaper prices/less fluctuations (33%)*
- *Nothing(16%)*
- *More consumer education on health benefits (14%)*

were the commonly suggested initiatives to industry for increasing sales.
Thus these retailers' outlook on what the industry can do collectively to increase their sales has not changed much since 1991.

6.17.1 Impact of proposed actions to increase purchase/sales (Q13)

Retailers were asked to comment on the likely impact of nine individual proposals to increase sales, and the results are summarised below.

More advertising support and *Information on preparing and cooking* were seen as the most likely actions to improve purchases and sales of f/s while *Greater food safety and quality regulation* were seen as somewhat likely to be beneficial. Opinion on the issue of greater regulation on food safety and quality is far more divided than that on other suggested proposals.

Table 6.17b. Potential actions to increase fish & seafood sales

Potential action to increase fish & seafood sales	**1. Very likely**	**2. Somewhat L.**	**3. Neither L or Unlikely.**	**4. Somewhat unlikely**	**5. Very unlikely**	**Average score**
1. Information on preparing and cooking specific types of fish and seafood	17	8	5	1	7	1.68
2. Portion controls to ensure standard size pieces	2	1	13	5	15	3.00
3. Guarantee of consistent supply	3	1	11	4	12	2.84
4. Guidelines for *your suppliers* for improved storage to increase "life" of fish and seafood	3	1	9	5	15	2.89
5. Guidelines for *food preparers* for improved storage to increase "life" of fish and seafood	5	6	6	4	14	2.43
6. Greater supply and variety of Australian fish	7	5	10	2	9	2.29
7. More advertising support for fish and seafood	22	4	3	1	5	1.43
8. Preparation of more fish and seafood products in a ready-to-cook form	2	6	11	5	12	2.79
9. Greater safety & quality regulation to minimise food poisoning	9	5	12	2	10	2.25

In 1991 *More advertising support* and *greater supply & variety* were seen as the two most likely to be beneficial and *Greater food safety and quality regulation* was seen as neither likely or unlikely to increase. Opinion on greater regulation on quality was also divided in 1991.

6.18. Potential For Underutilised And Aquaculture Species (Q14)

All of the take away stores reported that there was no potential for increased sales of any of the underutilised wild species or selected farmed species in this study. This negative outlook prevailed mainly because fresh fish/seafood sales represented a very small part of their turnover and that they did not see this situation changing.

Furthermore their principal requirement was for an inexpensive boneless fillet at a price comparable to hake or blue grenadier and the nominated Australian fish did not meet this specification.

The potential for increased sales of most underutilised and aquaculture species of fish and seafood was not good according to the fish and chips store operators because their focus was on cooked product and they too were less optimistic about future sales than in 1991 (Table 6.18). Twelve of the stores reported no potential for all species while another four stores had very little knowledge of any of the nominated species but were nevertheless negative.

The overall results are summarised below and compared with the 1991 findings.

Table 6.18. Potential for growth of under-utilised species

Species	Percentage of respondents 1999	Percentage 1991
Wild species		
Warehou	8	na*
Squid or calamari	10	39
Pilchards or sardines	6	4
Albacore tuna	8	na
Silver trevally	6	16
Farmed species		
Farmed prawns	22	41
Rainbow trout	10	31
Silver perch	4	na
Mussels	16	25
Oysters	12	24
Farmed barramundi	16	25

* Not included in the 1991 study

Comment on the reasons underlying the respondents assessments on each species follows on the next page.

6.18.1 Comments on Aquaculture species

Farmed prawns
More reliable supply and price than sea caught prawns (3 mentions)
Good consistent quality /nice sweet taste (3)
Prawns are well known but some consumers have yet to try farmed prawns (3)

Farmed Barramundi
- Popular/very nice fish /good (well known) name (3 mentions)
- Fills a gap in the product range (1)
- Not earthy now
- Can be used for filleting now that it is more plentiful
- Still untried by many consumers

Other remarks: Too bland/Has bones

Mussels
- Still an unknown product for many consumers (2 mentions)
- Good flavour, cheap (1)
- Increasing interest in mussels nowadays

Other remarks : Need educational information on mussels for consumers
- Difficult to handle in warm weather

Oysters
No particular reason offered for this species
Other remarks :
- The size grading/quality standards of farmers has fallen
- I'm worried about their safety

Rainbow trout
- Very good fish (1 mention)
- Easy to eat especially when smoked
- Worth a try as a fillets

Other remarks: many bones in this species.

Silver Perch
Selling well now and expect further growth (1)
Expect increased sales but from Asian customers only.

6.18.2 Comments on underutilised species

Fish and chips operators had little to say specifically about why they thought that these wild catch species had potential for further sales growth. The comments are summarised below.

Species	Comment
Warehou	Tasty good fish if cheap and the quality is satisfactory
Squid	Not known to the young generation even though it sells well
Pilchards/sardines	Should be able to sell it. Tasty little fish and Asians like them
Albacore	Can sell it if it is cheap; if it is cheaper than yellowfin
Trevally silver	Only if the quality is good; can only sell it boneless

6.19. Outlook For The Next Five Years.

Retailers were less confident about the future of their business in this year's study than they were in 1991, with a decline in the percentage expecting increases and a corresponding increase in the percentage of operators expecting sales levels to remain the same (Table 6.19 below).

Table 6.19 What will happen to sales in the next five years ?

% of respondents	Increase	Decrease	Remain same	Don't know
1999	38	10	38	14
1991	49	14	24	14

The main reason cited for expecting sales to grow over the next five years were that the retailers were working hard to build up their business to meet customers expectations ; the other reason cited by more than one respondent was that they felt that customers were interested in eating more fish because they were aware of the health benefits.

The main reasons cited for pessimism about future sales were that fish supply and prices were getting more difficult and profits were falling.

7. GENERAL DISCUSSION

This study found many notable changes in retail sales volumes, product range and eating patterns since the 1991 NSCS, but most of the major factors driving or constraining fish and seafood sales were still evident in 1999. The key findings from the retailer and consumer studies are discussed in this section while recommendations arising from the overall findings are outlined in Section 8.

Per capita fish and seafood consumption in Sydney has increased by 12.7% since the corresponding survey periods in the 1991 NSCS. In home consumption rose by 8.4% while the increase in out of home consumption was more than twice as strong at 19.0%.

In Perth overall consumption has not changed significantly since the corresponding period in 1991 because a 27% decline in in-home consumption was offset by a strong rise in out of home consumption.

Extrapolating from the 1991 **national** figures for the four seasons of the year, total fish and seafood consumption per capita for Sydney household residents (ie excluding persons living in institutions) is now about 13 kg edible weight per annum.

While the Sydney increase in fish/seafood consumption is greater than the situation in the USA where consumption remained static at 6.77 kg per capita over the same period (Anonymous 1999) it is a modest result compared to the Australian or American poultry industry which recorded growth rates about double that of fish and seafood (Australian Bureau of Statistics 1998 and Anonymous 1999).

A noteworthy result was the 51% increase in out of home consumption of fish and seafood by 15-19 year olds since 1991; their overall consumption however fell by some 14% because the in-home consumption declined by a greater margin than the increase in out of home eating.

A national nutrition survey undertaken by the Australian Bureau of Statistics and the Commonwealth Health Department in 1995 (McLennan and Podger 1999) has shown that Australian children and teenagers have a significantly lower total fish/seafood consumption per capita than adults. These findings and the (unknown) attitudes of children and teenagers maybe cause for concern for the seafood industry in regard to the consumption of fish in future years.

Canned fish is the product category which recorded the greatest increase over the last eight years in Sydney: this category accounted for 14% of overall purchases (individual sales) in 1991 but represented 32% of purchases in 1999. Also noteworthy was the large increase in the usage of fish/seafood as an ingredient for in home meals (up from 10 to 23%).

Product and packaging innovation offering greater convenience, quality and value have been responsible for consumers increasing their purchases of canned fish and seafood while the increasing use of fish/seafood as an ingredient is consistent with the growing popularity recorded by pasta meals, stir fries and salads.

A ***Lunchkit*** consisting of a tuna mayonnaise salad in a ring pull can, a pack of crackers, a napkin and a plastic fork, which retails for less than $1.80 is just one example of how the canned fish marketers have attained such strong sales growth.

Other fish and seafoods which experienced strong growth are convenience or ready to eat products such as cleaned octopus, boneless flathead fillets and sushi, and Atlantic salmon portions have started to make inroads into the marketplace. "New" fish such as tuna and swordfish also made remarkable inroads in a short period.

The preference for fillets over whole fish has strengthened and fillet purchases were about three times more frequent than those of whole fish this year. The current trend is for more fillets to be offered completely boneless, and skinless in some species.

Out of home eating of fish and seafood has also experienced substantial changes in recent years. But perhaps the most remarkable one has been the shift to the midmarket eateries, ie down in price and formality from restaurants to the cafes, clubs, and the sit down fish and chips outlets. A similar change in eating behaviour was noted in the Perth study and this suggests there is a nation wide search for greater convenience and more casual/cheaper eating experience.

The common elements in all of the findings on canned fish, in home and out of home consumption in this study are that ***consumers are looking for convenience, quality and value in fish and seafood and want Quick & Easy meal solutions for both in and out of home eating.***

Australia has been experiencing an increase in the number of working women, casual eating, eating out and the adoption of grazing/snacking habits; there has been a decline in household size and food magazines now feature recipes for one. Sydney residents are particularly "time poor" and seeking easier ways of feeding themselves, family or friends, regardless of household size or income.

These changes are largely responsible for the substantial increase in per capita out of home consumption of fish and seafood and the modest growth of in home consumption in Sydney and the decline in Perth. Despite extensive promotion, and publicity on the health benefits from eating fish, since 1991, fish/seafood is still most strongly associated with entertainment entrees and adding variety to diet and not as a main meal in home, with family or friends.

In short, the eatery operators have been more responsive to changes in the Australian lifestyles and the changing wants of food consumers.

7.1 Retail Sales Levels And Comparative Market Share

All three categories of retailers had an increase in average weekly sales value of at least 80% since 1991 but most fishmongers and fish and chips outlet operators attributed their increased turnover to rising fish prices and not to increasing volumes or customer counts.

Most fishmongers and fish and chips outlets attempted to curb the rising fish prices and maintain sales volumes and market share by cutting their profit margin; low margins were cited as quite a significant problem by 50% of fishmongers and 30% of fish and chips operators.

While focussing on prices and competition from other retailers of fish many did not recognise the drift of customers to more convenient foods elsewhere (canned fish, chicken, pizza etc) and to more frequent out of home eating.

The supermarket sector recorded the strongest sales growth in fresh and frozen fish and seafood — real growth, in excess of the rises in fish prices — because of the development of dedicated fresh fish counters or sections in the major chains' stores since 1991 (eg in the Franklins Big Fresh stores and the *Bass Strait Fisheries* inside Woolworths stores).

Much of the large rise in the supermarkets share of individual sales, and some of the growth in average sales volume and value, came at the expense of all of the traditional fish specialists including the retail market outlet and fish hawkers.

Supermarkets were the point of purchase for 54% of fresh and frozen fish and seafood sales compared to 32% for fishmongers (shops and market outlets) and 5% for fish and chips outlets. In 1991 the figures were 8, 71, and 4 % respectively.

The fishmongers and fish and chips outlets however still outsold the supermarkets in terms of average sales volume and value of fresh fish and seafood per outlet, so the supermarket sector seems to have a large number of sales of small volumes. The profitability of many of these specialist fish retailers nevertheless declined since 1991 as a result of the increased competition from other foods, out of home eating and the growing number of creditable supermarket fish outlets.

We believe that these changes in shopping and eating patterns were responsible for the widespread perception that sales levels of fish and seafood were declining in Sydney, which in turn led to the initiation of this research. Sales volumes had not fallen but profit margins and profitability had declined for many operators.

Fishmongers and fish & chips operators this year were less optimistic about future sales than they were in 1991 mainly because of lingering concerns about rising fish prices and poor profitability, rather than competition from other retailers per se.

The fish department staff in the three major chains (Coles, Franklins and Woolworths) were generally more contented with their fish business and capability than in 1991 and far more optimistic about their future sales. They too were mostly concerned about the impact of rising fish prices, but almost as commonly regarded the competition from the specialist fish/seafood business as the major constraint on future growth in sales.

The combination of a supermarket sector keen for local produce with the increasing output of farmed produce is bound to lead to further substantial growth in sales of fresh Australian fish.

The convenience stores and other general food retailers showed little interest in seafood as a product category in 1991, and again this year, because it is not profitable, mainly because they are not seen by consumers as appropriate outlets for the purchase of fresh fish/seafood (or frozen). This situation is unlikely to change in the foreseeable future.

7.2 Differences In Consumers' And Retailers' Perceptions

Fishmongers, supermarket and fish & chips outlet operators all rated *"Friendly staff "Reputation for quality"*, and *"Confident that fish has not been frozen"* as very important to their customers. Consumers however rated *"Easily accessible"* as the most important factor in their decision to purchase from a particular outlet, marginally more important than: *"Good reputation for quality"*, *"Friendly staff"* and *"clean outlet/store"* (in that order).

However, accessibility was not commonly identified as important by fishmongers and fish and chips outlet operators even though the significance of one stop shopping and convenience has been commonly discussed in newspapers and trade magazines.

While most supermarkets offer easy accessibility and free parking to the motorist, the majority of retailers on the street are not so accessible to the typical customer who goes shopping by car although most are easy to get to by foot or bus. This may account for some of the relatively poor sales figures recorded by the on street stores.

While consumers and all three categories of retailers valued a *"reputation for quality "* there was considerable diversity of opinion amongst retailers on the likely impact of greater regulation or assurance on seafood safety, and most were unaware of the importance of food safety to consumers.

Fish and chips operators did not believe that greater regulation on food safety would have much impact in increasing sales whereas supermarket operators reported that giving customers an assurance on safety would have a great impact. Fishmongers had the widest diversity, and uncertainty, on this matter and the most common opinion was that an assurance that the seafood is safe to eat would only have a little or some impact on sales.

The implementation of compulsory food safety plans under the Australia New Zealand Food Authority reforms, the development of Codes of Practice by aquaculturists and the seafood industry's move to formal quality assurance should help to alleviate some of the concerns about seafood safety and lead to better quality fish too.

Nevertheless fish retailers should follow the example of the aquaculture sector and institute their own Code of Practice to give consumers more confidence in the retail outlet.

This *gap* or difference between consumers and the industry perception on the importance of food safety was evident in 1991 too. The consumers' preference for product of Australia is another *gap* that can profitably be remedied by many fish and chips operators, and some supermarket operators too.

Three out of four consumers preferred Australian and many of these expressed a very strong preference for the local product. Fishmongers were mostly aware of the preference for local product but fish and chips outlet operators did not see the origins of the product as an important issue while supermarket retailers had diverse, almost polarised, views on the matter.

The reluctance of some retailers to offer completely boneless fillets and other more ready to eat products is another example of how parts of the industry failed to keep up with changing consumer wants and their more astute colleagues.

Another significant gap was the low awareness of contemporary household size and common shopping and eating habits. Some retailers were still referring to the "housewife and kids" and talked about fish as the focal point of a family meal, but this research confirms that this situation no longer exists.

7.3 Best Sellers: In Home And Out Of Home Eating

The best sellers reported by retail outlets differed somewhat according to store type but several findings (since 1991) were common across all retailer categories. For example cooked farmed prawns (black tigers) and Nile perch fillets stand out as products which gained widespread popularity since 1991 while the white skinless boneless fillet (especially flathead and shark) remained popular in all three retailer categories.

Cooked farmed prawns were seen by retailers and consumers alike as an attractive and tasty seafood which did not have the large price fluctuations experienced by wild caught prawns. Retailers also liked them because of their long shelf life and availability all year either as fresh or frozen product. For consumers this product has the added advantage that it is ready to eat, and very convenient for entertaining, family meals or a snack.

Nile perch was liked by retailers, especially those in the supermarket sector, because it is cheap, boneless, frozen/convenient, good tasting and available all year. For the consumers it represents excellent value because it is a tasty white skinless boneless fillet often retailed for less than $10 per kilogram.

Another convenient cheap seafood product of note is cleaned and tenderised octopus. Cleaned octopus from domestic or overseas sources have increased in popularity and market share (over uncleaned octopus) enormously since 1991 because of the growing popularity of octopus initially in restaurants and the ready to cook nature of this processed product. Early trial in restaurants also played an important part in the market penetration of other "new" species such as fresh tuna and swordfish.

Another significant factor contributing to the growing success of octopus, and green (uncooked) prawns, is their use in weekend barbeques for family meals or entertaining. The BBQ and weekend entertaining featured in discussions with retailers as one of the success factors for other species too. Green prawns too are ready to cook as is and easy to cook on a BBQ.

The Sydney and Perth consumer surveys showed that fish and seafood consumption out of home was most frequent on the weekends and a national nutrition survey in 1995 clearly demonstrated that total daily consumption of fish and seafood was significantly greater on Saturday and Sunday than in weekdays (Mc Lennan and Podger 1999).

Swordfish is the species deserving star status in jumping into the top ten category of Sydney fishmongers over a few years without any expenditure on formal promotion. It was rarely seen in the Sydney Fish Market auction just five years ago but now widely available as boneless steaks in fishmongers and some fish and chips outlets.

Fishmongers attributed its spectacular sales growth to the massive media attention and publicity it received following the launch of the CSIRO book *Seafood The Good Food* (Nichols 1998) in August 1998 which identified swordfish as one of the oiliest Australian fish. This media attention was coincident with increased landings of swordfish from the Queensland end of the east coast tuna fishery, which made it more commonly available.

The strong sales figures which swordfish attained with fishmongers in less than one year is the result a universally popular taste, free publicity and increased availability in retail outlets. Tuna has also entered the best sellers list in fishmongers outlets (for cooking, sushi and sashimi) on favourable food media coverage and word of mouth but without the media focus on its oils/health benefits.

Atlantic salmon also increased substantially in popularity in the 1990's but the success of this species can be attributed to the premier reputation/image of the species, the producers strong commitment to consistent high quality and their on going advertising and promotional support for the retail and food service sectors.

The marketing lesson from swordfish is that no advertising and a high price ticket are not major sales barriers if the product is perceived to offer value for money. Swordfish is regarded as high value because it offers good taste, white boneless flesh, novelty/trendiness, versatility and easy cooking, and high omega 3 oil content. For the fish retailer and consumer there is the added advantage that a swordfish steak is easy to handle and has a long shelf life.

By contrast, boneless orange roughy fillet, the star in the late 1980's was no longer widely seen as good value (at a retail price point well above $20 per kilogram) although it has most of the features and benefits described above.

Seafood sticks and extender provide an interesting product development case study. These ready to eat products are both manufactured from fish mince and the sticks were the rising star of the 1980's but are now less appealing and in the mature or declining part of their marketing life cycle. The seafood extender or seafood flakes are a relatively new product development from the sticks and are enjoying strong growth figures at an attractive retail price point of about $10 per kilogram.

With whole fish, the most popular species for in home and out of home eating in Sydney appears to be the snapper (*Pagrus auratus*). Retailers attributed its long standing popularity to its goods looks and taste and the versatility/ease of cooking.

The growth of Sydney's Asian community has led to the introduction of live fish such as banded morwong. parrot fish, coral trout, farmed barramundi and silver perch to the restaurant menu and in home eating. Tilapia and milk fish, species which are well regarded by various Asian communities, are also evident in fishmongers windows in several areas, as are some other imported fresh and frozen products.

7.3.1 Out of home consumption

Species and products consumed out of home varied enormously according to the type of eatery patronised. Boneless/shark fillets dominated purchases from fish and chips outlets, while canned tuna and salmon were pre-eminent in sandwich/milk bars. This situation is essentially the same as noted in 1991.

More exotic foods such as barramundi, Atlantic salmon, sushi, prawns and oysters were the more popular items in restaurants. Oysters, boneless fillet and barramundi were also found to be very popular in clubs and cafes. Sushi was not evident in the restaurant or retailers sales in 1991.

Interestingly, oysters were reported by some consumers as one of the least popular items to purchase for in home consumption, but the increased availability of Sydney rock oysters in the fresh fish counters in supermarkets has nevertheless helped to maintain their aggregate sales levels.

For out of home consumption, oysters were most popular in restaurants followed by clubs and then often consumed at homes of friends or relatives.

The overall findings from this study indicate that there are mixed consumer feelings on oysters and suggest that there is a strong or loyal band of oyster lovers in Sydney. Retailers were also mixed in their comments on oysters and several fishmongers reported that they were using more Pacific oysters after the Wallis Lake Hepatitis publicity.

Newer species such as swordfish and tuna are also being consumed out of home, more in the higher priced eateries such as restaurants, but not yet in aggregate volumes to compare with the older favourites such as barramundi or snapper.

The status of Atlantic salmon for out of home eating is somewhat masked in this study because of some uncertainty on data classification with canned salmon and Australian salmon (*Arripis* species). However a specific study of seafood consumed by the catering trade three years ago demonstrated that Atlantic salmon was the most important species for this sector (Ruello & Associates 1996) and the present study suggests that it still remains a very popular species.

Aquaculture species such as salmon, barramundi and prawns have become more prominent in out of home eating because they are commonly highly regarded by consumers, fish merchants and the food service industry, for a diversity of reasons.

The common feature about in home and out of home eating is the strong preference for fresh over frozen and Australian versus imported; this was clearly evident from comment in focus group discussions, the consumer surveys and interviews with supermarket operators. The retail sales data from all three outlet categories indicated that the majority of fish and seafood sold was Australian.

Regardless of the location of the out of home consumption, fish and seafood is predominantly eaten as the main course rather than an entrée or snack. This finding coupled with the strong image of fish and seafood as an entertainment entrée for in home consumption suggests there is ***a business opportunity for development of seafood snacks for in home and out of home eating.***

The success of canned fish *lunchkits*, the newer canned fish products and a multitude of snacks is testimony to the demand for innovative convenience products.

7.4 Potential Sales of Underutilised & Aquaculture Species

The outlook for increasing sales of underutilised fish and new aquaculture species is generally very good, and much better than in 1991, mostly because retailers of fresh fish/seafood are generally confident that consumers are more prepared to try new species and products. The supermarket operators were the most optimistic of all retailers on almost all species.

However sales growth is dependent on promotion and consumer education. Retailers, particularly the supermarket operators, commonly remarked that the fishing and aquaculture sector must undertake such marketing support, especially in- store tastings, if they wish to increase demand for new products.

All three categories of retailers were mostly generally optimistic about future sales volumes of aquaculture species with more than one in three interviewees reporting potential for further sales growth of all selected species except silver perch and oysters. Retailers generally were not as confident about sales growth in the selected wild species, as they were about the aquaculture species surveyed.

The less variable price and longer seasonality of aquaculture product versus wild caught species were the common attraction of farmed produce and retailers commonly referred to aquaculture as offering the best solution to rising fish prices.

Mussels appear to have particularly strong potential for sales growth with further publicity and promotion because consumers and retailers were very positive about these inexpensive shellfish.

Farmed prawns were the product category identified as having further by the greatest number of respondents, despite the outstanding market penetration since 1991. Retailers expressed great confidence in these "very nice" looking tasty shellfish and consumers also had a very favourable image of farmed prawns.

Farmed barramundi and rainbow trout were both well regarded by the trade and consumers and have substantial potential for further sales expansion. Barramundi has yet to be tried by almost half of the Sydney interviewees but 90% of those that had eaten it liked it.

Rainbow trout had been tried by 68% of Sydney consumers, liked by 89% of them, and seen as having further potential by 73% of the supermarket interviewees. The name ***rainbow*** was seen as very attractive in the focus group discussions and hence retailers should make use of the full name on price tickets rather than abbreviate it to trout as some do.

Oysters were considered to have potential for further sales growth by 69% of supermarkets but only 32 % of fishmongers anticipated further sales growth in oysters, mainly because they were far more uncertain, and worried, about the safety of the product. Consumers in focus group discussion were commonly still positively disposed to oysters principally because of their trendy image and reputed aphrodisiacal qualities.

Warehou was the wild fish species most frequently identified by all three groups of retailers as having potential for sales growth. This species has strong market potential given that it is yet to be tried by most Sydney consumers but is liked by more than 80% of those who have tried it (and the strong retailer support noted earlier).

Silver trevally and albacore tuna also have some potential for market expansion, probably with supermarket operators only, because they reported it as well regarded by consumers but still poorly known in Sydney.

Albacore has white flesh, with few bones, and it lends itself well to simple or highly processed value added products so the supermarkets optimism is well founded.

Underutilised or low priced species from the North-west shelf of Australia such as the trevallies, red snappers, threadfin bream and goatfishes have become more familiar in Sydney in the past couple of years. These fish have gained some popularity in the migrant communities in Sydney but most of these fish also lend themselves to filleting and further processing which would further enhance their market development overall.

Sydney's Asian population is still reliant on many imported species and provides a ready market for many of the less popular by catch species which have often been discarded, and it warrants special attention by all sectors of industry seeking to market underutilised or "new" species.

The major supermarket companies are continually renovating stores and developing fresh fish counters and represent the other "growth area" for the fishing and aquaculture industry to work closely with in increasing demand for the underutilised and aquaculture species.

7.5 Fish Promotion And Prices

The perception that fish was healthier than meat, and that it adds to a varied diet were found to be the key factors influencing the consumption of fish versus other meats. But uncertainty about safety and contamination, a high price, and a lack of knowledge on fish and seafood were found to be significant barriers to increased fish and seafood consumption.

Consumers nominated more advertising and promotion, particularly easy recipes/cooking ideas, and decreasing prices as the strongest factors that would encourage them to purchase more fish and seafood. In the Perth study, lowering prices was the commonest suggestion for increasing fish consumption.

Price is a difficult matter for universal agreement because producers would like higher prices but retailers would like to sell more fish, at lower or current price levels. Consumers would prefer lower and more stable prices.

The real issue for most consumers however is not price *per se* but rather perceived value — several high priced fish such as tuna and Atlantic salmon are amongst the best sellers because they are nevertheless perceived as good value for a combination of tangible and intangible reasons.

The challenge for retailers is to raise perceived value. This can be done in a variety of ways. For example by offering greater convenience —by making the fish more ready to eat — or by displaying a more attractive price point. Or a combination of both suggestions, by offering ***skinless boneless*** fillets at $2 each, $3 or whatever price, rather than have a ticket asking for $20 or more per kilo (often without highlighting the added convenience provided by the in store skinning and deboning).

A ready to eat or heat fillet offers even greater convenience and is commonly perceived as good value despite the higher price than the equivalent raw fillet.

But fish is not "top of mind" therefore consumers need repeated widespread reminders that fish can be a tasty, nutritious and inexpensive meal — in winter as well as summer — so that they add fish to the shopping list and basket more frequently.

The primary needs for promotion are to raise consumer awareness of inexpensive fish and meals options (and the industry image) rather than generic promotion or advertising which just stimulates increased sales of the more popular species or the "old favourites" (which are commonly seen as dear or too expensive).

Promotional exercises need to be planned with clear marketing objectives and defined target audience and provision made to evaluate their effectiveness after the event. History shows that many of the promotional exercise undertaken in the recent past were of little value because they were hastily conceived in response to some perceived problem — but often not a marketing one — which would have been better resolved in some other manner.

Promotion will only be effective when it is planned and executed as part of a broader marketing plan which takes account of product, price and other elements of the marketing mix.

Given that many purchasing decisions are made inside the shopping centre or store, point of sale posters can be effective in drawing consumers into the fish shop or supermarket section and stimulating interest in particular species/products. Of interest here is the consumers suggestions for posters showing meals scenes and cooking ideas rather than the traditional photo catalogue of pretty fishes to aid species identification.

The astute retailers can of course also advertise or otherwise promote their business and particular expertise via the traditional media or on the internet/world wide web.

A notable development since 1991 is the declining retailer support for TV advertising as an effective method for increasing consumption. In 1991 this was a far more common suggestion from all types of outlets whereas in store demonstrations/tastings and consumer information were more commonly cited as better initiatives in 1999.

Television is undoubtedly a great source of the consumers' information these days. Its cost is generally prohibitive for individual store promotion or advertising, but industry groups should investigate the costs and benefits of co-sponsoring, with complementary companies, one of the modern cooking/lifestyle shows.

These shows can be a cost effective medium for communicating quick and easy cooking ideas to consumers, raising awareness and demand for "new" species or products and promoting the seafood industry (See Ruello & Associates Perth study report for further details on promotional options and costs).

7.51 Smart cards and factual information

The Sydney and Perth focus groups clearly suggested a need for a new approach to recipe leaflets. The strong message from consumers was that many recipe leaflets' cooking ideas are too tedious and costly. We therefore recommend the production of **Seafood Smart Cards** providing **reliable** information on :

- natural habitat or growing area and how the fish/seafood is harvested or farmed
- how it is distributed/processed
- how to handle and store it
- nutritional benefits and culinary features of the fish/product

on one side of the page, and on the other side :

- simple cooking ideas which are:
  convenient and not costly, using common pantry ingredients
  quick and easy: readied to eat in 10-20 minutes by an average person

Much of this specific information is available in the Australian Fisheries Resources book (Kailola et al 1993), the Australian Seafood Catering Manual (Kane et al 1994) and the Australian Seafood Handbook (Yearsley et al, 1999).

All three sources provide reliable information, unlike some of the information circulating now in various forms, and a new edition of the Catering Manual, including a CD version, is to be published in 2000.

These industry resource books not only provide reliable information they save the individual operators the cost of "reinventing the wheel". Reliable data *is* important in the light of the prevailing consumer uncertainty about seafood generally and the need for trust in the industry.

AUSEAS, the Australian Seafood Extension and Advisory Service, in Brisbane may be able to provide some assistance to industry in this regard by acting as a central information resource for facilitating the development, exchange or distribution of such information, including cooking ideas and recipes.

Many consumers feel that there is only one or perhaps two appropriate cooking methods for each particular species, whereas most fish can in reality be cooked successfully with most of the common methods such as grilling, frying or on the BBQ.

Furthermore many consumers have an unnecessary fear of the perishability of fish and feel it must be consumed the same day as purchase whereas the current handling practices extend the fish's shelf life to several days in the home refrigerator. Both of these erroneous consumer perceptions can be remedied with promotional communications and exercises underpinned with authoritative information from one of the sources identified above.

7.52 The health benefits of fish.

The extensive free publicity regarding the health benefits of fish in the past decade has undoubtedly helped to maintain fish's strong image as a nutritious and healthy food *vis a vis* other meats but its impact on increasing overall sales is difficult to assess.

The extensive media coverage surrounding the release of the *book Seafood The Good Food* and the attention to swordfish effectively introduced many Sydney consumers to this much acclaimed fish and was a key factor raising demand for this "new" species. But the health related publicity in general seems to have had less obvious influence in increasing in home consumption of fish since 1991.

Consumers do not want food to just be healthy, they also want it to be tasty and value for money. Wildes (1993) proclaimed that taste was king when discussing the Think Lite Eat Fat paradox in American eating habits. The widespread popularity of fried fish and chips/French fries and other fried or "fattening" foods in Australia fits in with this behavioural observation.

Interestingly, male and female consumers in the Sydney and Perth focus group discussions clearly reported that they recognise the health benefits of fish and that the health message was now old news and boring. The implications are that promotional communications aiming to increase fish consumption, including the health message, now need to be more creative than in the past.

Our findings in Sydney and Perth suggest that the health message should not be the primary or dominant one in specific promotions. The health message is probably best used as an interesting background or underlying theme in all promotional material and exercises to gently position fish favourably in the consumers mind.

In the Perth study consumers were asked to comment on nine statements likely to influence their purchases of fish. *"For a healthy meal, go fish"*, *"Fish. The healthy feed"* and *"Fish. Nature's fast food"* were the three statements identified as most likely (of the nine; in that order) to increase consumption. The first two because of their health component and the third because it embodied the message that fish was a quick and easy meal.

The Australian industry now has three positioning statements — two health based ones — consumer tested and demonstrated as most likely to increase sales of fish and seafood. It is noteworthy that two statements were found to have a negative impact on purchase behaviour; it therefore should not be assumed that a seemingly clever statement would **invariably help** to increase sales.

To sum up : given the limited financial resources of fish retailers we would recommend targeted promotion in store, with appropriate posters, Seafood Smart Cards and tastings as the best promotional approach to increase sales volumes at current price levels.

7.6 Market Segmentation And Targeted Promotion

The segmentation of in home respondents into five distinct market segments according to their attitudes to seafood (in the quantitative survey, Volume Two) allows the retailer to identify the most attractive market segments and target those with customised or unique promotional packages.

For example, segment one labelled as the *Keep It Simple* group, representing 15% of the Sydney sample, had a medium level of fish and seafood consumption at 196 grams per week during the spring-summer period. This segment was not health conscious, but was the least price sensitive and would pay more for quality product, and was most interested in convenience and quick and easy meals ideas.

By contrast, segment four, the *Healthy Family Living* group, representing 16% of the Sydney sample, had the lowest average weekly consumption of fish and seafood at 150 grams. This segment was the most price conscious and would be more responsive to price specials and lower prices than new meal ideas.

Retailers can of course segment their market according to income or other demographic characteristics of the prospective customers and target them with particular seafood species or offerings.

Several suburbs of Sydney for example are well known for the large numbers of various migrant groups which have a strong liking for sashimi, milk fish, bacala or imported fish such as tilapia. This study has shown that respondents born in Asia have a higher than average per capita consumption of fish and seafood and some different preferences to those born in Australia and warrant particular attention.

Sydney is also renowned for its community of fine food lovers or *foodies* who are forever looking for new ideas and taste sensations in ***fresh*** fish and seafood from the wild fisheries or aquaculture.

This small group is important and influential because it is not price conscious and trials many new products in the white table cloth restaurants which often lead the way with "new " species which later receive wider attention in the food media.

This group is not deterred by elaborate recipes but rather actively seeks out exotic flavours and commonly patronises the cooking classes run by celebrity chefs at the Sydney Fish Market's Sydney Seafood School. It can be an influential group in the market promotion of new species and products and provides a small market for the specialist fishmonger.

At the other end of the income scale is a larger population segment which cannot afford anything other than the cheapest of fish and seafood.

Retailers therefore need to consider the makeup of the potential customers in the area and then target the selected segments with the most appropriate media and messages to convert them into regular customers.

Several retailers reported particularly good results with advertising and promotions in the ethnic press and radio in Sydney and commented that advertisements in the local (English language) papers were less effective.

7.7 Industry Image And Trust

Many consumers were uncertain — and many were in 1991 too — about the veracity of the species label on fish and whether fish labelled as fresh was indeed fresh and not been frozen.

Confusion and uncertainty about fish names is damaging to the industry's image, particularly that of retailers. This uncertainty also represents a significant barrier to research and the collection of reliable statistics on the industry, and indeed has reduced the precision or reliability of some of the data in this study and others.

The marketing names of fish is an even more important issue now than in 1991 because of the need for product identification and traceability in the food safety plans required by the Australian New Zealand Food Authority reforms. Furthermore consumers are now more inclined to seek legal remedies in case of food poisoning or allergic reaction to a mislabelled fish.

The recommended marketing names for fish should be determined in the light of the consumers and retailers continued uncertainty about names and marketing considerations should have greater weight than they have had in the past.

The traditional strong adherence to taxonomical considerations may need to be relaxed to take more account of market realities so that the names makes more marketing sense and gain greater support and usage from industry. After all the marketing name is an integral part of the fish's market image and prospective success.

Trust in the retailer emerged as an issue in relation to prepared and packaged products such as fresh marinaded or crumbed products. Consumers in the focus groups reported a reluctance to purchase such items because they were sceptical about the freshness of the fish or seafood in such coatings. This matter can be overcome by offering kits with the marinade or coating in a separate sachet for the consumer or retailer to mix as needed.

The matter of trust is also relevant in the marketing of new packaged seafood products, under modified atmosphere, or with simple plastic wrapping. Consumer group discussions revealed considerably divided opinion and some wariness about plastic wraps and new packaging technology.

The handling and marketing of live fish also requires greater industry attention because the display of fish, particularly those with scale damage or other injury, sometimes elicits critical comment which can endanger the reputation and livelihood of the more concerned distributors, retailers and restaurateurs.

Consumers *are* concerned about the safety of the area where their food is grown, how it is harvested, the impact on the aquatic ecosystems, and how the fish is distributed and sold. Concerns have also recently been raised in the media about the health and ecological impact of the growth and distribution of genetically modified foods.

The seafood industry therefore has to continually assure consumers — and the community at large — that fish is harvested/farmed, processed, packed and marketed in a safe, environmentally friendly and sustainable manner.

In the USA and Europe the fishing and aquaculture industry are now developing *ecolabelling* programs to differentiate product caught and handled in specified ecologically sustainable manner (Anonymous 1999b) — for public relations and marketing purposes. In Australia the Western rock lobster industry has started to seek accreditation with the Marine Stewardship Program and adopt ecolabelling.

Three out of four consumers interviewed in Sydney and Perth did not care whether their seafood came from a wild fishery or aquaculture. But the fishing and aquaculture sectors both have to gain community trust and support because of the uncertainty in some areas as to the ecological and environmental impact of their activities.

The recent initiation of the Sea Net environmental extension program by the seafood industry with National Heritage Trust funding will facilitate the uptake of new fishing gear and more environmently friendly practices and should be beneficial in raising community understanding of the true nature of fishing activities.

The seafood industry, particularly the producer, needs the continued support of the wider community and politicians at a local and national level, to counter the growing pressure to restrict or close down commercial fishing or aquaculture. The recent FRDC booklet *From Antarctica to the tropics: a snapshot of the Australian fishing industry* would be a very useful publication for raising awareness of the fishing and aquaculture industry to the wider community.

Some parts of the aquaculture industry have opened up their facilities for tourism, in an active or passive manner, and this has helped to provide the general community with a better understanding of this growing industry. On site visits provide the industry with an opportunity to promote their activities and products and should be encouraged where feasible.

In short, the continued access to the aquatic resource underpinning the industry is dependent on demonstrating and promoting a strong image of responsibility. Therefore industry promotion may ultimately prove to be more important than product promotion.

8. RECOMMENDATIONS

The seafood industry, particularly the retail sector, has to more closely monitor changes in the Australian lifestyles, especially those in shopping and eating habits, to develop innovative products and services to match the consumers wants.

Current promotional activities and materials do not take account of the smaller households, the increases in casual eating, cheaper eating out and the adoption of grazing/snacking habits. They are based on an assumption that fish is still the centrepiece of a family meal.

The industry has to develop and promote more cooking ideas with fish and seafood as an inexpensive component or ingredient, not necessarily the major part of a dish or meal in order to make fish more top of mind, more attractive for purchase. We recommend Seafood Smart Cards as a most cost effective medium for doing this.

The nominal selling price is unquestionably a substantial barrier to increased fish and seafood consumption and all sectors of industry should work to increase the perceived value of fish/seafood given that they are unable or unlikely to decrease nominal selling price.

The consumers decision to buy fish or a particular species is a very complex one. Product range, promotion, pricing practices, service, seafood safety and quality all play a role in producing a satisfying purchase. These factors do not operate independently. The best results will come from retailers (and wholesalers) having an up to date marketing mix that takes account of **all of these critical factors in an integrated manner**.

The surveys indicate that some retailers also need to pay attention to the physical condition, staffing and accessibility of their business too. The best fish in the world will not sell quickly in a store perceived as deficient in these areas

The store's customers, and passers by, are a source of current information on consumer likes and dislikes that the retailer can access by means of a suggestion box near the store's entrance. A monthly prize for best suggestion may be beneficial in stimulating suggestions.

Fish retailers only have to look at their more innovative colleagues or Lenard's stores (poultry and meats) for examples of successful products and innovative retail businesses. We believe Sydney is fortunate in having some of the best fishmongers and fish and chips outlets in the world which can serve as valuable role models.

The key findings from consumer and trade studies have been summarised in the tables on the following pages along with some recommendations on how to convert these current challenges and perceptions into profitable outcomes for retailers and others in the seafood industry.

Table 8.1 The following two tables have recommendations for the ***retail sector to consider and initiate, in conjunction with others in the industry****, in its quest to increase retail sales.*

General Findings	**Recommendations for industry wide actions**
More than 90% of Australian eat fish and seafood	Encourage these consumers to eat more f/s by reviewing and improving the handling and marketing of f/s then develop a promotion plan and schedule (ie avoid sporadic or reactive promotion.
Fish is perceived as light meal, not a hearty winter dish	Consumer and trade education, and publicity, to raise awareness of versatility of fish/seafood. Promote winter cooking ideas and meals.
Need for lower priced fillets and fish	Promote lower priced and/or underutilised selected species via cooking and lifestyle programs and other affordable media
A general need for innovative products Customers are time poor and want convenience: quick & easy eating	Promote and reward innovation through R &D, industry awards/recognition Increase range of modern ready to eat and innovative ready to heat products and Quick & Easy cooking ideas. Do not overlook the needs of singles, small households or children.
Customers want more information on fishing/aquaculture, and cooking ideas	Develop and offer Seafood Smart Cards with reliable information. Save by using AUSEAS and other resources; don't reinvent the wheel
Customers reluctance to buy new species/products	Producers to arrange free tasting in store, with Seafood Smart Cards and posters on the food/meal. Producers & others to avail themselves of free PR & promotional opportunities
Consumer and trade concerns about food safety and quality	Staff training; development of a food safety or QA program and display relevant certificates. See SeaQual and AUSEAS resources.
Confusion and uncertainty over fish names on tickets	Use recommended names, consult Australian Seafood Handbook. Development of Industry Code of Practice to support marketing names
Consumer perception that each species has to be cooked in a unique manner	Consumer and trade education: almost all fish species can be cooked successfully by grilling , steaming, frying or on the BBQ
Concerns that fish must be eaten same day as purchase	Consumer and trade education: modern handling practices mean that f/s has shelf life of several days in the home refrigerator.

Table 8.2 Industry Image Promotion recommendations for **all sectors** *of industry*

Findings on Industry Image	**Recommendations for industry wide action**
Consumer uncertainty (and some concern) about overfishing and ecological sustainability of fishing	Take every opportunity for promoting the responsible nature of fishing activities locally and nationally. Tap into the SeaNet program for support Consider ecolabelling where appropriate Take supporters and critics on board to personally observe the work practices and publicise Seafood Success Stories Distribute FRDC booklet (*From Antarctica to the Tropics*) to raise awareness of the fishing industry
Consumer uncertainty (and some concern) about ecological basis of aquaculture	Take every opportunity for promoting the responsible nature of aquaculture, and dispelling concerns about chemical/drug use, locally and nationally Consider ecolabelling where appropriate Encourage and facilitate visitors to farming facilities; use tourism to sell aquaculture and its produce.
Consumer concerns about packaging	Be mindful of potential ecological damage from resource use. Avoid unnecessary wastage and environmentally unfriendly packaging Be mindful of divided opinion on plastic overwraps and Modified Atmosphere Packaging
Mixed feelings/some concern about sale of live fish	Have section on humane handling in Code of Practice Display, handle and kill fish humanely. Have a prominent sign to stop curious people tapping glass tank, disturbing the fish etc in shop or restaurant.

Table 8.3 Recommendations for the **RETAIL SECTOR**

Findings on product promotion	Recommendations for increasing sales
Consumers prefer fresh over frozen	Label fresh product prominently as FRESH.
Consumer prefer Australian to imports	Seek out Australian product in preference to equivalent imports
Customers want more information on fishing/aquaculture, and cooking ideas	Distribute Seafood Smart cards with reliable information as described earlier (Section 7.4) . Cooking suggestions on each fish ticket in retail display In-store seafood schools and demonstrations In store suggestions box to elicit comment from customers
Consumers prefer photos of meals on posters (rather than fishes)	Illustrate posters with foods and mouth watering meals/scenes rather than ID photos of fish or seafood species
Health benefits seen as old news	Be more creative with the health message; use it as an underlying theme rather than the dominant or only message with species promotion

Table 8.4 Recommendations for the **RETAIL SECTOR**

Product Findings	Recommendations for increasing sales
Consumer preference for boneless fillets and fish	Remove bones and clearly label as BONELESS; price accordingly Sell tail end of large fillets as boneless portions Debone/butterfly whole fish
Consumers buy other foods if favourite f/s is unavailable	Window display tickets for poorly known species should nominate an equivalent favourite or well known fish/ fillet
Consumers are looking for convenience, quality and value	Emphasise convenience, quality and value: Quick & Easy eating Offer more in store cooking eg "crabs cooked while you shop"
Consumers are uncertain about freshness of crumbed or marinaded fish	Offer *kits,* with the fillet and the marinade etc in a sachet ready to mix as needed

Table 8.5 Recommendations for the **RETAIL SECTOR**

Pricing and Labelling Findings	Recommendations for increasing sales
Price (mostly per kilo ticket) is a barrier to increased consumption	Try alternate pricing practices: eg per portion, per dozen, per dish etc Offer fish/products in clearly priced open (or see through top) packs & trays Sell meals or ready to cook serves, not just raw fish Sell low value species & products in, by count or packs of 3, 4, etc Promote ideas for cheaper meals eg seafood stir fry or pasta with fish & seafood
Consumer uncertainty about fish being true to the "fresh" label	Adoption of industry Code of Practice whereby only fish which has never been frozen is described as fresh.
Consumers want information	Use price tickets and posters creatively to carry key messages (re bones, cooking methods, special benefits) but avoid overusing the term *Special*

9. CONCLUSIONS

This study was initiated because of concerns about a perceived decline in retail sales of fish and seafood in Sydney and to examine changes and trends since the 1991 NSCS. The research has shown that the average retail sales of the fishmonger and fish and chips outlet has increased substantially in value since 1991, but because of inflation in fish prices rather than a significant rise in sales volume or customer counts.

Many fishmongers and fish and chips outlets fought these rising fish prices (and associated consumer resistance), and the competition from other retailers of fish, by cutting their profit margin to moderate or reduce their selling price. Consequently the profitability of many of these businesses declined noticeably.

While focussing on selling price many fishmongers did not recognise the demographic changes, the large changes in shopping and eating habits and the stronger competition coming from more convenient foods and the growth of casual out of home eating.

Out of home fish and seafood consumption has grown appreciably in Sydney and Perth because of the increased frequency of eating out and the strong innovation in the various types of eateries and the food and meals on offer. In home consumption has grown more slowly (and fallen in Perth) mostly because fewer retailers (than food service operators) have offered the products and services sought by the increasingly time poor customers.

This research has identified a need for a more customer oriented proactive approach to promotion and retailing of fish and seafood. Fish's future for in-home consumption may well lie as a major ingredient or component of a pasta, salad, stir fry and other popular inexpensive meal or on the side of the plate rather than as a large serve of white meat in the centre of the plate (as in the past).

Fish retailers wanting to increase sales do not necessarily need new technology or TV advertising. **They can sell more fish by going back to marketing basics**: Identify the prospective customers and then regularly fine tune the marketing mix of product range and quality, pricing/labelling, store presentation and promotion to meet their needs. Some may also be able to add a kitchen/cooked food area and sit-in facilities to join the swing to greater eating out— a fish café concept — if they have the necessary resources.

Individual retailers can use the recommendations in the report to review their business and take any necessary action; the industry organisations can use the research findings to develop strategic plans to invigorate and assist their membership to **provide a more satisfying shopping experience for the customer.**

Individually or collectively, retailers — and others in the industry — will need to more closely monitor changing fads and fashions in eating if they want to maintain their share of the "Sydney stomach". This is undoubtedly getting increasingly difficult with the rapid pace of change and the blurring of boundaries between eating in and out.

Sydney, for example, sees the emergence of e-commerce, with its internet ordering and home delivery, from at least two companies, and the opening of a new food hall in the renovated GPO building this month. The latter promises an array of raw and ready to eat foods/meals, as well as multiple eating-in options including a sushi train bar .

In the 1990's the seafood industry moved from the fish business to the food business by changing the product offering from mostly whole fish to fillets. The challenge for the next decade is for retailers to change from a food business selling mostly raw fillets to the meals solutions business with its more attractive price/value for consumers and a greater profit margin for the vendor.

9.1 Benefits Of The Research

Industry and government agencies have been provided with data from this study as early as March 1999 to assist them in decision making.

The Master Fish Merchants Association was given a progress report on the focus group discussions in March for a MFMA meeting to discuss TV promotions; this report was published in Seafood Australia magazine issue 28 Autumn 1999 .

Dr J. Sumner was given a copy of retail sales data in July to assist in a national risk study for SeaQual. Mr P. Walsh was given a copy of the consumption data in August for a study of risks in the NSW seafood industry. Ms P. Shoulder was given a copy of the retail data in August for the *Aquaculture. Beyond 2000* Workshop.

Nick Ruello made presentations on the results of this research to the Australian Barramundi Farmers Association AGM in August, the NSW Seafood Industry Council meeting in September and to a group of Sydney fish merchants in October.

Judith Ruello outlined some of the research results to the Australian Prawn Farmers Association AGM in August.

This research has identified a need for a new approach to the promotion and marketing of seafood because consumers are increasingly looking for convenience and ready to heat/eat meals solutions rather than a piece of fish as the centrepiece of a meal. A fundamental recommendation is that the seafood industry has to continually develop *convenience products* and marketing strategies to match the changes in Australian demography and lifestyles.

More specific benefits from the research are the useful consumers suggestions on promotion relating to health issues, posters and recipe leaflets:

Health issues Consumers reported that they know that fish is good for you and that they would prefer more creative information on health and nutrition matters.

Point of sale posters Focus groups discussion revealed that many promotional posters are ineffective and that photographs of the cooked foods/meals scenes rather than the raw or live fish would be more effective in stimulating sales.

Recipe ideas and leaflets. In this report we have suggested the development of *Seafood Smart Cards* to emphasise the need for reliable information on fishing/farming and distribution of the product as well as *quick & easy* meals ideas.

The qualitative and quantitative data in the two volumes will undoubtedly be used profitably by many people in government and industry over the next few years for a variety of purposes. The overall long term benefits of the research may be difficult to quantify but they will certainly substantially exceed the cost of the project.

9.2 Further Research & Development

This study has identified several areas for further research or development:

1. Specific research on fish consumption and the attitudes of teenagers, the consumers of the future.

2. Research on value adding and product development of underutilised species such as Albacore, trevallies, threadfin breams, with the objective of producing innovative products, controlled size portions and other more convenient forms than whole fish or fillets with skin and pin bones.

3. Another review of the sale and consumption of seafood will be warranted in a few years given the dynamic nature of the seafood marketing business in Sydney. A completely new approach to this and the 1991 NSCS will probably be necessary because the blurring of the boundaries between in home and out of home eating will make direct comparisons with historical data difficult. A growing reluctance of Sydney consumers and retailers to participate in market research will add to the complexity and costs of such research.

4. A study of the factors contributing to the success of established and new species in the marketplace. This should include a comparison of the sensory characteristics and other attributes such as the fish/product name and image, promotion, product form and price range.

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We are grateful for the cooperation and assistance provided by the interviewees in this study.

12. APPENDIX

1. Retail (supermarkets) questionnaire, 8 pages.

2. Fishmongers questionnaire, 9 pages.

3. Fish and chips/ take away questionnaire, 8 pages.

Ruello & Associates Pty Ltd — Sydney Seafood Retail and Consumer Study

Supermarkets, Convenience, Food store — Interview No........

INTRODUCTION

Thank you for agreeing to participate in the Sydney Seafood Retail Study. The information collected from every respondent will be treated in the strictest confidence and added to the other data obtained and individual stores will not be identified in the final report.

Q.1 **What is your exact position in this business.**

Position of respondent :____________________________________

Q.2 **Which of the following statements best describes this store?** READ OUT

i Chain supermarket
ii Convenience store
iii Other

Q.3

I am going to read out some statements and I want you to tell me if you think the statement is correct for meat, pork, poultry, fish, none of them or you don't know. You may nominate none, one, or as many food groups as you like. There are no right or wrong answers, we are just interested in your opinion.

The first statement is ...(READ OUT FIRST STATEMENT). **to which food group does this statement apply ?**

	MEAT	PORK	POULTRY	FRESH OR FROZEN FISH	NONE	DON'T KNOW
1. Provides a good margin to the retailer	1	2	3	4	5	6
2. Given good promotional support by supplier association	1	2	3	4	5	6
3. Well supported by advertising	1	2	3	4	5	6
4. Supply often cannot be guaranteed for in-store promotions	1	2	3	4	5	6
5. Is often too expensive for the retailer to buy	1	2	3	4	5	6
6. Offers the customer good value for money	1	2	3	4	5	6
7. Needs more consumer marketing support	1	2	3	4	5	6
8. Needs more trade marketing support	1	2	3	4	5	6
9. Is likely to go off in-store and have to be thrown out	1	2	3	4	5	6
10. Presents a problem in waste disposal	1	2	3	4	5	6
11. Staff dislike packing or handling it	1	2	3	4	5	6
12. Customers request more information about its preparation or cooking	1	2	3	4	5	6
13. Our staff don't have the knowledge to recommend it to customers	1	2	3	4	5	6
14. It takes up little storage space	1	2	3	4	5	6
15. Is considered to be too dear by customers	1	2	3	4	5	6
16. Preferred by more of my customers	1	2	3	4	5	6
17. Our staff don't have the knowledge to buy it confidently	1	2	3	4	5	6
18. Is easily available to buy	1	2	3	4	5	6
19. Looks good in the store	1	2	3	4	5	6
20. Its quality varies	1	2	3	4	5	6
21. Prices fluctuate too much	1	2	3	4	5	6
22. An essential part of the range we offer customers	1	2	3	4	5	6

Q. 4a **Does this store actually sell fresh and chilled or frozen (not prepared like fish fingers) fish and/or seafood. By chilled I mean fish that has been frozen and thawed out for sale?**

Go To Q. 4b	Yes - Fresh	1
	Yes - Chilled	2
	Yes - Frozen	3
Go To Q. 4d	No	4

Q. 4b **What do you believe are the main problems in supplying and selling fresh chilled and frozen fish and seafood?** Read out for each type sold. Probe.

Fresh/chilled

No Problems/None 01

Frozen

No Problems/None 01

Q. 4c **Are you free to choose your supplier for** (Read out first form stocked in Q. 4a) **fish and seafood?** Repeat for each type stocked

	Yes	No	Don't Know
Fresh/chilled	1	2	3
Frozen	1	2	3

Q. 4d **What are the main reasons for this store not supplying and selling** (Read out first of those not stocked in Q 4a) **fish and seafood ?** Repeat for each type not stocked. If no in Q. 4a ask for all forms.

Fresh/chilled

Frozen

Q. 4e **What would encourage this store to stock and sell** (Read out first of those not stocked in Q. 4a) **fish and seafood?** Repeat for each type not stocked

Fresh/chilled ______ Nothing 01

Frozen ______ Nothing 01

If sell fresh, chilled or frozen fish or seafood ask Q 5; otherwise go to Q. 12a.

I will now ask you a number of questions about the main types of finfish and seafood (shellfish) sold by this store. Please think only about "wet" fish, not pre-packaged (or prepared like fish fingers), canned or bottled products.

Q. 5a What were the main types of fin fish sold by this store over the past year ? Probe up to a maximum of six types. If mention more than six ask for the top six species. Record below.

1.	4.		
2._	5.	None	001
3.	6		

Q. 5b **And what were the main types of seafood (shellfish) sold by this store over the last year ?** Probe up to a maximum of four types. If mention more than four ask for the top four species. Record below.

1.	3.		
2._	4.	None	001

For each type ask Q. 6 to Q. 8 and record opposite : If none in Q 5a and Q 5 b go to Q 12a
Show Card B

Q. 6 Do you buy that live, whole, filleted. cutlet, headed and gutted or in some other form? Write in type under Q.5 Multiple response allowed but record each code on a separate line.

Q. 7a On average month, over summer and winter, how many kilograms of (Read out type and form) **were bought for this store?** Probe for best estimate. If more than one form repeat question.

Q.7b What type of supplier do you generally purchase this from? Record appropriate Code. If more than one form repeat question.

Q. 8 And what proportion of (Read out type and form) **that were bought last year was imported and what proportion was caught in Australian waters?** Ensure total is 100%.

Q. 9a What proportion of the total sales are accounted for by the top selling species (6 fish +4 shellfish) you nominated? Probe for best estimate. Where possible do not accept "Don't Know".

Write In : ________% Don't Know 101

Q.9b **You mentioned that the main fin fish that you buy are** (Read out from Q 5a) **? What are the specific reasons for buying** (Read out first type of fin fish). Repeat for each type.

Record Type (Q.5a)	Reason

Show Card E

Q. 11	Very Important					Not at all Important	Don't Know
1	2	3	4	5	6	7	I 8

I would now like you to think about what you believe your customers look for in a store which sells fresh or frozen fish or seafood. Again on a scale of 1 to 7, how important do you believe each of the following factors are to your customers when they choose from which outlet to buy fresh chilled or frozen fish or seafood? Read out rotating to asterisk. Record below.

		Q. 11
1.	Clean Outlet/store	
2.	The outlet sells fresh fish and seafood (ie. not frozen)	
3.	Has attractively displayed fish and seafood	
4.	Has consistently low prices	
5.	Is an outlet frequently shopped at	
6.	Offers Australian Fish and seafood	
7.	Offers fish and seafood specials	
8.	Has staff informed about fish and seafood	
9.	Has consistently low prices for shopping in general	
10.	Is easily accessible to the customer	
11.	Offers advertised specials regularly	
12.	Many different types of food can be bought there	
13.	Offers a wide variety of fish and seafood products	
14.	Has friendly staff working there	
15.	Has a good reputation for quality fish and seafood	
16.	The customer can be confident that fish or seafood sold as fresh has not been frozen	

Show Card M

Q.12a **Listed are various species of fish and seafood which have been identified by the fishing industry as being under utilised. For store like this, which types do you consider to have potential for increased sales?** Record below.

Q. 12 b For those identified as having potential (Q.12a Codes 1 to 11) Ask Q. 12 b

And what are the main reasons for believing that the potential lies with (Read out each type mentioned in Q. 12a)?

	Q.12a	Q.12b Reason
Wild Species		
Warehous (blue and silver /spotted	01	
Pilchards / sardines (not canned)	03	
Albacore tuna	04	
Silver Trevally	05	
Farmed Species		
Farm prawns (not just prawns)	06	
Rainbow Trout (Freshwater)	07	
Silver Perch	08	
Mussels	09	
Oysters	10	
Farm Barramundi	11	
None	12	Go to Q. 13a
Don't Know	13	Go to Q. 13a

Q. 13a **What actions need to be taken for your store to stock and sell more fish and seafood products?** Probe.

Q. 13 b **What actions need to be taken by the fish industry in general for more fish and seafood to be sold by your store?**

Show Card J

Q. 14 I am going to read out a number of actions that could be taken to increase the sale of fish and seafood products for your business. For each I would like you to tell me if you believe each action would have a (Read out scale) on your sales. Read out each statement.

Great Impact	Some Impact	A Little Impact	No Impact	Don't Know
1	2	3	4	5

		Great Impact	Some Impact	A Little Impact	No Impact	Don't Know
1	A more consistent supply of fish	1	2	3	4	5
2.	More frequent delivery of fish	1	2	3	4	5
3	Availability of information on cooking and preparation	1	2	3	4	5
4	More advertising support for fish & seafood	1	2	3	4	5
5	Greater encouragement of aquaculture industry	1	2	3	4	5
6	Better quality product available through better handling	1	2	3	4	5
7	Supply of a greater variety of prepared fish and seafood meals ready to cook	1	2	3	4	5
8	Assurance that the seafood is safe to eat	1	2	3	4	5

Q. 15a Thinking about the next five years, do you consider that the sale of fish and seafood products will increase, decrease or remain the same in this store?

Increase	1
Decrease	2
Remain the same	3
Don't Know	4

Q. 15 b And why do you say that?

____

____

____

____

Classification

For classification purposes only could you please tell me...

Q. 16 a The average weekly sales (turnover) of fish and seafood in this store ?
Write in $_______

Supermarkets, convenience, food store

MAIN FISH AND SEAFOOD PURCHASED

Q5.	Q. 6	Form Buy					Q. 7a	7b		TYPE OF SUPPLIER			Q.8		
Species bought	Live	Whole	Fillet	Cutlet	Head & gutted	Other	Volume (kg) purchased average month	F'man/ farmer	General W'saler	Fish w'saler/ Co-Op	Fish market	Other	Import	Aust.	Don't Know
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101

Fish & Seafood Consumption Study

Fishmongers No ...... Date ....

INTRODUCTION

Thank you for agreeing to participate in the Sydney Seafood Retail Study. The information collected from every respondent will be treated in the strictest confidence, pooled with the other data obtained and individual stores will not be identifed.

Q.1 **First of all would you mind telling me your exact position in this business.**

POSITION OF RESPONDENT : ______________________________

Q. 2 **What do you believe are the main problems in supplying and selling fresh and frozen seafood?**
Probe

No Problems/None 01

____

____

____

____

Q.3 SHOW CARD G

Research conducted with other retailers has uncovered a number of problems that retailers of fresh and frozen fish and seafood have encountered. Using the following scale (Show Card G), **how significant do you consider each of the following problems? (**Read out**).**

	Very Signific-ant Problem	Quite Significant Problem	Not Very Significant Problem	Not a Problem	DON'T KNOW
1. The variable quality of the fish and seafood available	1	2	3	4	5
2. The proportion of the fish and seafood purchased which cannot be sold and must be thrown away	1	2	3	4	5
3. The cost of disposing of waste product	1	2	3	4	5
4. The unavailability of staff with experience in handling and selling fish and seafood products	1	2	3	4	5
5. The amount of physical storage space required for fish and seafood products	1	2	3	4	5
6. The lack of knowledge of customers in preparing and cooking fish and seafood products	1	2	3	4	5
7. Uncertainity about the freshness of fish and seafood available	1	2	3	4	5
8. Uncertainity about whether the fish bought are correctly named	1	2	3	4	5
9. The difficulty of selling fish and seafood if it is labelled frozen	1	2	3	4	5
10. The risk of buying fish and seafood "sight unseen"	1	2	3	4	5
11. Unfavourable publicity about fish & seafood	1	2	3	4	5
12. Customers dislike buying fish because of the bones	1	2	3	4	5
13. Fish is too expensive to buy	1	2	3	4	5
14. Seafood is too expensive to buy	1	2	3	4	5
15. Difficulty pre-ordering and receiving fish and seafood products	1	2	3	4	5
16. The low margins necessary to remain competitive	1	2	3	4	5
17. The stock levels that need to be held	1	2	3	4	5
18. Difficulty in obtaining good quality product	1	2	3	4	5
19. A lack of experience in attractively displaying fish and seafood	1	2	3	4	5
20. Difficulty getting continuous supply at steady prices	1	2	3	4	5
21. A lack of training in fish handling and hygiene	1	2	3	4	5
22. Difficulty getting continuous supply of a good range of fish	1	2	3	4	5

I will now ask you a number of questions about the main types of fish and seafood sold by this store..

Q. 4a **What were the main types of fin fish sold by this store over the past year (summer & winter)?** Probe up to a maximum of six types. If mention more than six ask for the top six species. Record below.

1.	4.	
2._	5.	None 001
3.	6	

Q. 4b **And what were the main types of seafood sold by this store?** Probe up to a maximum of four types. If mention more than four ask for the top four species. Record below.

1.	3.	
2._	4.	None 001

For each type ask Q. 5 to Q 7 and record opposite.

Q. 5 **Do you buy that live, whole, filleted, cutlet, headed and gutted or in some other form?** Write in type under Q.4 Multiple response allowed but record each code on a separate line.

Q. 6a **In an average month, over summer and winter, how many kilograms of** (Read out type and form) **were bought for this store?** Probe for best estimate. If more than one form repeat question.

Q. 6b **From what type of supplier do you generally purchase this from ?** Record name of supplier and appropriate code. If more than one form repeat questions.

Q.7 **And what proportion of** (Read out type and form) **that were bought last year was imported and what proportion was caught in Australian waters?** Ensure total is 100%.

Q. 8a **What proportion of the total sales are accounted for by the top selling species (6+4) you nominated** Probe best estimate. Where possible do not accept "Don't Know".

Write In : ________%   Don't Know 101

Q. 8b **You mentioned that the main fin fish that you buy are** (Read out from Q. 4a)
What are the specific reasons for stocking (Read out first type of fin fish from Q. 4a) ?)
Repeat for each type.

Record Type (Q.4a)	Reason

Show Card E

Q. 9 Very Important

Very Important						Not at all Important	Don't Know
1	2	3	4	5	6	7	8

We have discussed what you consider important when you buy fresh or frozen fish or seafood for your store. I would now like you to think about what you believe <u>your</u> customers look for in a store which sells fresh or frozen fish or seafood. On a scale of 1 to 7, how important do you believe each of the following factors are to <u>your</u> customers when they choose from which outlet to buy fresh, chilled or frozen fish or seafood? Record below.

		Q. 9 c
1.	Clean Outlet/store	____
2.	The outlet sells fresh fish and seafood (ie. not frozen)	____
3.	Has attractively displayed fish and seafood	____
4.	Has consistently low prices for fish and seafood	____
5.	Is an outlet frequently shopped at	____
6.	Offers Australian fish and seafood	____
7.	Offers fish and seafood specials	____
8.	Has staff informed about fish and seafood	____
9.	Is easily accessible to the customer	____
10.	Offers advertised specials regularly	____
11.	Offers a wide variety of fish and seafood products	____
12.	Has friendly staff working there	____
13.	Has a good reputation for quality fish and seafood	____
14.	The customer can be confident that fish or seafood sold as fresh has not been frozen	____

Q. 9d Out of every ten customers , how many would ask for advice about the type (species) of fish to buy and would then buy that fish?

Record number____
Don't Know 11

Q. 10a **Which of the following products do you sell in this store?** Read out. Record below. **Are there others?** Record below.

<u>If sell prepared fish or seafood Q.10a and code 1 ask Q 10b; otherwise go to Q. 11</u>

Q. 10b **Do you prepare** (Read out each product sell in Q. 10a Code 1) **on these premises?** Record below.

Go to Q. 11

<u>For each product not sold in Q. 10a (Code 2) Ask Q. 11</u>

Q. 11 **And what is the main reason for not selling** (Read out each product not sold in Q. 10a Code 2)? record below.

	Q. 10a Sell		**Q. 10b** Prepare		**Q. 11** Reasons for not selling
	Yes	No	Yes	No	
Fish/Seafood Shasliks	1	2	1	2	
Marinara Sauce/Marinara Mix	1	2	1	2	
Satay/chilly/sweet and Sour and marinaded fish pieces	1	2	1	2	
Stuffed trout	1	2	1	2	
Other (specify)	1	2	1	2	
Other (specify)	1	2	1	2	

Q. 12a **What actions need to be taken for <u>your store</u> to stock or sell more fish and seafood products?** Probe

Q. 12b **What actions need to be taken by the fish industry in general; for more fish and seafood to be sold by your store?**

Show Card I

Q. 13 **I am going to read out a number of actions that could be taken to increase the sale of fish and seafood products for your business. For each I would like you to tell me if you believe each actions would have a** (Read Out scale) **on your sales.** Read out each statement.

Great Impact	Some Impact	A Little Impact	No Impact	Don't Know
1	2	3	4	5

	Great Impact	Some Impact	A Little Impact	No Impact	Don't Know
1. A more consistent supply of fresh fish and seafood	1	2	3	4	5
2. Availability of information for consumers, caterers and restaurants on cooking and preparation	1	2	3	4	5
3. More advertising support for fish & seafood	1	2	3	4	5
4. Greater encouragement of aquaculture industry	1	2	3	4	5
6. Better quality product available through better handling	1	2	3	4	5
7. Supply of a greater variety of prepared fish and seafood meals ready to cook	1	2	3	4	5
8. Give customers an assurance that the seafood is safe to eat	1	2	3	4	5

Now I would like to talk about specific types of fish and seafood. **Show Card M**

Q. 14a **Listed are various species of fish and seafood which have been identified by the fishing industry as being under utilised. For businesses like this, which types do you consider have the potential for increased sales?** Record below.

Q. 14 b For those identified as having potential (Q.14 a Codes 1 to 11) ask Q. 14b

And what are the main reasons for believing that the potential lies with (Read out each type mentioned in Q. 14a)?

	Q.14a	Q.14b Reason
Wild Species		________
Warehou blue and silver/spotted	01	________
Pilchards or sardines (not canned)	03	________
Albacore tuna	04	________
Silver Trevally	05	________
Farmed Species		
Farmed prawns (not just prawns)	06	________
Rainbow Trout (Freshwater)	07	________
Silver Perch	08	________
Mussels	09	________
Oysters	10	________
Farm Barramundi	11	________
None	12	Go to Q. 15
Don't Know	13	Go to Q. 15

Q. 15 **In your experience what specific type of consumer promotion, publicity or advertising has been most successful in increasing sales?** Record in detail below.

Promotion/Publicity/Advertising

Write In ____

Write In ____

____

Q. 16a **Thinking over the next five years, do you consider that the sale of fish and seafood products will increase, decrease or remain the same in this store?**

Increase	1
Decrease	2
Remain the same	3
Don't Know	4

Q. 15 b **And why do you say that?**

____

For classification purposes only could you please tell me...

Q. 17 **The average weekly turnover (sales) of this store?** **Write in $________**

Q. 18 **How many full time and part time/casual workers are employed by this store?**

Full Time: ____________
Part Time/casual :_______

Fishmonger

MAIN FISH AND SEAFOOD PURCHASED

Q4.	Q. 5	Form Buy					Q. 6a	6b		Type of supplier			Q.7 Origins		
Species bought	Live	Whole	Fillet	Cutlet	Head & gutted	Other	Volume (kg) purchased average month	F'man/ farmer	General W'saler	Fish w'saler/ Co-Op	Fish market	Other	Import	Aust.	Don't Know
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101

Ruello & Associates Pty Ltd February 1999

Fish & Seafood Consumption Study

T/A Fish n' Chips. No ______ Date ____________

INTRODUCTION

Thank you for agreeing to participate in the Sydney Seafood Retail Study. The information collected from every respondent will be treated in the strictest confidence and pooled with the other data obtained and individual stores will not be identified.

Q.1 **First of all would you mind telling me your exact position in this business.**

POSITION OF RESPONDENT :________________________________

Q.2 **What do you believe are the main problems in preparing and selling fish and seafood?**
Probe

No Problems/ None 01

____

____

____

____

Q.3

Research conducted with other retailers has uncovered a number of problems that retailers of fresh, frozen and cooked fish and seafood have encountered. How significant do you consider each of the following problems that I will read out ?

	Very Signific-ant Problem	Quite Significant Problem	Not Very Significant Problem	Not a Problem	Don't Know
1. The variable quality of the fish and seafood available	1	2	3	4	5
2. The proportion of the fish and seafood purchased which cannot be sold and must be thrown away	1	2	3	4	5
3. The cost of disposing of waste product	1	2	3	4	5
4. The unavailability of staff with experience in handling and selling fish and seafood products	1	2	3	4	5
5. The amount of physical storage space required for fish and seafood products	1	2	3	4	5
6. The lack of knowledge of customers in preparing and cooking fish and seafood products	1	2	3	4	5
7. Uncertainity about the freshness of fish and seafood available	1	2	3	4	5
8. Uncertainity about whether the fish bought are correctly named	1	2	3	4	5
9. The difficulty of selling fish and seafood if it is labelled frozen	1	2	3	4	5
10. The risk of buying fish and seafood "sight unseen"	1	2	3	4	5
11. Unfavourable publicity about fish & seafood	1	2	3	4	5
12. Customers dislike buying fish because of the bones	1	2	3	4	5
13. Fish is too expensive to buy	1	2	3	4	5
14. Seafood is too expensive to buy	1	2	3	4	5
15. Difficulty pre-ordering and receiving fish and seafood products	1	2	3	4	5
16. The low margins necessary to remain competitive	1	2	3	4	5
17. The stock levels that need to be held	1	2	3	4	5
18. Difficulty in obtaining good quality product	1	2	3	4	5
19. Difficulty getting continuous supply at steady prices	1	2	3	4	5
20. A lack of training in fish handling and hygiene	1	2	3	4	5
21. Difficulty getting continuous supply of a good range of fish	1	2	3	4	5

I will now ask you a number of questions about the main types of fish and seafood sold by this store.

Q. 4a **Over the past year (summer & winter) what were the main types of fin fish sold by this store?** Probe up to a maximum of six types. If mention more than six ask for the top six species. Record below.

1.	4.	
2._	5.	None 001
3.	6	

Q. 4b **And what were the main types of seafood sold by this store?** Probe up to a maximum of four types. If mention more than four ask for the top four species. Record below.

1.	3.	
2._	4.	None 001

For each type ask Q. 5 to Q 7 and record response opposite.

Q. 5 **Do you buy that live, whole, filleted, cutlet, headed and gutted or in some other form?** Write in type under Q.4 Multiple response allowed but record each code on a separate line.

Q. 6a **In an average month over summer and winter , how many kilograms of** (Read out type and form) **were bought for this store?** Probe for best estimate. If more than one form repeat question.

Q. 6b **What type of supplier do you generally purchase this from ?** appropriate code. If more than one form repeat questions.

Q.7 **And what proportion of** (Read out type and form) **that was bought last year was imported and what proportion was caught in Australian waters?** Ensure total is 100%.

Q. 8a **What proportion of the total sales are accounted for by the top selling species (6+4) you nominated** Probe best estimate. Where possible do not accept "Don't Know".

Write In : ________% Don't Know 101

Q. 8b **You mentioned that the main fin fish that you buy are** (Read out from Q. 4a)
What are the specific reasons for buying (Read out first type of fin fish from Q. 4a) ?)
Repeat for each type.

Record Type (Q.4a)	Reason

Q. 10a Do you sell any uncooked fish and seafood products?

Go to Q.10b____________Yes 1

No 2

Go to Q. 10c Don't Know 3

Q. 10b What are the main types of uncooked fish and seafood sold?

____

____

____

Q. 10c Show Card E

Very Important						Not at all Important	Don't Know
1	2	3	4	5	6	7 I	8

I would now like you to think about what you believe your customers look for in a store which sells fresh or frozen fish or seafood. Again on a scale of 1 to 7, how important do you believe each of the following factors are to your customers when they choose from which outlet to buy fresh chilled or frozen fish or seafood? Record below.

		Q. 10b
1.	Clean Outlet/store	
2.	The outlet sells fresh fish and seafood (ie. not frozen)	
3.	Has attractively displayed fish and seafood	
4.	Has consistently low prices for fish and seafood	
5.	Is an outlet frequently shopped at	
6.	Offers Australian fish and seafood	
7.	Offers fish and seafood specials	
8.	Has staff informed about fish and seafood	
9.	Is easily accessible top the customer	
10.	Offers advertised specials regularly	
11.	Offers a wide variety of fish and seafood products	
12.	Has friendly staff working there	
13.	Has a good reputation for quality fish and seafood	
14.	The customer can be confident that fish or seafood sold as fresh has not been frozen	

Q. 11a **Have you noticed any of the following trends with your customers in the last twelve months?**
Read Out

	Yes	No	Don't Know/ Can't Say
More concern about the impact of pollution on seafood safety	1	2	3
Purchase of more grilled rather than fried fish	1	2	3
Concerned about safety of food	1	2	3
More concern about the accuracy of the name of the fish sold	1	2	3

Q. 11b **And have you noticed any other trends or concerns in food preferences with your customers in the last twelve months?** Probe

No/Nothing 01

____

____

____

Q. 12a **What actions need to be taken for <u>your store</u> to stock and sell more fish and seafood products?** Probe

____

____

____

Q. 12b **What actions need to be taken by the fishing industry in general for more fish and seafood to be sold by your store?**

____

____

____

<u>Show Card I</u>

Q. 13 **I am going to read out a number of actions that other food preparers have identified to be likely to increase their purchases of fish and seafood products. For each action, how likely is it to lead to an increase in <u>your</u> purchase of fish and seafood products?**
The first action is ....(Read out first action). From Card L how likely is this to increase your purchase of fish and seafood.

		Very Likely	Some what likely	Neither Likely or Unlikely	Some what unlikely	Very unlikely	Don't Know
1	Information to help in preparing and cooking specific types of fish and seafood	1	2	3	4	5	6
2.	Portion controls to ensure standard size pieces	1	2	3	4	5	6
3	Guarantee of consistent supply	1	2	3	4	5	6
4	Guidelines for <u>your suppliers</u> for improved storage to increase the "life" of fish and seafood	1	2	3	4	5	6
5	Guidelines for <u>food preparers</u> for improved storage to increase the "life" of fish and seafood	1	2	3	4	5	6
6	Greater supply and variety of Australian fish	1	2	3	4	5	6
7	More advertising support for fish and seafood	1	2	3	4	5	6
8.	Preparation of more fish and seafood products in a ready to cook form (ie crumbed, smoked, pie, shaslik)	1	2	3	4	5	6
9.	Greater food safety and quality regulation to minimise food poisoning	1	2	3	4	5	6

Now I would like to talk about specific types of fish and seafood.

Q. 14a **Listed are various species of fish and seafood which have been identified by the fishing industry as being under utilised. For businesses like this, which types do you consider to have the greatest potential for increased sales?** Record below.

Q. 14 b For those identified as having potential (Q.14 a Codes 1 to 11) ask Q. 14b

And what are the main reasons for believing that the potential lies with (Read out each type mentioned in Q. 14a)**?**

	Q.14a	Q.14b Reason
Wild Species		
Warehou (blue and silver/spotted)	01	
Squid (or calamari)	02	
Pilchards / sardines (not canned)	03	
Albacore tuna	04	
Silver Trevally	05	
Farmed Species		
Farmed prawns (not just prawns)	06	
Rainbow Trout (Freshwater)	07	
Silver Perch	08	
Mussels	09	
Oysters	10	
Farmed Barramundi	11	
None	12	Go to Q. 15a
Don't Know	13	Go to Q. 15a

Q. 15a **Thinking over the next five years, do you consider that the sale of fish and seafood products will increase, decrease or remain the same in this store?**

Increase	1
Decrease	2
Remain the same	3
Don't Know	4

Q. 15 b **And why do you say that?**

For classification purposes only could you please tell me...

Q. 16 a **The average weekly turnover of seafood** **Write in $________** Q. 16c

Of these sales what proportion would be accounted for by uncooked ....

None 000 Don't Know 101

Q. 17 **How many full time and part time/casual workers are employed by this store?**

Full Time: __________

Part Time/casual :______

Fish n chips

MAIN FISH AND SEAFOOD PURCHASED

Q4.	Q. 5 Form Buy						Q. 6a	6b Type of supplier					Q.7 Origins		
Species bought	Live	Whole	Fillet	Cutlet	Head & gutted	Other	Volume (kg) purchased average month	F'man/ farmer	General W'saler	Fish w'saler/ Co-Op	Fish market	Other	Import	Aust.	Don't Know
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101
	1	2	3	4	5	6		1	2	3	4	5			101

Appendix 4 Notes on Perceptual Map

Extracted from the National Seafood Consumption Study report (Fisheries R & D Corporation, 1992, p 83).

Perceptual maps are used to present the results of surveys in which respondents are asked whether any of a given set of products have any of a given set of attributes.
In the supermarket questionnaire, the set of products were:
meat,
pork,
poultry
and fresh or frozen fish

and some of the set of 22 attributes were :

- *Provides a good margin to retailer*
- *Well supported by advertising*
- *Is often too expensive for the retailer to buy*
- *Is likely to go off in store and have to be thrown out*

A perceptual map is simply a technique to visually present key results from this type of questioning. A few points about perceptual maps:

- *Both protein sources (ie products) and attributes are "mapped" using statistical techniques onto a single chart. The dots alongside the protein sources and attributes represent their position on the "map"*
- *The closer together the protein sources are on the map, the greater their perceived similarity*
- *The closer a particular attribute is to a particular protein source, the greater the likelihood that retailers believe the protein source possesses that attribute.*

Appendix 5 Intellectual Property

The intellectual property arising from this study comprises the databases from the consumer and retailer surveys and the data in Volumes One and Two of the project report. The FRDC proportion of the project intellectual property is 87%.

Appendix 6 Project Staff

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Consulting, Training and Advisory Services

A Study Of The Retail Sale And Consumption Of Seafood In Sydney

VOLUME 2
Consumer Surveys and Focus Group Findings

by Ruello & Associates Pty Ltd

for the

Fisheries Research & Development Corporation

FISHERIES RESEARCH & DEVELOPMENT CORPORATION

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PART TWO: FOCUS GROUP DISCUSSIONS

Acknowledgments

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Kailis Bros, Perth

Master Fish Merchants Association, Sydney

Poulos Bros, Sydney

Queensland Seafood Marketers Association

Sealanes Pty Ltd, Perth

Sydney Fish Market Pty Ltd, Sydney

Tasmanian Salmon Growers Association, Tasmania

Victorian Trout Farmers Association, Victoria

Woolworths Supermarkets, Sydney.

Sam Gordon (Master Fish Merchants Associations) Nicola McConnell (Sydney Fish Market Pty Ltd) and Simon Schofield (Woolworths Supermarkets) also assisted in reviewing the drafts of various sections of the study.

Executive Summary

This study was initiated in response to industry requests for information on the retail sales levels and consumption of fish and seafood in Sydney, the major market for Australia's fishing and aquaculture produce, because of widespread concerns about declining sales levels.

The study was designed to provide recommendations on how to increase retail sales profitably and to repeat much of the 1991 National Seafood Consumption Study (NSCS); that is, to examine changes in fish/seafood consumption and retailers and consumers attitudes to fish and seafood since 1991. A similar study on consumption and consumer attitudes was initiated in Perth shortly after the Sydney study started.

Volume One of the report has the detailed findings of a survey of the sales and attitudes of 140 fishmongers, supermarket and fish and chips outlet operators and the discussion, recommendations and conclusions arising from the entire study. This Volume (Two) of the report has the detailed findings from five focus group discussions with consumers and a total of 1142 interviews covering out of home consumption and 740 interviews on in home consumption and consumers attitudes.

The average fish/seafood consumption over Spring and Summer in 1999, as reported by consumers, was 377.6 grams per person per week (161.7 grams out of home and 215.9 grams in home). One quarter of the households surveyed (25%) reported that someone from that household had been recreational fishing in the last three months. The average estimated total weight of fish caught in the three months preceding the survey period was 1.434 kilograms per fishing household. Taking into consideration non-fishing households, the average catch was 288.6 grams per household in the last 3 months.

Nine percent of Sydney residents had not eaten fish/seafood within the last 12 months and in 6% of households no residents had eaten fish/seafood in the 12 months.

In relation to fish/seafood consumption in the last week, almost two thirds of Sydney residents (62%) had eaten some fish/seafood at home, more than a third (35%) had eaten fish/seafood out of home and a quarter had not eaten any fish/seafood.

There was general agreement that seafood is over priced and too expensive to be eaten more often. Men and women with less cooking skills were likely to articulate their lack of skill in cooking seafood as a barrier. For these people seafood was a special occasion meal to be eaten when out.

Most people expressed a need for meals that were simple and easy to cook. For many people, the ability to heat meals, or prepare them in advance, was also important. This was seen as incongruent with the average perception of fish which is that it does not freeze well, cannot be reheated and should be eaten the day it is purchased. There was a general concensus that it is easier to tell if fish is spoiled or contaminated than meat products just by look and smell.

Despite the concern over safety and contamination, fish was seen as being a healthy meal. However, it was still generally considered an alternative meal, much in the way as vegetarian meals were considered.

In relation to in home fish/seafood consumption, supermarkets accounted for over half of all fish/seafood purchases (61% all fish/seafood, 54% for fresh fish/seafood only). Fish shops (mostly uncooked) were the second most likely purchase point for both fresh fish/seafood (21%) and all fish/seafood (15%).

When selecting a store from which to make a fish/seafood purchase, over eight in ten Sydney residents considered very important factors to be easy access (87% very important), good reputation for quality (84% very important) and friendly staff (83% very important).

Almost half of the respondents surveyed (45%) considered that more promotion would increase their level of fish/seafood consumption. Decreasing the cost of fish/seafood was suggested by almost one third of respondents (29%).

1. Introduction

1.1 Background

A detailed study of the retail sales and consumption of seafood in Sydney was undertaken by a consortium of consultants in 1990/91 as part of the Fisheries Research & Development Corporation's National Seafood Consumption Study (Fisheries R & D Corporation 1992). This report has less relevance now because of the massive changes in the economic environment, food retailing and consumption in Australia since then.

In 1997 and early 1998 seafood retailers around Australia were bemoaning a decline in sales and there was much speculation about the causes of this widespread downturn. The high price of seafood, a lack of generic promotion, the growing number of working women, increasing consumption of seafood out of home and then the adverse publicity surrounding the Wallis Lake oysters-Hepatitis A incident were all cited as possible causes of the decline in business.

Sydney retailers in particular, the traditional fishmonger as well as the major supermarket groups, were reportedly affected by low sales levels and were eagerly looking for remedies to their economic malaise.

Sydney is the major market for much of the seafood produced in Australia because of its large population, but also because it is a hub for interstate trade and the source of much seafood for Canberra, Newcastle and Wollongong.

Therefore many producer companies and organisations around the country were prepared to contribute financially to research on seafood consumption and retail sales of seafood in Sydney to provide information on how to promote seafood and increase demand.

With the financial support and encouragement of these companies and organisations, Ruello & Associates successfully applied for a grant from the Fisheries R & D Corporation to provide the major funding for this research project on seafood consumption and retail sales.

1.2 Need for the Study

The food buying and eating habits of Australian consumers have undergone considerable changes in the 1990's as a result of the expansion of shopping centres, increasing sales of "wet fish" by supermarkets, new food processing and distribution technology and many demographic changes, amongst other things.

The staging of the Olympics in Sydney in the year 2000, growing concerns about food safety and the opportunity for import replacement of exotic fish species with some of Australia's under-utilised ones all added to the need for reliable up to date information on seafood consumption and retail trade in Sydney.

This study was designed to repeat much of the research undertaken in the 1990/1 National Seafood Consumption Study, to examine trends and changes in seafood consumption, and consumer and trade attitudes to seafood particularly under-utilised species, since 1991.

The research was carried out in three stages. Stage One was a qualitative study with consumer focus groups and Stage Two a quantitative survey of consumers in home and out of home consumption and attitudes. The detailed findings from these two stages are presented in this Volume Two.

Stage three consisted of surveys of the sales and attitudes of various retailers (a total of 140 fishmongers, supermarkets and fish and chips outlets). The findings from the Stage Three surveys, a general discussion, overall implications, conclusions and recommendations from the entire study are presented in Volume One. The objectives for each stage of the research project are detailed in the Objectives section in each volume.

A complementary research project "A study of seafood consumption in Perth and the development of a guide to targeted promotion" was initiated in February 1999 and is published separately as FRDC Report 99/342.

Part One

Seafood Consumption Survey

1. Objectives

1. Objectives

The objectives of this stage of the research program were to:

* Provide quantitative information regarding seafood consumption patterns in Sydney including the weight, species and money spent on seafood/fish;
* Examine the factors influencing consumers' decisions to purchase fish/seafood; and,
* Identify methods of increasing fish/seafood consumption.

2. Methodology

2. Methodology

The 1991 National Seafood Consumption Study examined seafood consumption patterns across the four seasons in all Australian capital cities and regional areas. The present study aimed to repeat the Spring and Summer quarterly waves of surveying to identify if there had been a change in seafood consumption patterns in these quarters since the 1991 study was undertaken in Sydney. Following the methodology adopted in the previous study, Sydney residents were surveyed to identify their in-home and out-of-home seafood consumption patterns.

The in-home questionnaire was administered by personal interviews to 740 people who were the main person in their household responsible for purchasing and/or preparing household meals. The in-home questionnaire measured:

* the consumption of all household members and visitors to the household in the seven days immediately prior to the interview (starting from dinner last night and working backwards through each meal and snack consumed in the past seven days);
* the out-of-home seafood consumption of respondents over the last seven days; and
* the out-of-home seafood consumption patterns of children in the household under 15 years where fish or seafood had been purchased by the respondent for a child in the last seven days.

Hence, the in-home questionnaire measured both in-home and out-of-home patterns of seafood consumption for the **main person in the household responsible for buying groceries and/or preparing meals.**

The out-of-home element of this survey was administered to non-groceries buyers to measure their out-of-home seafood consumption patterns. In the 1991 Seafood Consumption Study, out-of-home seafood consumption questionnaires had been left with in-home respondents to be completed by the other members of the household and returned using a reply paid envelope. **This methodology was not employed in this study due to concerns about the low response rate providing an insufficient sample size.**

Instead, out of home surveys were conducted by telephone with 402 randomly selected people in the Sydney metropolitan area. The fish and seafood consumption measured by this questionnaire was:

* the out-of-home seafood consumption of non-grocery buyers over the seven days immediately prior to the telephone interview (starting from dinner last night and working backwards through each meal and snack consumed in the past seven days).

This change in methodology resulted in the need to weight data to individuals (age within sex) rather than households (as reported in the 1991 survey) to determine population estimates. Where reference has been made to the 1991 survey, the results have been re-weighted to individuals to enable a direct comparison.

In addition to providing statistical information on fish and seafood consumption, both the in-home and out-of-home questionnaires measured consumer attitudes to fish and seafood. The attitude questions asked included:

* alternatives when a desired species is not available;
* attitude to fish and seafood for different meal occasions;
* importance of factors in selecting a retail outlet; and,
* awareness and trial of under-utilised wild and farmed species of fish/seafood.

In total, 1,142 interviews were conducted, distributed as shown in the Table 2a. It should be remembered that each in-home seafood consumption questionnaire also included an out-of-home seafood consumption section.

2. Methodology (cont)

To assist respondents to answer questions about the weight of fish and seafood consumed, a guide was given to interviewers to convert portion mentioned into edible weights. This guide is included in the appendix.

As the results have been weighted to the Sydney population by age and sex (as supplied by the Australian Bureau of Statistics) the majority of charts and tables used through-out this report indicate both the number of weighted and unweighted respondents. On charts and tables 'N' is used to present the population size while 'n' shows the sample size.

The term fish is used to refer to finned species while seafood refers to all other species (including shellfish, molluscs and crustaceans).

It must be recognised that this study, unlike the 1991 study, was not a survey of annual seafood consumption. Raw data, collected at only two points (Spring and Summer) are clearly not able to take into consideration seasonal factors known to affect seafood consumption. Similarly, the 1991 survey was not designed as a stand-alone survey of Sydney residents' seafood consumption patterns and the small sample size (n=260 total in home and out of home) means that this data should be used with caution.

Table 2a Number of Completed Interviews

	TOTAL	WAVE 1 November December, 1998	WAVE 2 Jan./February, 1999
Out of Home Seafood Consumption Survey (telephone interviews)	402	201	201
In Home Seafood Consumption Survey (face to face interviews)	740	440	300
Total Out of Home Interviews (Household grocery buyers and non-grocery buyers)	1,142	641	501

3. Overview of Results

3. Overview of Results

The average fish/seafood consumption over Spring and Summer in 1999 was 377.6 grams per person per week (161.7 grams out of home and 215.9 grams in home). This was considerably higher than the 1991 Sydney consumption figure of 335.0 grams (135.9 grams out of home and 199.1 grams in home) recorded for the two equivalent survey periods in the 1991 survey.

Nine percent of Sydney residents had not eaten fish/seafood within the last 12 months and in 6% of households no residents had eaten fish/seafood in the 12 months.

In relation to fish/seafood consumption in the last week, almost two thirds of Sydney residents (62%) had eaten some fish/seafood at home, more than a third (35%) had eaten fish/seafood out of home and a quarter (25%) had not eaten any fish/seafood.

One quarter of the households surveyed (25%) reported that someone from that household had been recreational fishing in the last three months. The average estimated total weight of fish caught in the three months preceding the survey period was 1.434 kilograms per fishing household. Taking into consideration non-fishing households, the average catch was 288.6 grams per household in the last 3 months.

The species/products most often never consumed out of home were frozen fish, mussels, lobster/crayfish, other crustaceans and scallops. For in home consumption, the least popular options included mussels, scallops, lobster/crayfish, other crustaceans and oysters.

Over nine in ten Sydney residents had heard of oysters (99%), squid/calamari (98%), mussels (97%) or sardines/pilchards (91%). Warehou and albacore tuna had the lowest levels of awareness (33% and 29% respectively).

For trialing species that had been heard of, more than seven out of ten Sydney residents had tried squid/ calamari (86%), oysters (78%) or mussels (72%). Approximately half the respondents surveyed had tried silver trevally (50%), albacore tuna (48%) or warehou (45%). The strongest dislike was recorded for oysters and pilchards/sardines (27%).

3. Overview of Results (cont)

Fish/seafood was most associated with entertainment entrees and to a lesser extent weekend lunches. Red meat and poultry were more strongly associated with evening meals by self, household and entertainment main meals. Pork was also viewed as a main meal for entertaining.

Of paramount concern to in home respondents (ie. main grocery buyer/meal preparer) was the correct labelling of fish/seafood (87% very important).

Sydney residents showed strong levels of agreement to statements concerned with the impact of pollution on fish/seafood safety (85% agree), preference for Australian rather than imported fish/seafood product (74% agree) and the notion that fish/seafood is good for a light meal (81% agree).

When selecting a store from which to make a fish/seafood purchase, over eight in ten Sydney residents considered very important factors to be easy access (87% very important), friendly staff (83% very important) and good reputation for quality (84% very important).

To almost three quarters of the Sydney population (73%) it was of no concern whether a fish came from its natural habitat or was farmed.

Almost half of the respondents surveyed (45%) considered that more advertising and promotion would increase their level of fish/seafood consumption. Decreasing the cost of fish/seafood was suggested by almost one third of respondents (29%).

In relation to in home fish/seafood consumption, supermarkets accounted for over half of all fish/seafood purchases (61% all fish/seafood, 54% for fresh fish/seafood only). Fish shops (mostly uncooked) were the second most likely purchase point for both fresh fish/seafood (21%) and all fish/seafood (15%).

Most fish/seafood meals consumed out of home were purchased as a main meal (87%) rather than an entrée (13%). Fish/seafood entrees were more popular at restaurants (37%) and friends/families houses (17%) than at other locations. Fish/seafood main meals were most commonly purchased at restaurants (27%), clubs (14%) or fast food outlets (12%).

4. Fish/Seafood Consumption

4.1 Level of Consumption

The average estimated fish/seafood consumption for the Spring (1998) Summer period (1999) was 377.6 grams per person per week (161.7 grams out of home and 215.9 grams in home). This was considerably higher than the 1991 Sydney consumption figure of 335.0 grams (135.9 grams out of home and 199.1 grams in home) recorded for the two equivalent survey periods in the 1991 survey. **These results suggest that Sydney residents are now consuming more fish/seafood both in and out of home than they did in 1991 (an increase of 2.8 grams out of home [an increase of 19%] and 16.8 grams in home per week[an increase of 8.4%]).**

4.1.1 Out of Home Fish/Seafood Consumption

The estimated average weekly consumption of fish/seafood out of home per person for Spring and Summer 1998/1999 was 161.7 grams per person per week.

* The 1991 seafood consumption survey found that the out of home fish/seafood consumption was higher for males than females (154.4 grams and 119.4 grams respectively) while in 1999 the situation was found to have been reversed (males 149.0 grams; females 172.8 grams).

* Higher than average out of home fish/seafood consumption was recorded for people between 15 and 19 years (171.9 grams) and people over the age of 60 years (193.7 grams). In the 1991 survey, while people over 60 years reported the highest level of fish/seafood consumption (180.8 grams) the 15-19 year old age bracket recorded the lowest level of weekly consumption over the Spring/Summer period (113.8 grams). Hence, while out of home fish/seafood consumption had increased in 1999 for all age groups, the younger age groups had shown the strongest increase (an increase of 58.1 grams per person per week).

2.1a Summary of Average Weekly Consumption of Fish/Seafood (grams)

	1991	1999	Change
In home	199.1g	215.9g	+16.8g
Out of home	135.9g	161.7g	+25.8g
Total	335.0g	377.6g	+42.6g

4.1 Level of Consumption (cont)

- While the out of home fish/seafood consumption of residents born in Australia and those born overseas had both increased since the 1991 survey, the increase was most pronounced for Australian born Sydney residents (46.5 grams per person). In 1991 Australian born Sydney residents consumed less fish/seafood than residents who were born overseas (118.7 grams and 157.1 grams respectively) but in the 1999 survey residents born outside of Australia had a slightly lower consumption rate than residents born within Australia (160.2 grams and 165.2 grams respectively). However, people born in Asia reported higher than average out of home fish/seafood consumption (181.1 grams).
- Out of home fish/seafood consumption was slightly higher in Wave 2 (Summer) than Wave 1 (Spring) (166.4 and 156.6 respectively).
- Out of home seafood consumption was lowest for households with an average income over $80k (120.1 grams and highest for households with an average weekly income between $25k and $40k (211.1 grams).

4.1 Level of Consumption (cont)

Table 4.1.1a Average Weekly Fish/ Seafood Consumption Out of Home

		Household Type			Gender		Age (in years)			
	Total	Single	Couple	Divorced/ Separated	Male	Female	15-19	20-39	40-59	60+
Consumption in 1991	135.9	124.7	145.9	119.9	154.4	119.4	113.8	141.0	129.5	180.8
Consumption in 1999	161.7	167.7	159.6	160.6	149.0	172.8	171.9	163.2	149.1	193.7
Change in Consumption	25.8	43.0	13.7	40.7	-5.4	53.4	58.1	22.2	19.6	12.9

Table 4.1.1b Average Weekly Fish/ Seafood Consumption Out of Home (cont)

	Employment			Country of Birth	
	Full time	Part time	None	Australia	Another Country
Consumption in 1991	132.5	170.6	131.0	118.7	157.1
Consumption in 1999	163.7	151.0	167.8	165.2	160.2
Change in Consumption	**31.2-19.6**	**36.8**	**46.5**	**3.1**	

4.1.2 In Home Fish/Seafood Consumption

The estimated average weekly in home consumption of fish/seafood over the Spring/Summer 1998/1999 period was 215.9 grams per person showing an increase of 16.8 grams per week since the 1991 survey.

- In home fish/seafood consumption was higher for couples (220.4 grams) and young families (216.6 grams) than for either singles (215.5 grams) or mature families (205.2 grams). By contrast, in the 1991 survey singles were found to have the highest weekly level of in home consumption (253.6 grams) with couples reporting the lowest level of weekly consumption for the Spring and Summer period (176.3 grams).
- As found in the 1991 survey, males ate considerably more fish/seafood out of home (275.6 grams in 1999; 223.0 gram in 1991) than did females (181.8 in 1999; 182.3 grams in 1991).
- In home fish/seafood consumption for 1999 generally increased as a function of age peaking in the 40 to 59 year age group (at 236.1 grams) and falling to only 148.2 grams in the 15 to 19 year old age group. Consumption in 1991 was more variable with people in the 15 to 19 year old age groups having the highest consumption (258.8 grams) and people in the over 60 years of age bracket having the lowest level of in home fish/seafood consumption (182.1 grams).
- As found in the previous survey, fish/seafood consumption in home was higher for people born overseas (233.4 grams in 1999; 233.4 grams in 1991) than in Australia (210.0 grams in 1999; 180.9 grams in 1991). There had been a substantial increase in fish/seafood consumption since the previous survey by people born in Australia (29.1 grams per person per week).

4.1 Level of Consumption (cont)

* People in part time employment reported higher levels of fish/seafood consumption in home (258.8 grams) than people in full time employment (194.7 grams) or not in the work force (200.1 grams). By contrast, the 1991 survey found that fish/seafood consumption was higher for those in full-time employment (223.5 grams) or not in the workforce at all (187.9 grams) than people in part-time employment (172.5 grams).

* Particularly high levels of fish/seafood consumption in home were reported by people with an average annual household income of over $60k (324.8 grams). People from households with an average annual income of less than $60k reported below average levels of seafood consumption in home. This demonstrates a change in seafood consumption patterns since the 1991 survey where it was found that fish/seafood consumption in home was actually lowest for people living in a household with income in excess of $30k per year.

* In both the 1991 and 1999 surveys, in home fish/seafood consumption was found to be higher in January/February (202.7 in 1991; 227.6 in 1999) than November/December (195.5 in 1991; 202.5 in 1999).

4.1 Level of Consumption (cont)

4.1.2b Average Weekly Fish/ Seafood Consumption In Home

	Total	Household Type				Gender		Age (in years)			
		Single	Couple	Young Family	Mature Family	Male	Female	15-19	20-39	40-59	60+
Consumption 1991	199.1	253.6	176.3	193.4	187.4	223.0	182.3	258.8	187.5	217.3	182.1
Consumption 1999	215.9	215.5	220.4	216.6	205.2	275.6	181.8	148.2	199.2	236.1	212.8
Change in Consumption	**16.8**	**-38.1**	**44.1**	**23.2**	**17.8**	**52.6**	**-0.5**	**-110.6**	**11.7**	**18.8**	**30.7**

4.1.2b Average Weekly Fish/ Seafood Consumption In Home (cont)

	Employment			Country of Birth		Household Income				Wave	
	Full time	Part time	None	Australia	Another Country	< $25k	$25k - $40k	$40k - $60k	$60k +	Wave 1	Wave 2
Consumption 1991	223.5	172.5	187.9	180.9	233.4	228.2	237.1	207.8	126.9	195.5	202.7
Consumption 1999	194.7	258.8	200.1	210.0	233.4	175.6	212.9	178.1	234.8	202.5	227.6
Change in Consumption	**-28.8**	**86.3**	**12.2**	**29.1**	**-**	**-52.6**	**-24.2**	**-29.7**	**107.9**	**7**	**24.9**

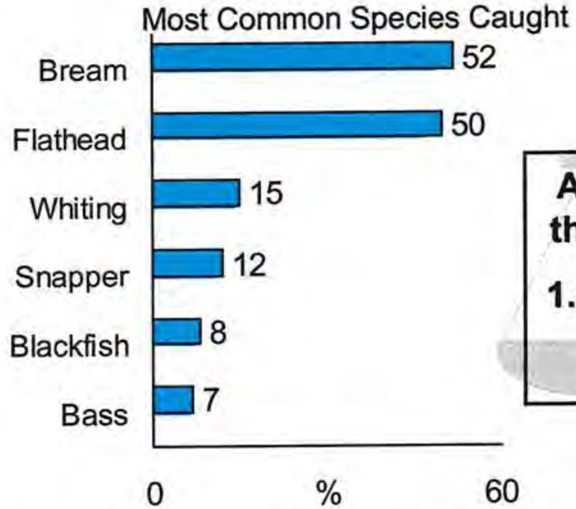
4.1 Level of Consumption (cont)

Recreational Fishing

Over the last three month, 25% of in home respondents reported that someone from their household had been fishing.

- Recreational fishing was least popular with singles and couples where 85% and 78% of Sydney residents reported that no one from their household had gone fishing.
- Similarly, the rates for non-fishing were higher in low income households than higher income households.
- The species most often caught by anglers were bream (52%) and flathead (50%).
- As found in the 1991 survey, there was again a notable seasonal difference in recreational fishing with 16% of households going fishing in November/December and 40% in January/February.
- The average estimated total weight of fish caught in the three months preceding the survey period was 1.434 kilograms per fishing household (compared to 1.01 kilograms in 1991). Taking into consideration non-fishing households, the average catch was 288.6 grams per household (or 91 grams per person).

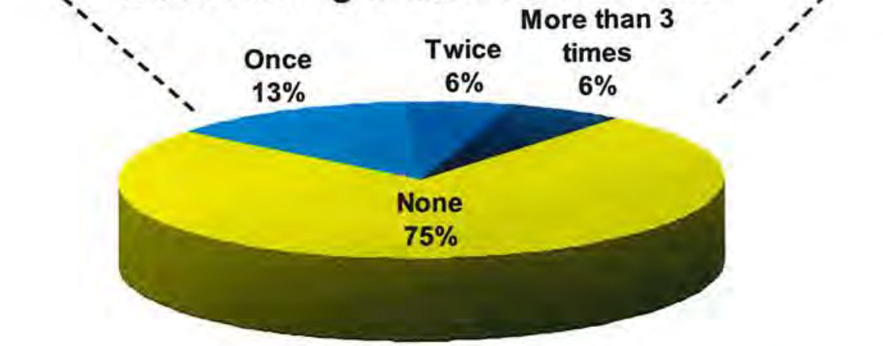
4.1.2c Recreational Fishing and Consumption



Average Weight in the Last 3 Months=

1.434 kilograms per catch

4.1.2d Number of Occasions Been Fishing in the Last 3 Months



Base: In home respondents, weighted by age within sex (n= 740, N=2,943,000)

4.2 Fish/Seafood Consumption in the Last 12 Months

Almost one in ten Sydney residents (9%) had not eaten any fish/seafood in the last 12 months.

* There was no difference by gender in fish/seafood consumption in the last 12 months (males 90% and females 91%).
* There was a tendency for greater fish/seafood consumption in the higher age brackets (95% for people aged between 40 to 59 years and 98% for people aged over 60 years).

In addition, it was identified that in 6% of households at least one member had not eaten fish/seafood in the last year.

Table 4.2a Eaten Fish/Seafood in the Last 12 Months

		GENDER		AGE (IN YEARS)						
	Total	Male	Female	0-2	3-9	10-14	15-19	20-39	40-59	60+
Respondents	2354	1258	1095	91	246	192	210	801	523	288
Wtd Resp ('ooo)	7854	4204	3661	301	821	641	703	2676	1741	961
	%	%	%	%	%	%	%	%	%	%
Yes	91	90	91	65	93	91	87	88	95	98
No	9	9	9	33	7	7	13	11	5	2

4.3 Fish/Seafood Consumption in the Last Week

In relation to fish/seafood consumption in the last week, almost two thirds of Sydney residents (62%) had eaten some fish/seafood at home, 35% had eaten fish/seafood out of home and 25% reported not eating any fish/seafood at all over this period.

* Family situation was found to have a strong influence on fish/seafood consumption in home with singles reporting much lower rates of consumption than couples/families (48% and 70% respectively). Similarly, singles were much more likely to report not consuming fish/seafood at all in the week preceding the survey (34% compared to 19% for couples/families). Interestingly, there was no difference in out of home fish/seafood consumption based on family situation (35% for singles and 35% for couples/families). This suggests that the difference in fish/seafood consumption is not due to taste, but more likely a results of single respondents either not cooking at home in general or not cooking fish/seafood at home.
* Different rates of fish/seafood consumption were also apparent based on gender. In reference to their fish/seafood consumption patterns in the week preceding the survey, men were more like to report having not eaten any fish/seafood than women (29% compared to 21%), and less likely to have consumed fish/seafood either at home (53% compared to 69% for women) or out of home (31% compared to 39% for women). The pattern of these results suggests that men simply find fish/seafood less appealing than women.
* Respondents' age also had a considerable influence on fish/seafood consumption patterns. Fish/seafood consumption at home rose steadily as a function of age, starting with 32% of people aged between 15 and 19 years having eaten fish/seafood in the week prior to the study and climbing to 77% of respondents aged 60 and over. Out of home fish/seafood consumption was more variable, reaching a peak of 40% for respondents in the 20 to 39 years age bracket and then declining to 25% in the 60 and over age group. Non consumption of fish/seafood over the week was highest in the under 20 years of age bracket (47%) and declined steadily to 12% in the 60 years and over age group.
* There was a sizeable difference in fish/seafood consumption between the two waves of surveying. The November/December survey identified that only 55% of people had eaten fish/seafood at home, compared to 77% in the January/February survey. Similarly, in the November/December survey 29% of people reported not having eaten any fish/seafood in the week immediately prior to the survey compared to just 16% in January/February. The difference in out of home fish/seafood consumption was not as marked between the two waves of surveying (33% in November/December and 38% in January/February).

4.3 Fish/Seafood Consumption in the Last Week (cont)

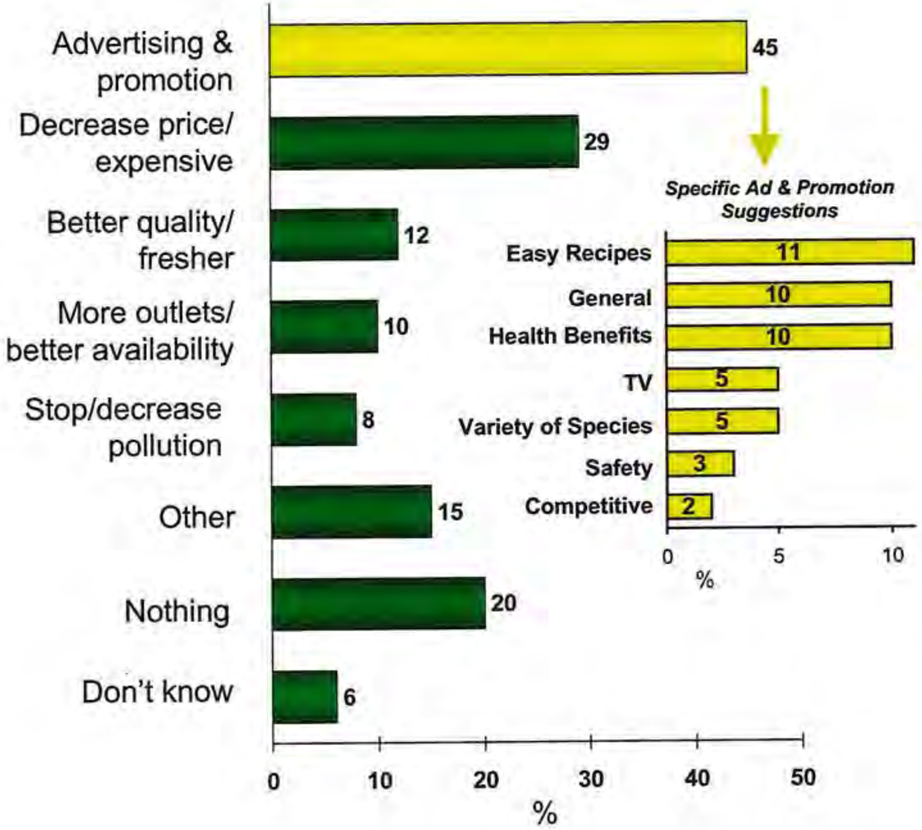
Table 4.3a Fish/Seafood Consumption (Last Week)

		H'HOLD TYPE		GENDER		AGE (IN YEARS)				PLACE OF BIRTH		WAVES	
	Total %	Single %	Couple/ Family %	Male %	Female %	15-19 %	20-39 %	40-59 %	60+ %	Aust %	Overseas %	Nov'/ Dec' %	Jan'/ Feb' %
At home	62	48	70	53	69	32	51	72	77	57	80	55	77
Out of home	35	35	35	31	39	26	40	38	25	34	35	33	38
Not eaten	25	34	19	29	21	47	33	17	12	27	15	29	16

Base: All respondents weighted by sex within age (N= 2,943,000 n=1,142)

4.4 Actions Required to Improve Fish/Seafood Consumption

Figure 4.4a - Industry Actions Required to Increase Seafood Consumption



Base: All respondents weighted by sex within age (n=1,142), unweighted respondents (N=2,943,000)

Almost half of the respondents surveyed (45%) considered that increased advertising and promotion would increase fish/seafood consumption. The three most common suggestions for the form and content of this advertising were:

* Advertising easy to use recipes (11%).
* More advertising in general (10%).
* Advertising the health benefits of fish (10%).

Decreasing the cost of fish/seafood was suggested by almost one third of respondents (29%).

* Cost was particularly an issue for low income households being made as a suggestion by 36% of households with an income under $25,000 per annum.
* Cost was less important to people under 20 years (24%) and people over 60 year (27%).

One fifth of respondents (20%) considered that there was nothing the industry could do to increase their fish/seafood consumption.

* This belief was more commonly held by women (23%) than men (16%).

Improving the quality of fish and seafood was suggested by just over one in ten respondents (12%).

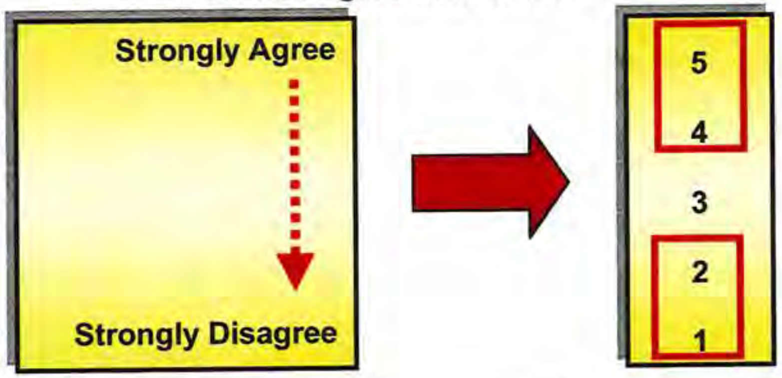
* Consistent with the findings of earlier qualitative work, quality was of greater importance to men than women (14% compared to 9%).
* People in full-time employment were more concerned about quality than people in part-time employment or not in the workforce (16%, 11% and 8% respectively).

4.5 Market Segmentation

In-home respondents were asked to provide their agreement to a series of 23 statements about seafood. Their responses were measured on the scale shown in Box 4.5a.

These statements were based on those statements used in the 1991 seafood consumption study. Responses to these statements were used to cluster in home respondents (main grocery buyer/meal preparer) into different market segments. The cluster solution chosen as most appropriate to the distribution of the data was one in which the population was segmented into five distinct attitude clusters.

Box 4.5a Agreement Scale



Box 4.5b Key Drivers of the Segmentation Model

- *I like preparing fish and seafood*
- *I find fish easy to cook*
- *I eat fish/seafood because it is better for my health than red meat*
- *Fresh fish cost so much that I eat it rarely*
- *If I knew of more ways to cook fish/seafood I would eat more*
- *I would eat more fish/seafood if it was easier to obtain*

The purpose of generating these segments was to identify different market attitudes to fish and seafood relevant to promotion strategies. The statements identified as key drivers of the segmentation model were (in order of magnitude) are shown opposite.

Note that particular attitudes may appear in more than one cluster. It is the magnitude of different attitudes in a cluster that creates the unique view-point of that cluster.

4.5 Market Segmentation (cont)

Table 4.5a Demographic Composition of Segments

	H'HOLD TYPE				GENDER		AGE (IN YEARS)				EMPLOYMENT			HOUSEHOLD INCOME				
	Single %	Couple %	Young Family %	Mature Family %	Male %	Female %	15-19 %	20-39 %	40-59 %	60+ %	Full time %	Part time %	None %	<$25k %	$25-$40k %	$40-$60k %	$60k-$80k %	Over $80k %
Segment 1 "Keep it simple"	38	21	35	7	44	56	-	42	33	25	30	26	44	27	7	14	20	18
Segment 2 "Comfortable with fish and health conscious"	33	29	30	9	62	38	13	44	22	21	45	24	29	25	17	7	9	11
Segment 3 "Environmentally Aware"	46	15	29	10	50	50	13	29	40	18	35	20	45	29	24	14	11	8
Segment 4 "Health family living"	38	11	48	11	42	58	12	50	29	9	46	18	36	35	13	16	13	7
Segment 5 "Traditionalists"	41	15	32	12	45	55	2	41	29	27	19	22	59	26	18	17	11	5
TOTAL	39	18	33	10	49	51	9	41	31	19	35	21	43	29	17	14	12	9

Base: All in home respondents weighted by sex within age (n=740), unweighted respondents (N=2,943,000)

4.5 Market Segmentation (cont)

Table 4.5b Rating of Attribute Importance When Purchasing at Outlet (average scores)

	TOTAL	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5
Respondents	313	83	20*	86	53	71
Wtd Resp ('ooo)	1124	307	105	283	143	286
It sells fresh fish and seafood	6.17	6.72	5.77	6.53	5.64	5.66
Attractive display	5.99	6.26	4.49	6.58	5.93	5.72
Consistently low prices for seafood	5.37	5.71	4.50	5.39	5.59	5.20
Regular customer	5.85	6.08	4.86	5.96	5.76	5.92
Australian product	5.85	5.47	5.33	6.31	5.56	6.15
Offers specials	5.53	5.39	4.32	5.55	5.94	5.91
Informed staff about seafood	5.42	5.75	4.99	5.55	5.36	5.16
Consistently low prices in general	5.49	5.34	4.89	5.36	5.83	5.89
Easily accessible	6.31	6.43	6.31	6.09	6.35	6.36
Advertises specials regularly	4.65	4.33	4.32	5.18	4.67	4.60
Variety of food	5.49	5.23	4.71	5.73	5.41	5.89
Variety of species	6.16	6.46	5.92	6.38	5.87	5.88
Friendly staff	6.27	6.43	6.36	6.36	6.21	6.03
Good reputation for quality	6.25	6.61	6.01	6.46	6.38	5.69
Confident fish is fresh and not frozen	5.90	6.18	5.43	6.04	5.86	5.66

Scale: 1 to 7 where 7 is very important and 1 is not at all important.
Base: Weighted respondents by sex within age (N=1,124,000), unweighted respondents (n=313).
Don't know responses excluded
* Note low base

Table 4.5c Importance of Aspect When Selecting a Fish/Seafood for a Meal At Home (average scores)

	TOTAL	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5
Respondents	313	83	20*	86	53	71
Wtd Resp ('ooo)	1124	307	105	283	143	286
The fish is the species I want	6.37	6.39	6.23	6.58	6.41	6.18
Fish has been cut and filleted	6.15	6.17	4.89	6.15	6.66	6.35
Has a white or light coloured flesh	5.47	5.37	4.71	5.70	5.71	5.51
Has a strong flavour	4.31	4.23	3.78	4.65	3.82	4.51
Doesn't have bones	5.34	4.48	5.06	6.19	6.56	4.97
Deep sea species	4.09	4.18	2.42	4.71	4.08	4.06
Sure it is correctly labelled	6.47	6.19	6.98	6.53	6.61	6.46
Is a familiar type of fish	5.77	5.48	5.26	6.16	6.50	5.54
Is a relatively low price	5.39	5.14	4.26	5.95	5.77	5.37
Is attractively presented	5.82	5.97	4.30	6.02	6.12	5.87
Fresh rather than frozen	5.76	6.09	4.75	6.54	5.81	5.01
Has a light flavour	5.34	5.23	4.26	5.34	5.94	5.57
Recommended by the retailer	4.08	4.13	2.70	4.81	3.80	3.99

Scale: 1 to 7 where 7 is very important and 1 is not at all important.
Base: Weighted respondents by sex within age (N=1,124,000), unweighted respondents (n=313).
Don't know responses excluded from average scores.
* Note low base

4.5 Market Segmentation (cont)

4.5.1 Segment 1: *"Keep it simple"*

Key Descriptors

Segment one accounts for 15% of in home respondents (household grocery buyers/meal preparers). People in this segment did not like cooking fish/seafood and did not consider it to be easy to cook. Segment members agreed that if they knew more ways to cook fish/seafood, or if it was easier to obtain, they would eat more. This segment was also unmoved by the health benefits of fish/seafood.

* *I like preparing fish and seafood* (segment average of 1.92 compared to sample average of 2.94)
* *I find fish easy to cook* (segment average of 1.34 compared to sample average of 2.16)
* *I eat fish/seafood because it is better for my health than red meat* (segment average of 1.71 compared to sample average of 2.31)
* *Fresh fish cost so much that I eat it rarely* (segment average of 4.61 compared to sample average of 3.19)
* *If I knew of more ways to cook fish/seafood I would eat more* (segment average of 3.96 compared to sample average of 3.05)
* *I would eat more fish/seafood if it was easier to obtain* (segment average of 3.64 compared to sample average of 2.89)

(scales: 1 to 5 where 5 is strongly agree and 1 is strongly disagree)

Fish and Seafood Consumption

All individuals in this segment (100%) had eaten some fish or seafood in the last year. On average, individuals in this segment consumed an estimated 195.9 grams of fish and seafood per week (based on November/December and January/February surveys).

Demographic Differences

This segment had the second highest level of female membership (56%) and also over represented by people in the 65 and over age bracket (25%). The rate of part-time employment was high for this segment (25%). Another notable demographic feature of this group was the over representation of respondents in the higher income brackets with 38% earning $60k or over.

Attitudes

This segment had the highest usage of supermarkets and fresh fish shops as the points of purchase for fish/seafood (57% and 20% of purchases respectively). The most important factors to this segment in purchasing fresh or frozen fish from an outlet were:

- It sells fresh fish and seafood (average score of 6.72)
- Good reputation for quality (average score of 6.61)
- Variety of species (average score of 6.46)
- Friendly staff (average score of 6.43)
- Easily accessible (average score of 6.43)
- (scales: 1 to 7 where 1 is very unimportant and 7 is very important)

4.5 Market Segmentation (cont)

When selecting fish/seafood for a meal at home this segment considered the following features to be of most importance:

- The fish is the species I want (average score of 6.39)
- Can be sure it is correctly labelled (average score of 6.19)
- Fish has been cut and filleted (average score of 6.17)
- Fresh rather than frozen (average score of 6.09)
- (scales: 1 to 7 where 1 is very unimportant and 7 is very important)

These Sydney residents would buy more fish and seafood if they were better informed of simple methods of preparation and cooking. While these shoppers are clearly price conscious, their rating of importance statements suggests that they will pay more for a quality product.

4.5.2 Segment 2: "*Comfortable with Fish and Health Conscious*"

Key Descriptors

Segment two accounted for 20% of in home respondents (household grocery buyers/meal preparers). Members of this segment enjoy cooking fish/seafood and find it relatively easy to prepare.They were particularly likely to eat fish/seafood for health benefits. Cost was a marginal concern though availability and knowing more methods of cooking fish/seafood were of more importance.

- *I like preparing fish and seafood* (segment average of 4.04 compared to sample average of 2.94)
- *I find fish easy to cook* (segment average of 2.88 compared to sample average of 2.16)
- *I eat fish/seafood because it is better for my health than red meat* (segment average of 3.81 compared to sample average of 2.31)
- *Fresh fish cost so much that I eat it rarely* (segment average of 3.63 compared to sample average of 3.19)
- *If I knew of more ways to cook fish/seafood I would eat more* (segment average of 4.17 compared to sample average of 3.05)
- *I would eat more fish/seafood if it was easier to obtain* (segment average of 4.06 compared to sample average of 2.89)

(scales: 1 to 5 where 5 is strongly agree and 1 is strongly disagree)

Fish and Seafood Consumption

Just two thirds of the members of this segment (65%) had consumed fish or seafood within the last 12 months. Yet this segment had the highest average level of fish and seafood consumption consuming an estimated 308.5 grams of fish and seafood per week (based on November/December and January/February surveys).

Demographic Differences

Segment two over represented couples (29%) and males (62%). This segment also had an above average rate of respondents in full-time employment (45%). Under represented were people aged over 40 years (43%).

Attitudes

This segment relied mostly on supermarkets and fish/general markets for their fish/seafood purchases (both 12%). When purchasing fresh or frozen fish from a retail outlet of most importance to this segment were:

- Friendly staff (average score of 6.36)
- Easily accessible (average score of 6.13)
- Good reputation for quality (average score of 6.01)
- (scales: 1 to 7 where 1 is very unimportant and 7 is very important)

When selecting fish/seafood for a meal at home this segment considered the following features to be of most importance:

- Can be sure it is correctly labelled (average score of 6.98)
- The fish is the species I want (average score of 6.23)
- (scales: 1 to 7 where 1 is very unimportant and 7 is very important)

4.5 Market Segmentation (cont)

This segment was the most likely segment to identify that 'nothing' could be done by the fishing industry to encourage them to consume more fish/seafood. Fifteen percent suggested decreasing the price while a further 10% suggested more advertising.

4.5.3 Segment 3: "*Environmentally Aware*"

Key Descriptors

Fifteen percent of grocery buyers fell within this segment. Members of this segment did not like preparing fish/seafood nor find it easy to cook. They did not eat fish for its health benefits and were not particularly concerned about cost. They would not eat more fish/seafood if it was easier to obtain and did not particularly require additional information on cooking options.

* *I like preparing fish and seafood* (segment average of 2.04 compared to sample average of 2.94)
* *I find fish easy to cook* (segment average of 1.47 compared to sample average of 2.16)
* *I eat fish/seafood because it is better for my health than red meat* (segment average of 1.43 compared to sample average of 2.31)
* *Fresh fish cost so much that I eat it rarely* (segment average of 2.96 compared to sample average of 3.19)
* *If I knew of more ways to cook fish/seafood I would eat more* (segment average of 2.54 compared to sample average of 3.05)
* *I would eat more fish/seafood if it was easier to obtain* (segment average of 2.12 compared to sample average of 2.89)

(scales: 1 to 5 where 5 is strongly agree and 1 is strongly disagree)

Fish and Seafood Consumption

Ninety-nine percent of the members of this segment had eaten fish or seafood in the last 12 months. On average, individuals in this segment consumed an estimated 264.1 grams of fish and seafood per week (based on November/December and January/February surveys).

4.5 Market Segmentation (cont)

Demographic Differences

Segment three included the highest level of singles membership (46%). In terms of age, people between 20 and 39 years were under represented (29%) while people aged between 40 and 59 years were over represented (40%). Over half of this segment (53%) had a household income of less than $40k per annum.

Attitudes

Half of the fish/seafood purchases made by these Sydney residents were from a supermarket (50%). Twelve percent of purchases were from a fish shop. The most important factors to this segment in purchasing fresh or frozen fish from an outlet were:

- Attractive display (average score of 6.58)
- It sells fresh fish and seafood (average score of 6.53)
- Good reputation for quality (average score of 6.46)
- Variety of species (average score of 6.38)
- Friendly staff (average score of 6.36)

(scales: 1 to 7 where 1 is very unimportant and 7 is very important)

When selecting fish/seafood for a meal at home this segment considered the following features to be of most importance:

- The fish is the species I want (average score of 6.58)
- Fresh rather than frozen (average score of 6.54)
- Sure it is correctly labelled (average score of 6.53)
- Does not have bones (average score of 6.19)

(scales: 1 to 7 where 1 is very unimportant and 7 is very important)

4.5 Market Segmentation (cont)

Twenty-seven percent of this segment reported that they would buy more fish/seafood if it was less expensive. There was also a comparatively high level of concern over contamination levels (11%) and an interest in seeing advertising focusing on seafood from unpolluted areas (8%). Eleven percent of people also suggested the need for more outlets.

4.5.4 Segment 4: "*Healthy Family Living*"

Key Descriptors

This segment was comprised of 16% of in home respondents (main household grocery buyers/meal preparers). Segment members enjoyed cooking fish/seafood and found it easy to prepare. They did not particularly eat fish for its health benefits or see it as difficult to obtain or costly (although there is a suggestion in their rating of outlet attributes that they would buy more fish and seafood if it was cheaper). They also had no particular desire for additional knowledge on alternative cooking methods.

- *I like preparing fish and seafood* (segment average of 3.82 compared to sample average of 2.94)
- *I find fish easy to cook* (segment average of 3.18 compared to sample average of 2.16)
- *I eat fish/seafood because it is better for my health than red meat* (segment average of 2.70 compared to sample average of 2.31)
- *Fresh fish cost so much that I eat it rarely* (segment average of 2.34 compared to sample average of 3.19)
- *If I knew of more ways to cook fish/seafood I would eat more* (segment average of 2.57 compared to sample average of 3.05)
- *I would eat more fish/seafood if it was easier to obtain* (segment average of 2.55 compared to sample average of 2.89)

(scales: 1 to 5 where 5 is strongly agree and 1 is strongly disagree)

Fish and Seafood Consumption

Ninety-six percent of the members of this segment had eaten fish or seafood in the last 12 months. With an average weekly fish and seafood consumption of just 149.6 grams (based on November/December and January/February surveys), individuals in this segment had the lowest level of consumption.

4.5 Market Segmentation (cont)

Demographic Differences

Segment four had the highest levels of people with young families (48%) and females (58%). As would be expected, the age group between 20 and 39 years was also over represented (50%).There was a high level of full-time employment (46%) with over one third of respondents (35%) earning less than $25k.

Attitudes

Forty-one percent of the fish/seafood purchases of this segment were made at a supermarket. Ten percent of the seafood purchases made by this segment were at a take-away outlet while only 6% of fish/seafood purchases were made at a fresh fish shop. When purchasing fresh or frozen fish from a retail outlet of most importance to this segment were:

* Good reputation for quality (average score of 6.38)
* Easily accessible (average score of 6.36)
* Friendly staff (average score of 6.21)

(scales: 1 to 7 where 1 is very unimportant and 7 is very important)

When selecting fish/seafood for a meal at home this segment considered the following features to be of most importance:

* Fish has been cut and filleted (average score of 6.66)
* Sure it is correctly labelled (average score of 6.61)
* Does not have bones (average score of 6.56)
* Is a familiar type of fish (average score of 6.50)

4.5 Market Segmentation (cont)

- ✶ Fresh rather than frozen (average score of 6.54)
- ✶ The fish is the species I want (average score of 6.41)

(scales: 1 to 7 where 1 is very unimportant and 7 is very important)

Over half of this segment (53%) suggested that they would consume more fish/seafood if the price was cheaper. Twelve percent of respondents suggested advertising on recipes and alternative cooking options.

4.5.5 Segment 5: "*Traditionalists*"

Key Descriptors

Twenty three percent of grocery buyers/meal preparers (in home respondents) fell within this segment. These in home respondents had a mild dislike of cooking fish/seafood and found it to be slightly difficult to prepare. They did not see cost or accessibility as limiting factors in their consumption of fish/seafood.

- *I like preparing fish and seafood* (segment average of 2.92 compared to sample average of 2.94)
- *I find fish easy to cook* (segment average of 1.89 compared to sample average of 2.16)
- *I eat fish/seafood because it is better for my health than red meat* (segment average of 2.25 compared to sample average of 2.31)
- *Fresh fish cost so much that I eat it rarely* (segment average of 2.97 compared to sample average of 3.19)
- *If I knew of more ways to cook fish/seafood I would eat more* (segment average of 2.68 compared to sample average of 3.05)
- *I would eat more fish/seafood if it was easier to obtain* (segment average of 2.70 compared to sample average of 2.89)

(scales: 1 to 5 where 5 is strongly agree and 1 is strongly disagree)

Fish and Seafood Consumption

All members of this segment (100%) had consumed some fish or seafood in the last 12 months. On average, individuals in this segment consumed an estimated 188 grams of fish and seafood per week (based on November/December and January/February surveys).

4.5 Market Segmentation (cont)

Demographic Differences

Segment five had a slightly higher than average female membership (55%). This segment also showed notably higher rates of older people (60 years and over) and people not in full-time employment (27% and 59% respectively).

Attitudes

Fifty-eight percent of the fish/seafood purchases of this segment were at a supermarket. Only 7% of fish/seafood purchases were made at a fish shop. When purchasing fresh or frozen fish from a retail outlet of most importance to this segment were:

* Easily accessible (average score of 6.36)
* Australian product (average score of 6.15)
* Friendly staff (average score of 6.03)

(scales: 1 to 7 where 1 is very unimportant and 7 is very important)

When selecting fish/seafood for a meal at home this segment considered the following features to be of most importance:

* Sure it is correctly labelled (average score of 6.46)
* Fish has been cut and filleted (average score of 6.35)
* The fish is the species I want (average score of 6.18)

(scales: 1 to 7 where 1 is very unimportant and 7 is very important)

Almost one third of this segment (31%) suggested that they would purchase more fish/seafood if there was more advertising. A similar amount of people (29%) suggested decreasing the price.

4.6 Regularity of Eating Different Types of Seafood

Respondents were given the list of fish/seafood options presented in Box 4.6a and asked how often they would consume each option (in-home respondents were asked for their in home consumption and out of home respondents were asked for their out of home consumption). Charts 4.6a and 4.6b show the level of monthly or more frequent consumption and the level of non-consumption. Chart 4.6c compares the frequency between in home and out of home consumption in more depth.

BOX4.6a Product Consumption

Fish	Crustaceans	Molluscs
Fresh fish	Prawns/shrimp	Mussels
Prepared/ processed	Lobster/crayfish	Oysters
Frozen fish	Other crustaceans	Scallops
Canned fish		Squid/calamari
Take-away fish		

Chart 4.6b shows that fresh fish, canned fish, fish from a take away outlet, prepared/processed fish and frozen fish were most commonly eaten at home while prawns/shrimp, squid/calamari, oysters, mussels, lobster/crayfish, scallops and other shellfish were most commonly eaten away from home.

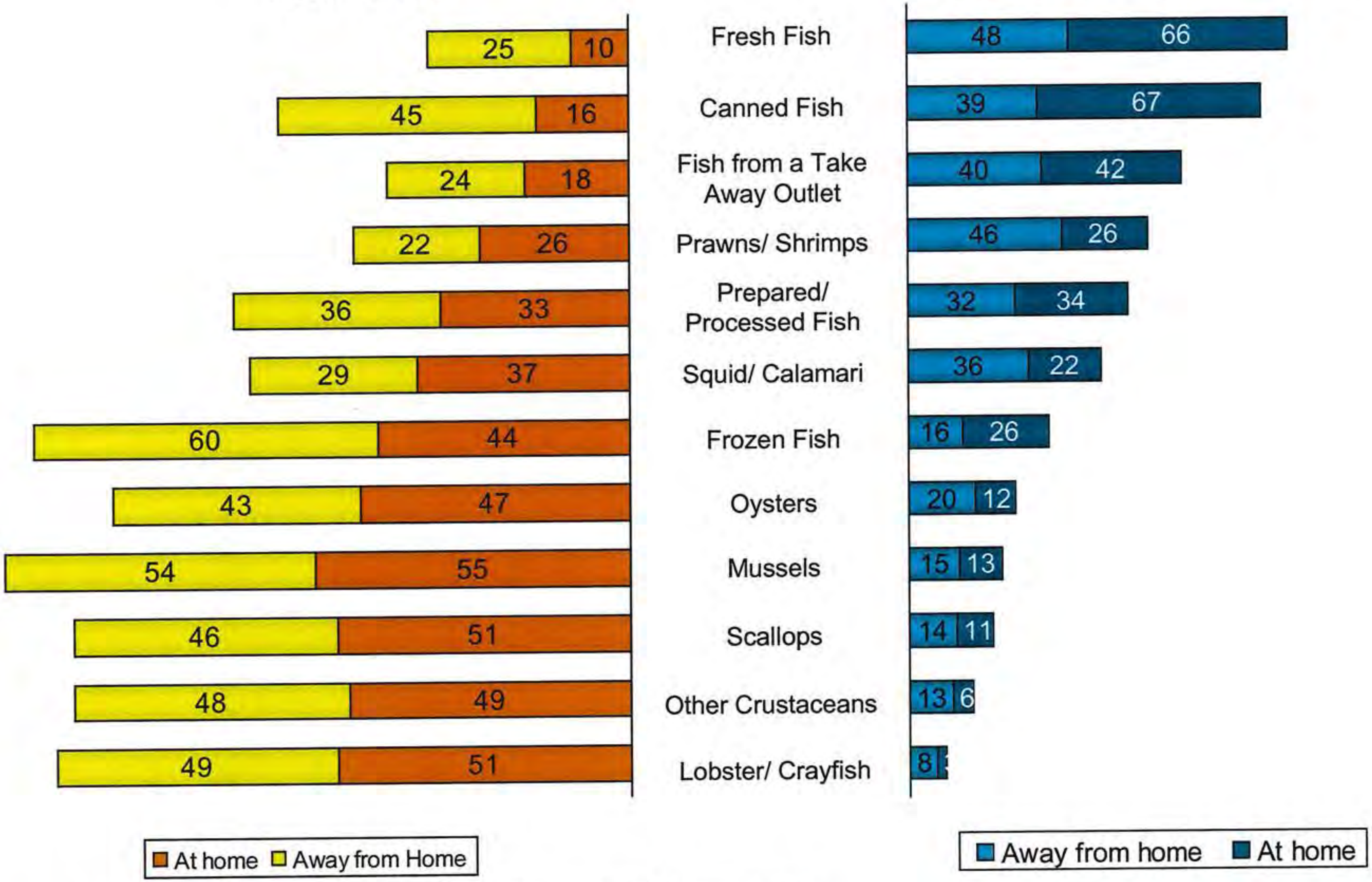
The species/products most often **never** consumed out of home (chart 4.6a) were frozen fish, mussels, lobster/crayfish, other crustaceans, scallops and canned fish. For in home consumption unpopular options included mussels, scallops, lobster/crayfish, other crustaceans and oysters.

It can be seen from chart 4.6c that the frequency of consumption of prawns/shrimp away from home peaks at *monthly* while lobster/crayfish consumption peak at *yearly*. Lobster/crayfish consumption in home peaked at *less often than yearly*. The consumption of molluscs in home and out of home followed similar patterns although there was a tendency for squid/calamari to be consumed more frequently away from home. Fish was most frequently consumed at home, though out of home consumption rates were still higher than other types of seafood (with the exception of prawns).

4.6 Regularity of Eating Different Types of Fish/Seafood (cont)

Chart 4.6.a - Percentage of Respondents Never Eating Fish/Seafood

Chart 4.6.b - Percentage of Respondents Eating Fish/Seafood at Least Once a Month



Base: All respondents weighted by sex within age (n=1,142), unweighted respondents (N=2,943,000)

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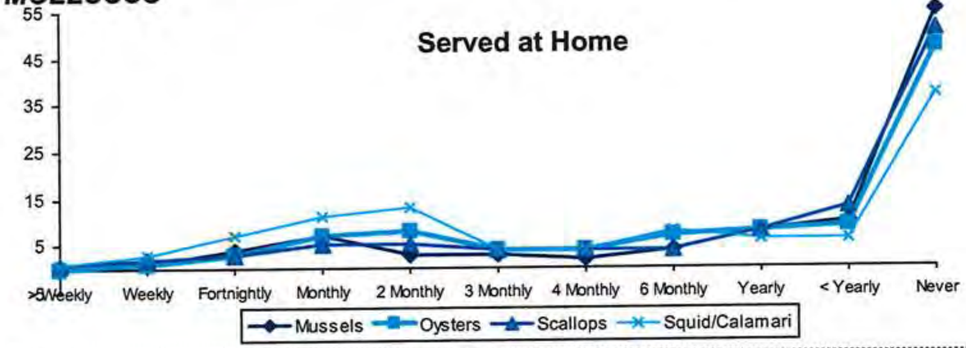
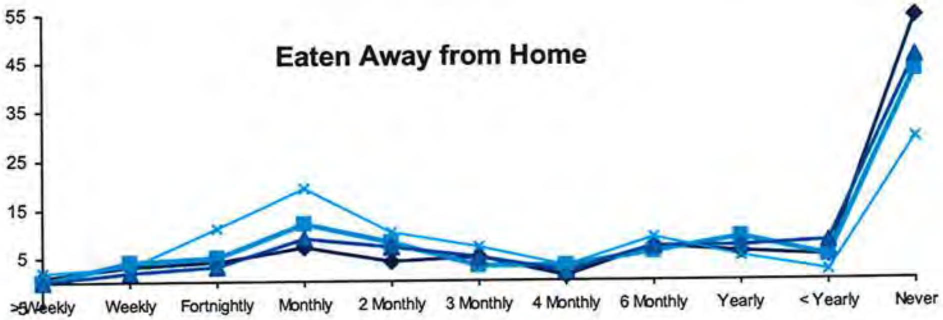
4.6 Regularity of Eating Different Types of Fish/Seafood (cont)

~ Chart 4.6c Location and Frequency of Eating Seafood (Percentage of Respondents)~

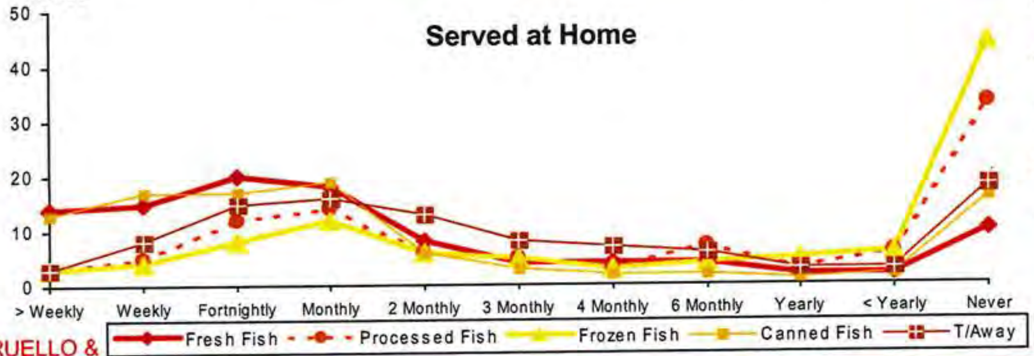
CRUSTACEANS

MOLLUSCS





FISH



4.7 Under Utilised Species

All respondents were asked a series of questions on under utilised species. The species covered in this section are presented in Box 4.7a., and the issues covered in this section were:

* awareness of 11 different species;
* trial of these species;
* liking of those species tried; and
* if the species was disliked, the reason for that dislike.

BOX 4.7a Under Utilized Species

Farmed Barramundi	Warehou
Atlantic Salmon	Squid/Calamari
Rainbow Trout	Oysters
Farmed Prawns	Pilchards/Sardines
Albacore Tuna	Mussels
Silver Trevally	

Chart 4.7a shows the level of awareness, trial and average liking for each of the prompted species. From this it can be seen that over nine in ten Sydney residents had heard of oysters (99% compared to 97% in 1991), squid or calamari (98% compared to 96% in 1991), mussels (97% compared to 93% in 1991) and sardines/pilchards (91% compared to 81% in 1991). Warehou and albacore tuna had the lowest levels of awareness (33% and 29% respectively).

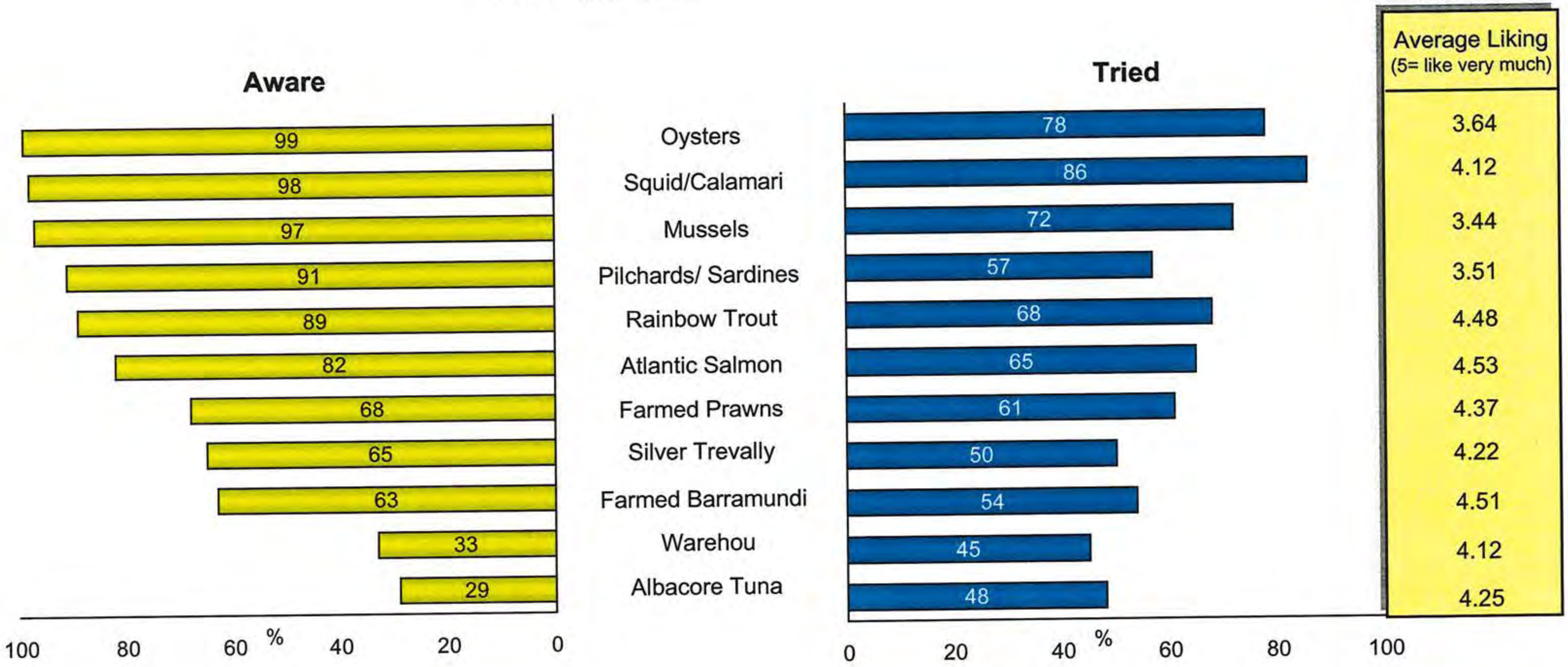
For trying species that had been heard of, more than seven out of ten Sydney residents had tried squid or calamari (86% compared to 87% in 1991), oysters (78% compared to 83% in 1991) and mussels (72% compared to 69% in 1991). One in two or fewer residents had tried silver trevally (50% compared to 46% in 1991), albacore tuna (48% - not asked in 1991) or warehou (45% - not asked in 1991).

The strongest dislike was recorded for oysters (3.64, where 5 was 'like very much' and 1 was 'strongly dislike) and pilchards/sardines (3.51).

The accompanying chart (Chart 4.7b) reveals highly positive scores for most of the under utilised species measured. While oysters and mussels both had the highest awareness ratings (99% and 97% respectively) and correspondingly high trial rates (78% and 72% respectively), these species also had relatively low favourability scores being liked by only (64% and 59% of respectively). However, **warehou and albacore tuna, both had low trial rates and high favourability ratings, and therefore show the greatest potential for increased sales.**

4.7 Under Utilised Species (cont)

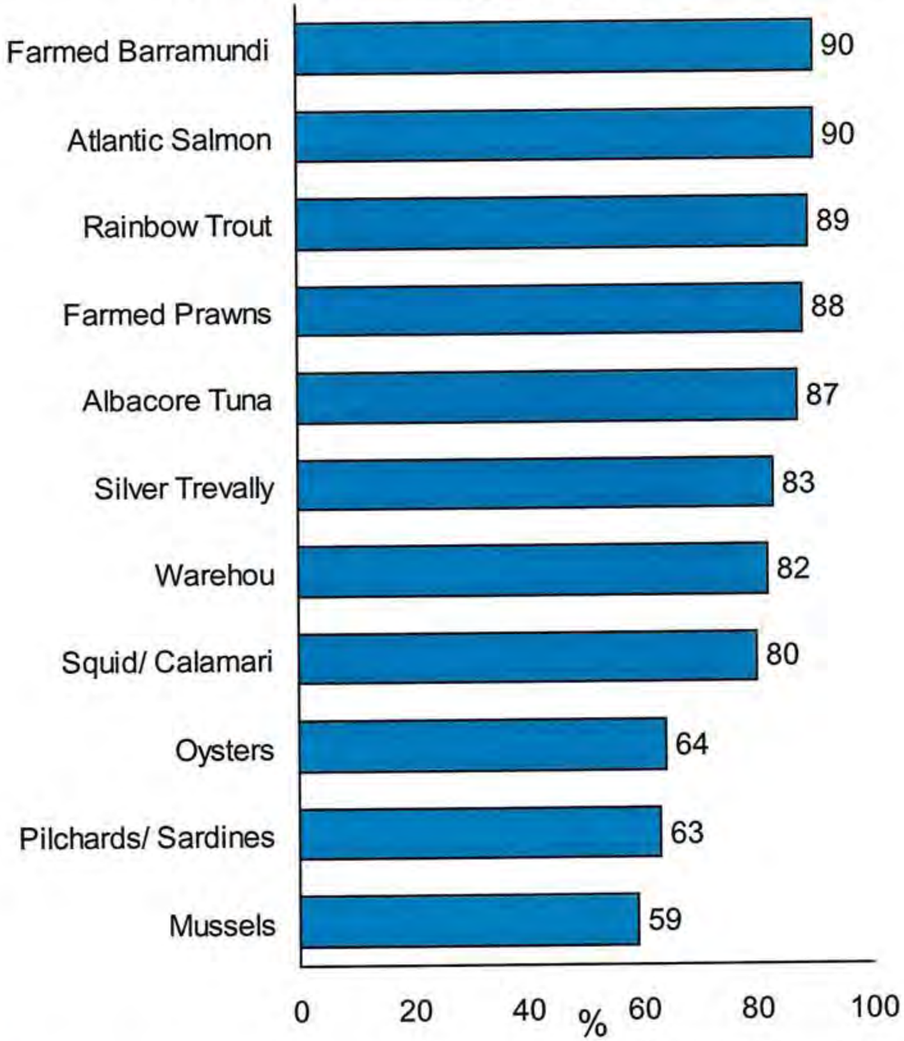
~ Chart 4.7a Awareness and Trial of Fish/Seafood ~



Base: All respondents weighted by sex within age (n=1,142), unweighted respondents (N=2,943,000)
Scale: 1 to 5 where 5 is 'like very much' and 1 is 'dislike very much'.

4.7 Under Utilised Species (cont)

Chart 4.7 b Liking of Species Tried (total liked)



Base: All respondents weighted by sex within age (N=2,943,000, n=1,142),

Where respondents disliked a species, their reasons for this dislike have been presented in table 4.7a. The most negative attribute associated with each species was:

- Squid/calamari - 'chewy/rubbery'(57%)
- Pilchards/sardines - 'taste/flavour' (27%); 'too fishy/too strong'(27%)
- Silver trevally - 'too fishy/too strong' (22%); 'smell' (20%)
- Warehou - 'too fishy/too strong' (24%)
- Farmed barramundi - 'bland/weak taste' (26%)
- Farmed prawns - 'bland/weak flavour' (28%)
- Rainbow trout - 'too many/bones small bones' (28%); 'taste/flavour' (27%)
- Atlantic salmon - 'too fishy/too strong' (28%); 'taste/flavour' (27%)
- Mussels - 'taste/flavour'(36)
- Oysters - 'taste/flavour' (38%); 'slimy/mucus feel' (32%)

4.7 Under Utilised Species (cont)

Table 4.7a Reasons for Dislike of Under Utilised Species (if tried)

	Squid (or Calamari	Pilchards / Sardines	Silver Trevally	Warehou	Farmed Barramundi	Farmed Prawns	Rainbow Trout	Atlantic Salmon	Mussels	Oysters
All respondents	133	165	20*	14*	17*	34*	45*	29*	258	262
Weighted respondents	349	407	51	35	55	87	110	68	691	666
	%	%	%	%	%	%	%	%	%	%
Taste/flavour	19	27	15	15	24	21	27	27	36	38
Slimy/mucus feel	0	1	-	-	-	-	-	-	15	32
Rubber/chewy	57	0	-	-	-	4	-	-	11	2
Look/appearance/colour	11	6	7	-	3	6	6	5	15	12
Too fishy/too strong	1	27	22	24	12	2	19	28	7	4
Bland/weak taste/flavour	10	2	7	17	26	28	10	21	6	8
Salty/bitter	1	24	3	-	3	2	2	8	6	7
Texture	5	2	3	4	-	4	1	2	11	11
Smell	3	11	20	11	10	3	5	15	5	5
Tough/gristly	14	-	-	12	-	-	-	-	6	-
Too many bones/small bones	-	12	-	-	-	-	28	-	-	-
Oily	1	12	20	-	-	-	4	5	0	1

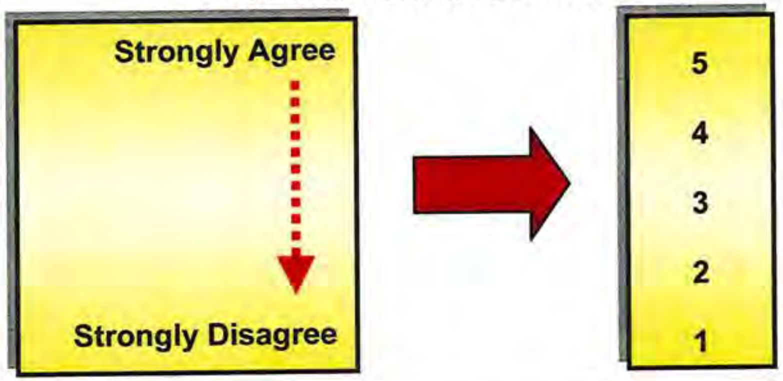
Note: Remaining options were infrequently mentioned
* Low base
Base: All respondents weighted by sex within age (N=2,943,000; n=1,142)

4.8 Attitudes Towards Fish/Seafood

All respondents were asked to give their reaction to a series of attitude statements about fish and seafood. To provide a structure for the interpretation of these statements, a factor analysis was undertaken. This analysis identified seven themes that incorporated 18 of the 23 statements. These themes are outlined in this section. The accompanying chart (4.8a) shows the percentage of agreement with each of the 23 statements. Average scores provided in in this section were calculated on the scale shown in Box 4.8a.

Where noted in the text, a score has been inverted to provide a consistent direction for the statements in a theme.

Box 4.8a Attitude Scale



Theme One **Familiarity**

I prefer Australia fish and seafood to imported products (4.11)

I like to buy familiar types of fish and seafood (3.90)

With an average score of 4.01 across contributing statements, this theme achieved the highest level of agreement. People like to buy Australian and like to know the product they are purchasing.

4.8 Attitudes Towards Fish/Seafood (cont)

Theme Two **Light meal**

I find fish/seafood to be less filling than chicken (2.85)

Fish/seafood is good for a light meal (4.05)

Fish and seafood rated highly as a food for a light meal (average of 3.45). Again this reinforces the findings of the Sydney focus groups where seafood was often seen as food for dieters and the health conscious but not appropriate for people with heartier appetites (usually characterised as working men and adolescent boys).

Theme Three **Enjoy cooking and eating healthy**

Statements in this theme had in common a focus on being healthy and enjoying the variety of seafood available and its preparation. The average score across this theme was 3.41.

I eat fish/seafood because it is better for my health than red meat (3.57)

I like preparing fish and seafood (2.93)

I like to try different types of seafood (3.29)

I find fish easy to cook (3.85)

Theme Four **Freshness**

The fourth theme in these statements was freshness (average score of 3.22). Many people were suspicious that seafood and fish which has been packaged or frozen might have compromised freshness and increased the risk of contamination. A similar theme emerged in the Sydney focus groups with many participants considering that fish must be bought and eaten on the same day and that fresh fish should not be purchased pre-packaged.

The taste of frozen fish is as good as fresh fish (2.10 - this statement was inverted for this analysis giving a rating of 2.90 for considering frozen fish is not as good as fresh fish)

I avoid freezing fish if I can (3.70)

I don't buy packaged fish or seafood products (3.06)

4.8 Attitudes Towards Fish/Seafood (cont)

Theme Five **Storage/contamination**

The average score across the statements in this group was 3.01. The high level of agreement to the issue that fresh fish may have been frozen shows a degree of distrust in product labelling that is of concern.

I am not always sure that the fresh fish I buy has not been frozen (3.55)

Fish is less likely to be contaminated than red meat or chicken (2.46)

Theme Six: **High cost, special occasion meal**

The average score across the statements in this group was 2.78 showing that for some people fish was an affordable part of the diet and not just reserved for special occasions.

Fresh fish costs so much that I rarely eat it (2.79)

Fish is dearer per meal than meat or chicken (3.27)

Fish is for special occasions (2.29)

Theme Seven ***More ways of cooking***

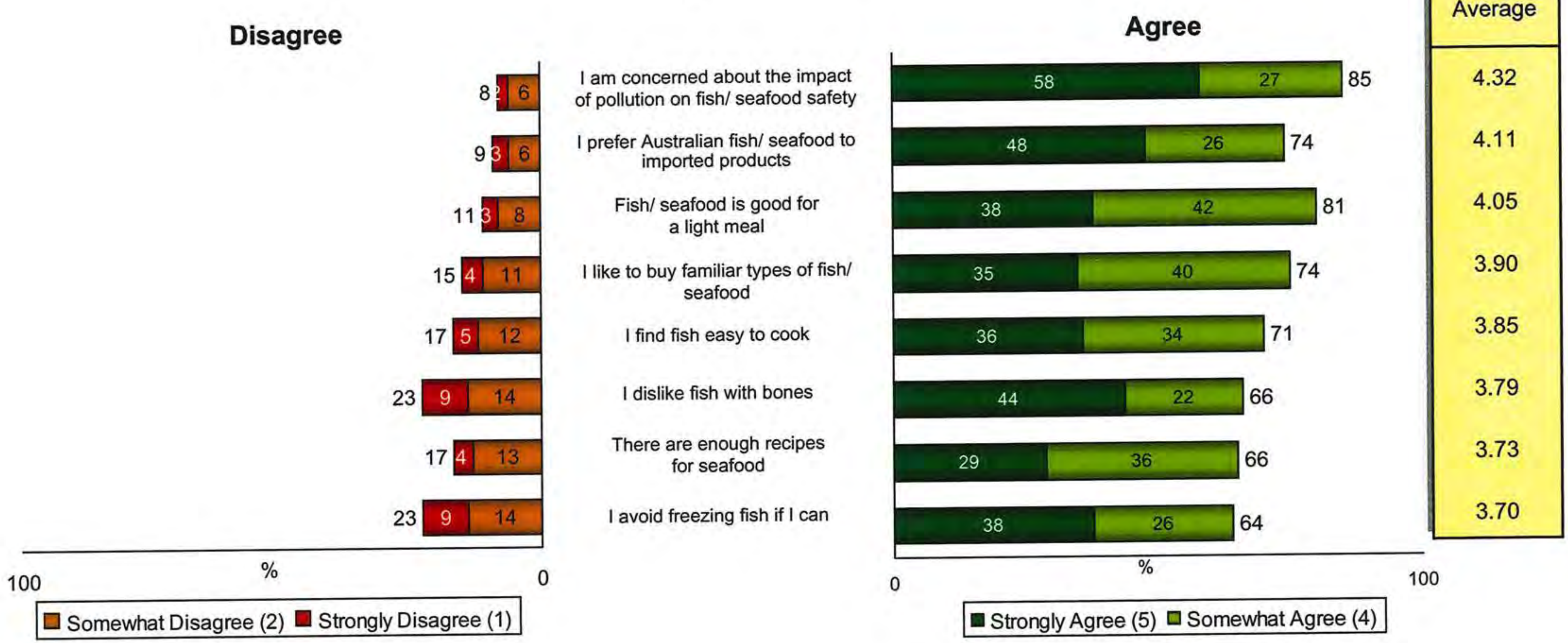
The average score across the statements in this group was 2.06. Generally people considered that they were sufficiently knowledgeable about seafood to cook it if they chose to.

There are enough recipes for seafood (3.73 - inverted 1.27)

If I knew of more ways to cook seafood I would eat more (2.85)

4.8 Attitudes Towards Fish/Seafood (cont)

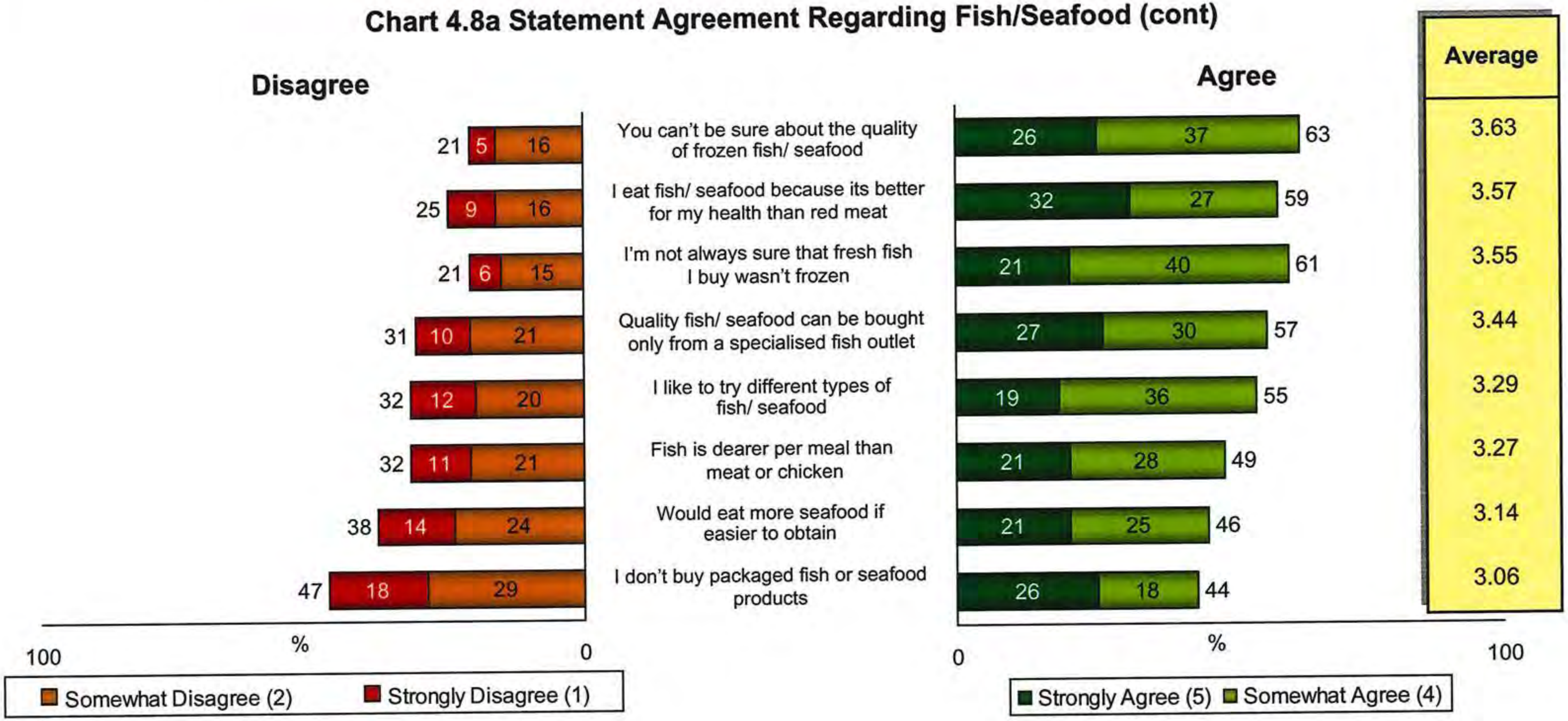
Chart 4.8a Statement Agreement Regarding Fish/Seafood



Base: All respondents weighted by sex within age (N=2,943,000), unweighted respondents (n=1,142)

4.8 Attitudes Towards Fish/Seafood (cont)

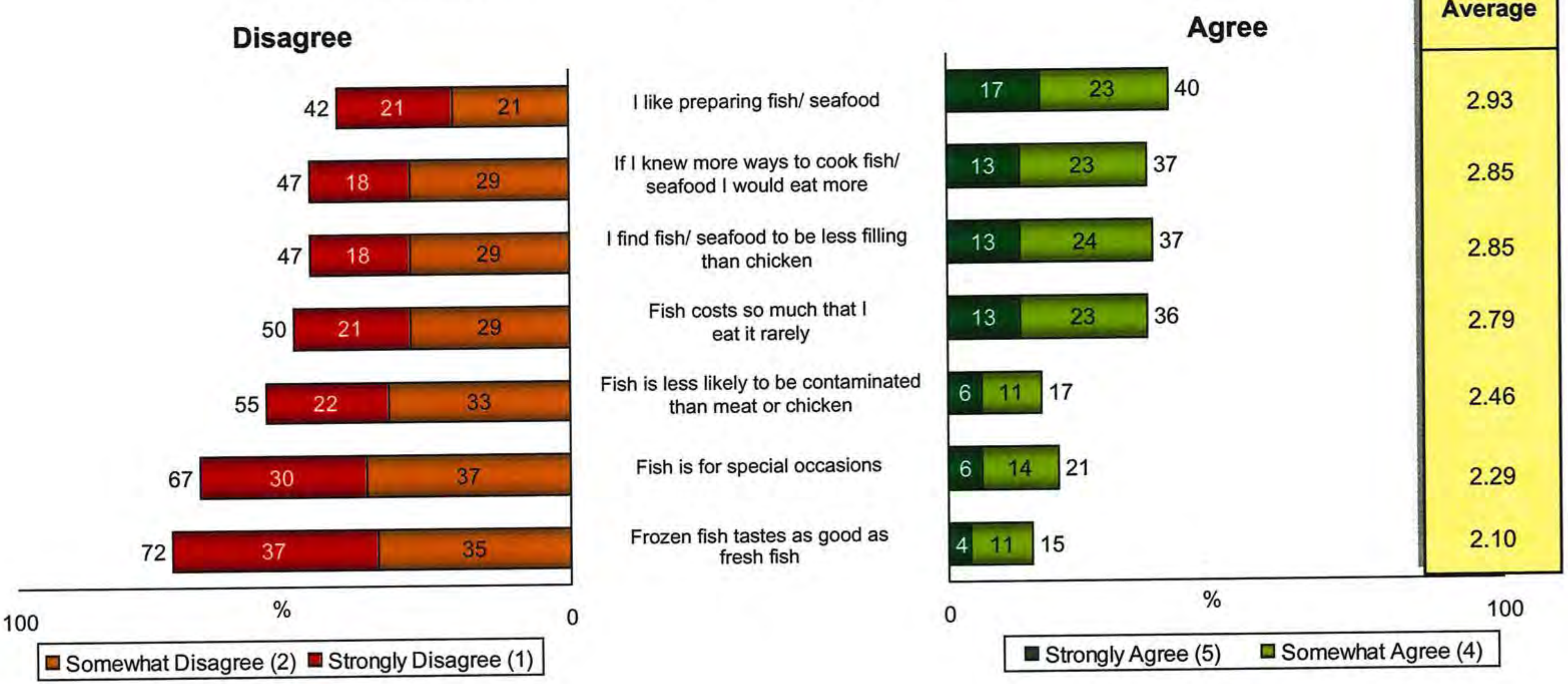
Chart 4.8a Statement Agreement Regarding Fish/Seafood (cont)



Base: All respondents weighted by sex within age (N=2,943,000), unweighted respondents (n=1,142)

4.8 Attitudes Towards Fish/Seafood (cont)

Chart 4.8a Statement Agreement Regarding Fish/Seafood (cont)



Base: All respondents weighted by sex within age (N=2,943,000), unweighted respondents (n=1,142)

5. In Home Fish/Seafood Consumption

5.1 Preferred Meal Selection

In home respondents were each assigned a meal occasion, appropriate to their family situation, from one of the following:

- evening meal by self
- household evening meal
- week-end household meal - lunch
- entertaining- entrée
- entertaining - main
- children's evening meal

From the list shown in Box 5.1a respondents were asked to select up to six meals they would serve for their assigned meal occasion.

Matrix 5.1a shows the association between menu items and meal occasions. From this it can be seen that **fish/seafood was most closely associated with entertainment entrees and to a lesser extent weekend household lunch.** Red meat and poultry were more strongly associated with evening meals alone, household and entertaining main meals. Pork was viewed as a main meal for entertaining.

Overall, fish/seafood was not seen as an appropriate choice for a main meal, either for the household or when entertaining.

BOX 5.1a LIST PROVIDED FOR MEAL SELECTION

Meat

Sausages

Lamb chops

Steak

Mince/rissoles

Casserole or curry

Lamb for roast

Beef short cuts/pieces

Veal

Pork

Pork chops

Roast pork

Poultry

Whole chicken

Chicken fillet/pieces

Fish/Seafood

Canned fish

Whole fish

Fish fillet

Smoked cod

Fish fingers

Salmon (not canned)

Prawns (not canned)

Scallops

Other

Pasta dish

Vegetarian

Sandwich/bread

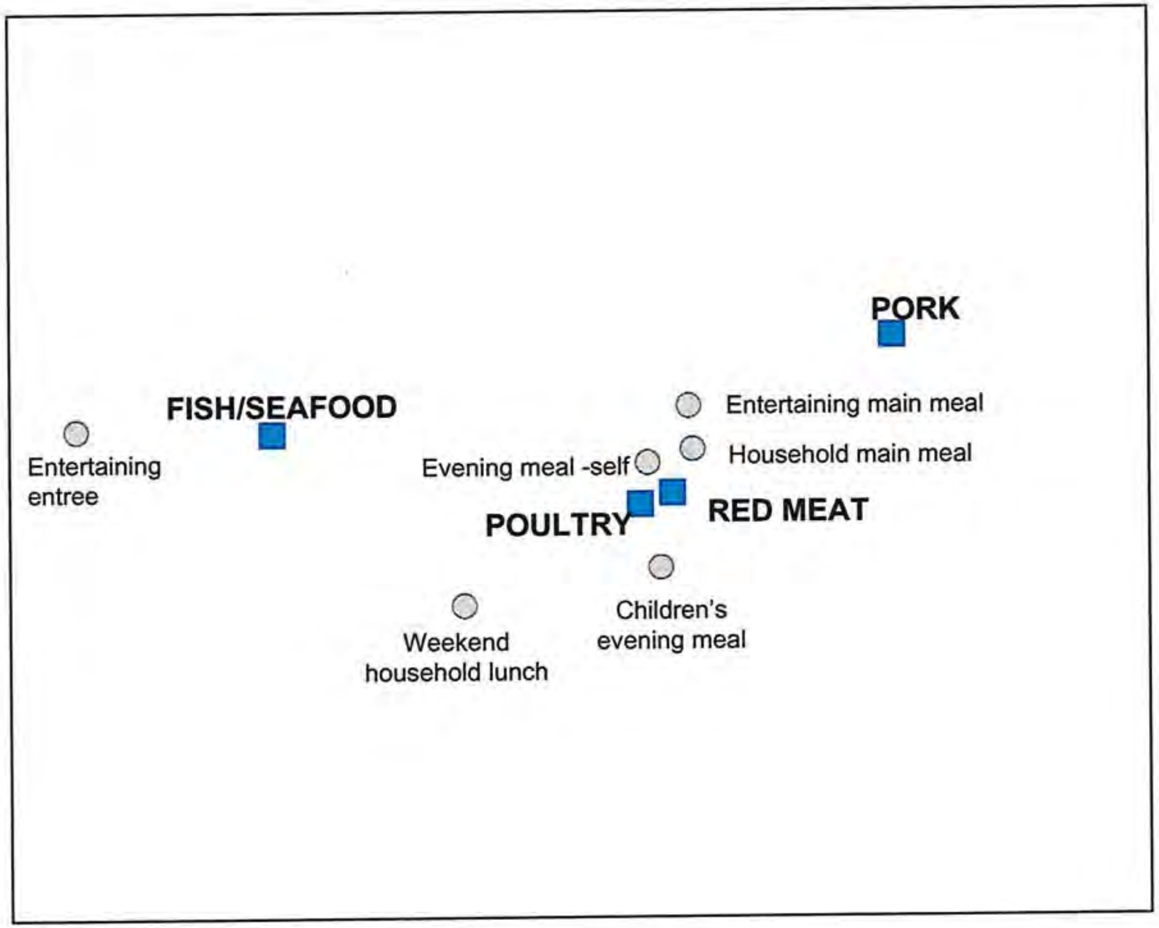
Pies/pasties

Canned vegetable/meat

Soup

5.1 Preferred Meal Selection (cont)

Matrix 5.1a Meal Occasion Menu Selection



Base: Weighted respondents (N=2,943,000) unweighted respondents (n=740)

5.1 Preferred Meal Selection (cont)

Table 5.1a shows the frequency of selecting seafood and fish meal options from the list provided for the each different meal occasions. From this it can be seen that:

Canned fish was most popular for a *weekend household lunch* (29%) or an *evening meal by self* (21%).

Whole fish was most likely to be considered for an *entertaining main* meal (15%) with *weekend household lunch*, *household evening meal* and *entertaining entrée* all ranked closely (13%, 12% and 12% respectively).

Fish fillet was most associated with a *household evening meal* (26%) or an *evening meal by self* (22%).

Salmon (not canned) was most likely to be considered when entertaining, either for an *entrée* (20%) or *main* course (19%).

Similarly, **prawns** were most frequently considered for either an *entertaining entrée* (53%) or *entertaining main* meal (24%).

Scallops were chosen by 22% of respondents for an *entertaining entrée* but had very low levels of selection for all other meal types.

Table 5.1a Seafood/Fish Selection by Meal Type

	Canned Fish %	Whole Fish %	Fish Fillet %	Smoked Cod %	Fish Fingers %	Salmon (≠can) %	Prawns %	Scallops %
Evening meal by self	21	7	22	2	11	7	5	2
Household evening meal	18	12	26	1	9	2	4	3
W/end household lunch	29	13	12	1	8	5	20	1
Entertaining entrée	10	12	8	7	10	20	53	22
Entertaining main	4	15	15	5	1	19	24	4
Children's evening meal	9	6	14	-	25	4	2	-

Base: Weighted respondents (N=2,943,000) unweighted respondents (n=740)

5.1 Preferred Meal Selection (cont)

The most popular selection for an **evening meal by self** was a pasta dish (57%), with chicken piece/fillet and steak also rating highly (53% and 47% respectively). The first fish/seafood selection was fish fillet. It was rated as the seventh most likely choice.

For a **household evening meal** the most frequently chosen option was also a pasta dish (59%). Chicken pieces/fillets (52%) and steak (51%) were selected by over half of the respondents as being likely meals choices for a household evening meal. The first fish/seafood option selected was fish fillet and at 24% it was the tenth most likely option to be chosen.

Sandwiches/bread or pasta dishes were extremely popular as **weekend household lunches** being considered by 63% and 54% of respondents respectively. At 29%, canned fish was the fifth most likely meal option to be chosen for a weekend household lunch.

The most likely considered meals for an **entertaining entrée** were prawns (53%), a pasta dish (52%) or soup (43%).

For an **entertaining main meal** chicken pieces/fillets and pasta were equal favourite in terms of likelihood of selection (both 57%). Prawns were rated equal fifth with roast lamb as an option for a main meal while entertaining (24%)

For a **children's evening meal**, sausages were the most likely choice (74%), followed by pasta (67%) and chicken pieces/fillets (55%). The first fish/seafood option chosen was fish fingers and at 25% it was rated seventh.

5.1 Preferred Meal Selection (cont)

Table 5.1b Food Consumption by Meal Type

		Evening meal by self	Household evening meal	Weekend household meal-lunch	Entertaining : entrée	Entertaining : main	Children's evening meal
	All respondents	189	193	105	101	104	48
	Wtd respondents ('000)	1008	659	273	502	389	112
		%	%	%	%	%	%
Meat	Sausages	34	35	26	8	18	74
	Lamb Chops	35	30	8	4	20	45
	Steak	47	51	21	14	35	21
	Mince/rissoles	19	33	6	9	8	32
	Casserole or curry	16	22	8	1	19	21
	Lamb for roast	14	30	21	3	24	15
	Beef short cuts/piece	15	11	10	7	10	11
	Veal	10	14	8	9	12	1
Pork	Pork Chops & Roast	26	32	7	5	35	20
Poultry	Whole chicken	15	29	39	5	29	26
	Chicken fillet/piece	53	52	29	31	57	55
Other	Pasta dish	57	59	54	52	57	67
	Vegetarian	18	16	11	21	13	4
	Sandwich/bread	21	15	63	8	5	10
	Pies/pasties	17	7	31	13	5	21
	Canned vegetables/meat	6	-	10	1	4	2
	Soup	14	9	23	43	8	11

5.2 Attitude Statements

As mentioned previously, In-home respondents were each assigned a meal occasion appropriate to their family situation and given a series of menu options (shown in Box 5.2). Respondents were then read out a series of 16 statements about food (one at a time) and asked to identify the menu options to which each statement applied (if any). The results for each meal occasion are presented in a correspondence matrix which shows the level of association between various statements and the menu options. Each matrix is supported by a detailed data table. The matrices reveal that:

For an **evening meals by self** vegetarian cuisine was most associated with 'healthy meal' and 'contains little fat' with fish fillets being associated with these qualities to a lesser extent. Fish fingers were positioned with pies/pasties and lamb chops and were associated with 'don't mind cooking it', 'can cook in the microwave' and 'readily available'.

Fish fillets were regarded as a 'healthy meal' and considered to 'contain little fat' in relation to a **household evening meal**. Fish fillets, canned fish and pasta were seen as very similar by respondents. Canned fish and pasta were particularly likely to be considered 'popular with the people eating the meal'.

BOX 5.2 LIST PROVIDED FOR MEAL SELECTION

Evening Meal by Self	**Household Evening Meal**
Canned fish	Canned fish
Pasta	Pasta
Sausages	Sausages
Lamb chops	Steak
Fish fillet	Pork chops
Fish fingers	Fish fillet
Vegetarian	Whole chicken
Pastie	Lamb for roast
Weekend Household Lunch	**Children's Evening Meal**
Canned fish	Canned fish
Pasta	Pasta
Steak	Sausages
Whole fish	Mince
Whole chicken	Fish fillet
Roast lamb	Fish fingers
Pie/Pastie	Pie/Pastie
Prawns	Canned veg./meat
Entertaining - Entree	**Entertaining - Main**
Pasta	Pasta
Fish fillet	Steak
Vegetarian	Whole fish
Beef	Fish Fillet
Salmon	Chicken pieces
Prawns	Roast Pork
Scallops	Veal
Soup	Prawns

5.2 Attitude Statements (cont)

In regards to **weekend household meal (lunch)** it can be seen from the options provided that prawns were most strongly associated with 'is too expensive' and 'special occasion food'. Whole fish was considered to 'contain little fat' and be 'not easy to prepare'. Prawns and whole fish were both considered to have a 'lot of waste'. Respondents aligned 'don't mind cooking it' with canned fish. 'Can cook in the microwave' was most associated with pie/pastie than any of the fish/seafood options provided.

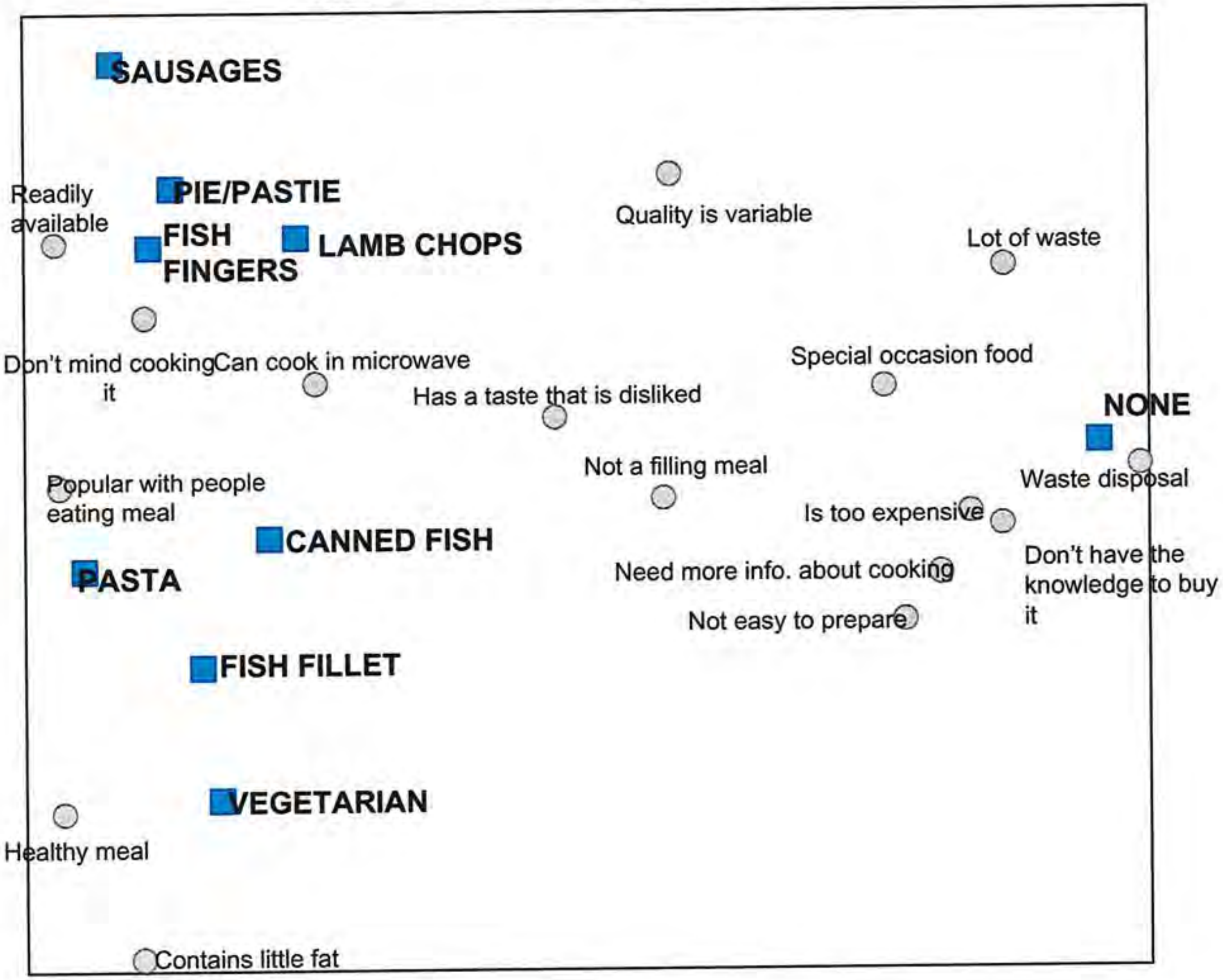
As an **entertaining entrée**, fish fillets were seen as 'popular with the people eating the meal', containing 'little fat', being 'readily available' and a 'healthy meal'. Fresh salmon was most associated with 'special occasion food' and 'too expensive'. As an entertaining entrée, fish fillets and beef pieces were seen as in the same set by respondents.

For an **entertaining main course**, prawns were seen as 'too expensive' and were considered 'a special occasion food'. The remaining menu options provided were closely clustered together by respondents.

With **children's evening meal**, fish fillets and canned fish were clustered together and both seen as a 'health meal'. Fish fingers were regarded as 'readily available' and respondents did not 'mind cooking them'.

5.2 Attitude Statements (cont)

Matrix 5.2a Evening Meal by Self



Base: Weighted respondents (N=1,008,000) unweighted respondents (n=189)

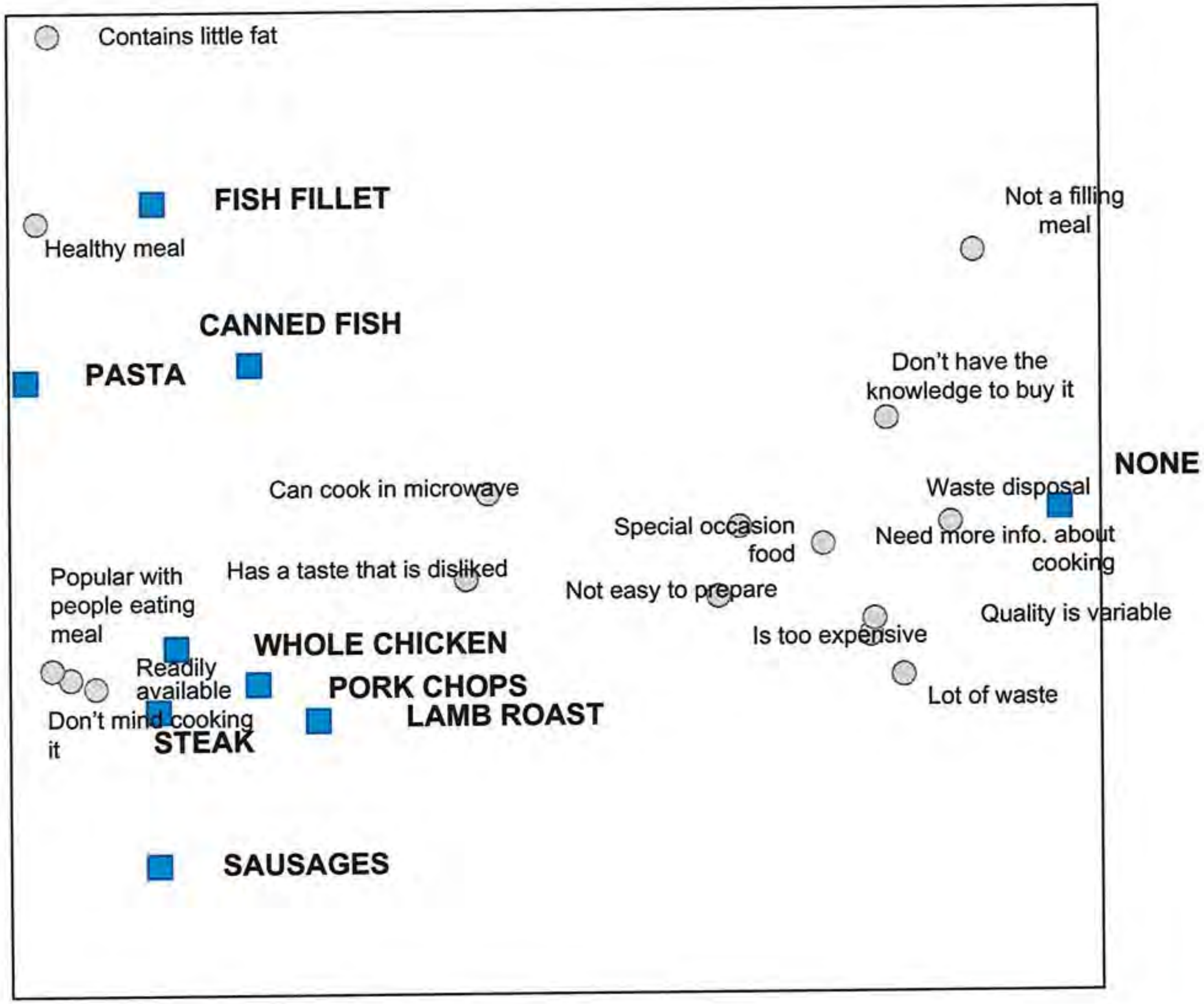
5.2 Attitude Statements (cont)

Table 5.2a Evening Meal By Self

	Canned Fish %	Fish Fillet %	Fish Fingers %	Pasta Dish %	Sausages %	Lamb Chops %	Vegetarian %	Pie/Pastie %	None %	Don't Know %
Is too expensive for the meal	8	**17**	3	3	0	9	2	1	66	0
Presents a problem in waste disposal	**14**	4	2	2	0	4	2	1	75	3
I don't mind cooking it	30	42	30	**45**	41	42	32	36	20	0
I need more info. about its cooking	3	6	2	7	2	3	**16**	6	66	4
Is readily available to buy	71	68	74	72	**82**	77	59	81	0	0
Little knowledge to buy confidently	5	5	1	4	2	6	**12**	4	65	4
It isn't easy to prepare for cooking	4	8	1	9	1	5	**15**	4	60	4
Is not a filling meal	18	2	12	1	2	2	**19**	12	45	1
Has a taste that is disliked	**25**	9	10	7	11	6	10	5	41	-
Contains little fat	34	47	9	26	4	6	**55**	7	9	1
Only buy on special	6	**16**	3	2	3	**16**	1	4	60	1
Is a lot of wastage	2	3	4	2	2	**23**	2	1	62	1
I can cook it in the microwave	16	23	18	31	16	13	25	**38**	41	5
Its quality is too variable	7	12	6	3	**18**	14	2	10	51	13
Is a healthy meal	29	**58**	16	50	7	22	52	10	0	0
Popular choice amongst meal eaters	23	41	16	**54**	21	36	26	19	1	1

Base: Weighted respondents (N=1,008,000) unweighted respondents (n=189)
Highest scores for each statement are shown in **bold**

Matrix 5.2b Household Evening Meal



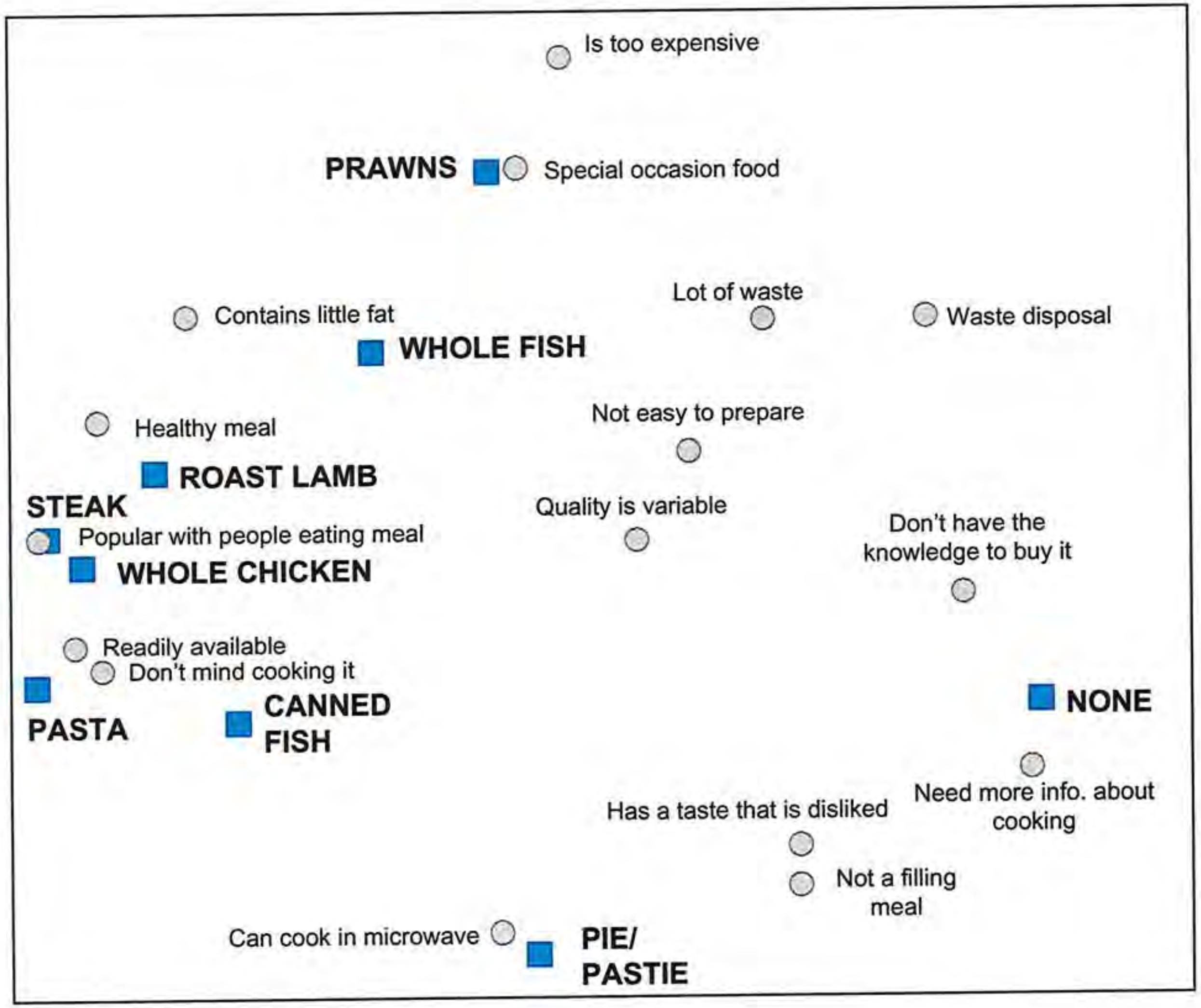
Base: Weighted respondents (N=659,000) unweighted respondents (n=193)

Table 5.2b Household Evening Meal

	Canned Fish %	Fish Fillet %	Pasta Dish %	Sausages %	Steak %	Pork Chops %	Whole Chicken %	Lamb for Roast %	None %	Don't Know %
Is too expensive for the meal	1	8	-	0	15	3	2	**21**	59	1
Presents a problem in waste disposal	**13**	1	2	0	0	11	11	9	69	1
I don't mind cooking it	33	44	**64**	53	52	45	49	46	13	1
I need more info. about its cooking	**12**	11	2	8	9	9	10	11	75	1
Is readily available to buy	79	74	75	79	**83**	75	81	75	2	-
Little knowledge to buy confidently	10	**12**	7	3	2	10	2	10	72	2
It isn't easy top prepare for cooking	11	12	1	7	11	11	13	**16**	63	7
Is not a filling meal	**18**	8	7	2	0	1	2	1	65	1
Has a taste that is disliked	**24**	20	4	18	11	18	11	17	43	-
Contains little fat	35	**59**	40	4	10	12	16	8	3	2
Only buy on special	7	14	5	3	7	6	7	**23**	58	-
Is a lot of wastage	0	1	3	0	3	**15**	14	12	62	-
I can cook it in the microwave	11	13	**28**	13	9	8	17	8	50	4
Its quality is too variable	3	9	1	**14**	10	6	2	2	61	6
Is a healthy meal	35	**80**	58	6	31	23	33	24	2	0
Popular choice amongst meal eaters	26	36	**57**	31	43	32	54	47	0	-

Base: Weighted respondents (N=659,000) unweighted respondents (n=193)
Highest scores for each statement are shown in **bold**

Matrix 5.2c Weekend Household Meal -Lunch



Base: Weighted respondents (N=273,000) unweighted respondents (n=105)

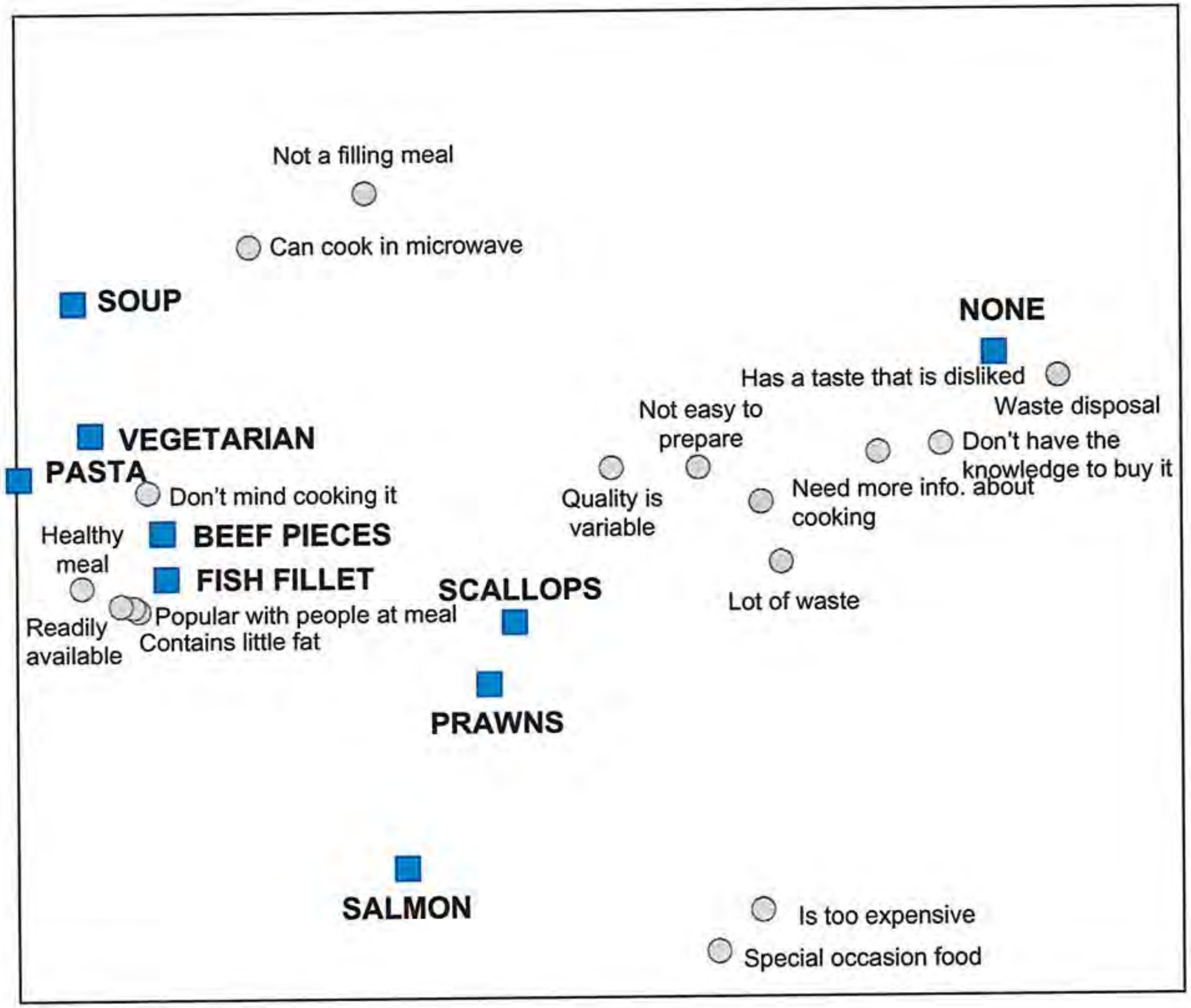
Table 5.2c Weekend Household Meal - Lunch

	Canned Fish %	Whole Fish %	Prawns (not canned) %	Pasta Dish %	Steak %	Whole Chicken %	Lamb for Roast %	Pie/ Pastie %	None %	Don't Know %
Is too expensive for the meal	1	19	**59**	1	17	5	21	-	32	-
Presents a problem in waste disposal	5	15	**36**	-	-	4	1	1	49	-
I don't mind cooking it	35	41	34	**59**	52	51	53	48	17	1
I need more info. about its cooking	4	**17**	7	5	1	3	4	6	67	1
Is readily available to buy	76	67	64	74	72	**87**	72	80	5	-
Little knowledge to buy confidently	5	**29**	12	1	1	1	3	2	61	1
It isn't easy top prepare for cooking	1	**36**	16	5	4	8	11	5	45	-
Is not a filling meal	**25**	4	19	2	2	1	3	16	54	-
Has a taste that is disliked	**22**	9	9	6	1	6	3	5	60	-
Contains little fat	42	**76**	36	31	17	24	6	1	1	4
Only buy on special	6	27	**46**	1	5	12	24	4	28	-
Is a lot of wastage	2	18	**36**	2	-	8	10	4	43	1
I can cook it in the microwave	13	17	5	**25**	6	16	11	25	52	2
Its quality is too variable	3	**25**	23	4	13	7	1	13	40	2
Is a healthy meal	38	**83**	31	54	31	48	33	6	1	-
Popular choice amongst meal eaters	23	34	43	61	41	**68**	53	27	1	-

Base: Weighted respondents (N=273,000) unweighted respondents (n=105)
Highest scores for each statement are shown in **bold**

5.2 Attitude Statements (cont)

Matrix 5.2d Entertaining -Entree



Base: Weighted respondents (N=502,000) unweighted respondents (n=101)

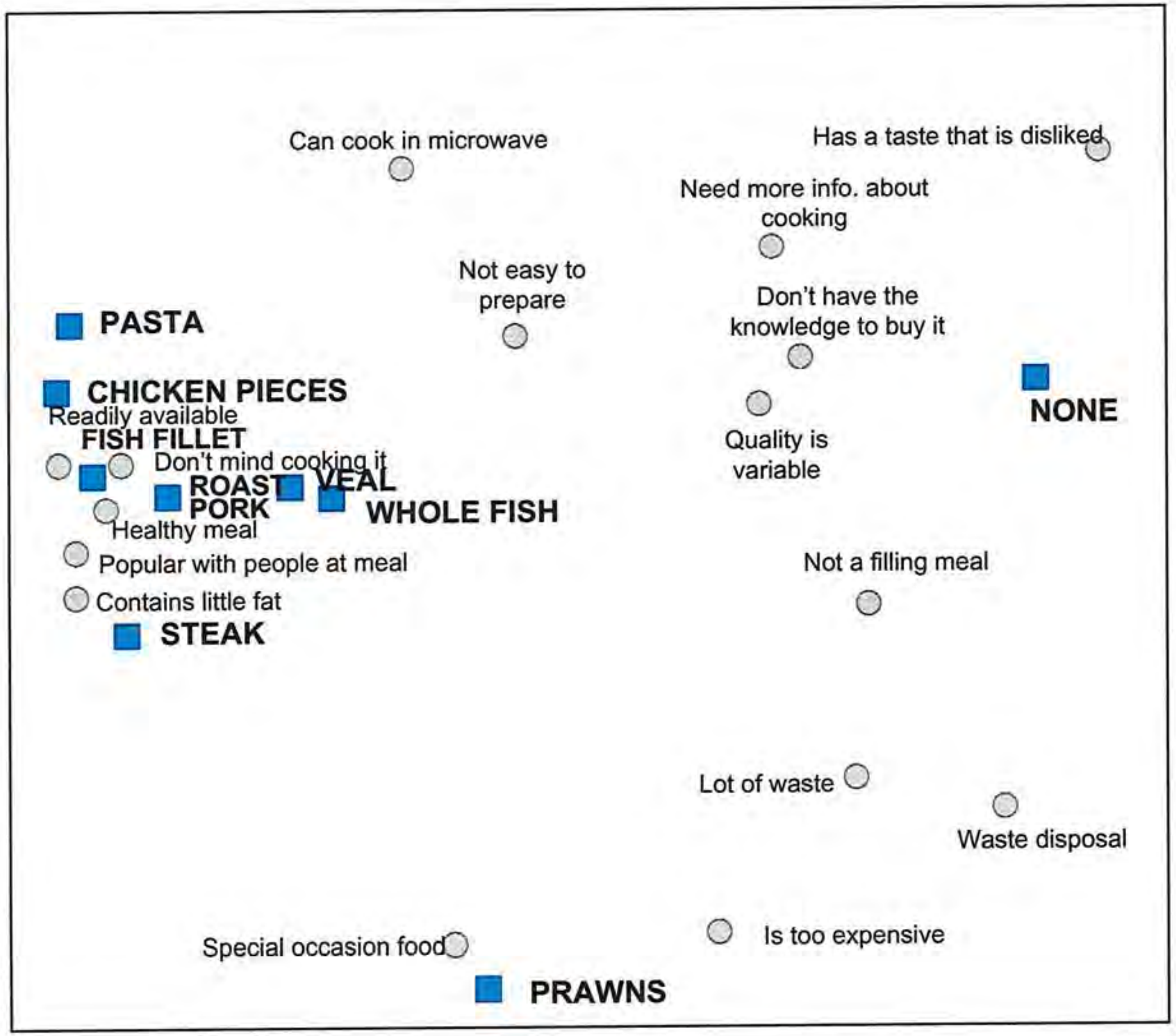
Table 5.2d Entertaining - Entree

	Salmon (not canned) %	Prawns (not canned) %	Scallops %	Fish Fillet %	Pasta Dish %	Vegetarian %	Beef short cut-pieces %	Soup %	None %	Don't Know %
Is too expensive for the meal	**42**	34	19	7	-	0	8	-	43	1
Presents a problem in waste disposal	7	**33**	4	6	-	0	1	0	63	2
I don't mind cooking it	34	40	29	41	**56**	46	46	52	18	0
I need more info. about its cooking	14	12	**35**	10	2	9	6	3	47	3
Is readily available to buy	63	**75**	50	71	69	67	69	66	7	-
Little knowledge to buy confidently	17	10	**20**	8	0	6	1	0	58	3
It isn't easy top prepare for cooking	11	16	**34**	11	4	9	8	8	46	4
Is not a filling meal	7	15	18	12	13	25	7	**39**	34	-
Has a taste that is disliked	13	17	**22**	3	5	2	5	4	52	0
Contains little fat	46	39	29	56	47	**63**	22	36	8	1
Only buy on special	**39**	31	27	5	-	5	3	-	33	3
Is a lot of wastage	4	**39**	15	11	1	3	6	1	39	2
I can cook it in the microwave	14	17	13	22	37	43	26	**44**	42	-
Its quality is too variable	13	**24**	8	9	8	6	17	8	40	5
Is a healthy meal	51	42	39	74	65	**79**	38	60	1	-
Popular choice amongst meal eaters	35	52	32	39	**55**	29	32	47	-	-

Base: Weighted respondents (N=502,000) unweighted respondents (n=101)
Highest scores for each statement are shown in **bold**

5.2 Attitude Statements (cont)

Matrix 5.2e Entertaining -Main



Base: Weighted respondents (N=389,000) unweighted respondents (n=104)

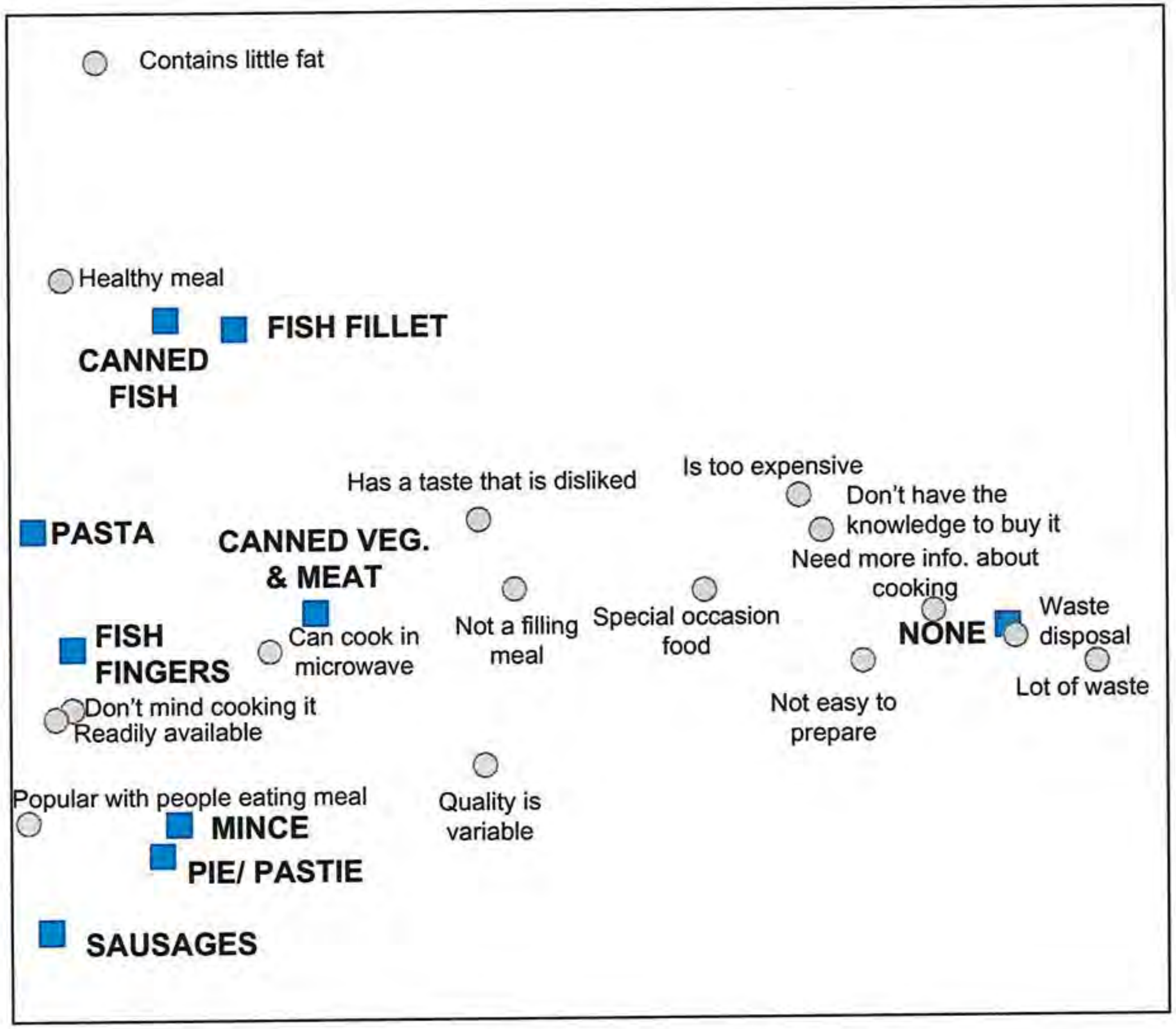
5.2 Attitude Statements (cont)

Table 5.2e Entertaining - Main

	Whole Fish %	Fish Fillet %	Prawns (not canned) %	Pasta Dish %	Steak %	Chicken Fillet/ Pieces %	Pork for Roast %	Veal %	None %	Don't Know %
Is too expensive for the meal	8	4	**42**	-	10	2	9	11	42	6
Presents a problem in waste disposal	11	2	**33**	-	-	1	1	-	53	6
I don't mind cooking it	28	45	27	**57**	52	49	37	42	17	-
I need more info. about its cooking	14	5	3	7	7	6	**16**	11	63	6
Is readily available to buy	65	69	57	72	**90**	86	61	64	1	-
Little knowledge to buy confidently	**19**	1	8	4	1	-	12	12	47	3
It isn't easy top prepare for cooking	**22**	4	6	10	12	15	18	4	36	4
Is not a filling meal	7	14	**24**	3	1	1	2	2	53	7
Has a taste that is disliked	3	2	3	5	2	3	**9**	4	71	9
Contains little fat	48	**69**	27	28	8	27	5	20	6	10
Only buy on special	13	13	**38**	0	19	6	11	6	22	8
Is a lot of wastage	9	-	**29**	1	7	-	14	-	45	8
I can cook it in the microwave	11	21	5	**32**	3	**32**	5	3	45	4
Its quality is too variable	**19**	9	9	1	9	4	4	5	49	10
Is a healthy meal	61	**68**	28	47	27	48	19	30	1	9
Popular choice amongst meal eaters	28	35	43	46	44	**56**	24	23	-	4

Base: Weighted respondents (N=389,000) unweighted respondents (n=104)
Highest scores for each statement are shown in **bold**

Matrix 5.2f Children's Evening Meal



Base: Weighted respondents (N=112,000) unweighted respondents (n=48)
NB: Note low base

5.2 Attitude Statements (cont)

Table 5.2f Children's Evening Meal

	Canned Fish %	Fish Fillet %	Fish Fingers %	Pasta Dish %	Sausages %	Mince/ Rissoles %	Pie/ Pastie %	Canned Veg-tables / Meat %	None %	Don't Know %
Is too expensive for the meal	9	**24**	4	2	2	4	5	6	68	-
Presents a problem in waste disposal	8	-	2	-	-	-	6	**16**	76	-
I don't mind cooking it	46	55	52	**76**	58	50	66	40	9	-
I need more info. about its cooking	4	**12**	4	4	2	4	4	6	78	-
Is readily available to buy	83	74	91	86	**92**	82	91	76	-	-
Little knowledge to buy confidently	6	**19**	2	6	2	4	4	8	68	1
It isn't easy top prepare for cooking	2	15	2	2	2	**19**	2	2	68	-
Is not a filling meal	**29**	6	9	7	9	4	15	24	50	-
Has a taste that is disliked	20	10	4	4	4	4	6	**44**	33	-
Contains little fat	66	**73**	24	34	-	2	4	12	2	4
Only buy on special	6	**19**	6	-	-	2	17	8	49	-
Is a lot of wastage	4	1	1	1	-	4	3	**8**	86	-
I can cook it in the microwave	22	28	22	**40**	21	19	28	28	40	4
Its quality is too variable	4	**17**	2	4	16	12	14	13	35	8
Is a healthy meal	54	63	23	**77**	6	15	9	27	-	2
Popular choice amongst meal eaters	18	26	37	**62**	49	29	55	15	2	-

Base: Weighted respondents (N=112,000) unweighted respondents (n=48)
NB: Note low base
Highest scores for each statement are shown in **bold**

5.3 Ratings of Factors When Choosing Fish/Seafood For a Meal (At Home)

The thirteen statements listed in Box 5.3a were read to in-home respondents. The order of statement presentation was rotated to prevent ordering bias.

Chart 5.3a shows the level of importance attached to each statement by in-home respondents. From this it can be seen that with an average score of 6.47 and a very important rating of 87% (top two codes combined), ***'I can be sure that the fish is correctly labeled'* was of paramount concern to customers.**

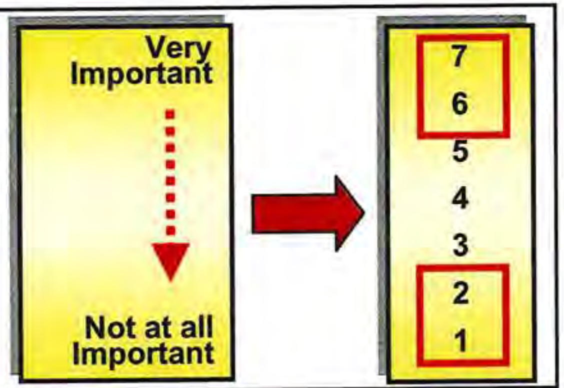
BOX 5.3a Statements about Fish selection for a Meal At Home

The fish is the species I want	Fish has been cut and filleted
Has a white or light coloured flesh	Has a strong flavour
I can be sure that it doesn't have bone	It is a deep sea species
I can be sure that the fish is correctly labeled	It is a familiar type of fish
Is a relatively low price	Is attractively presented type of fish
It is fresh rather than frozen	Has a light flavour
Recommended by the retailer	

* Families were more likely to rate this statement as very important (90%) than either couples or singles (82% and 81% respectively).
* Females rated labeling as more important than males (90% and 84% very important respectively).
* There was also a noticeable difference in response to this statement based on the level of involvement in the workforce. Respondents in full-time employment gave a rating of 93% (very important) compared to 85% (very important) for both respondents in part-time employment or not in employment at all.

BOX 5.3b SCALE

Respondents were asked to rate each statement on a scale from 1 to 7 where 1 was *not at all important* and 7 was *very important*. *Very important* was used to refer to the top two codes (7 and 6) combined

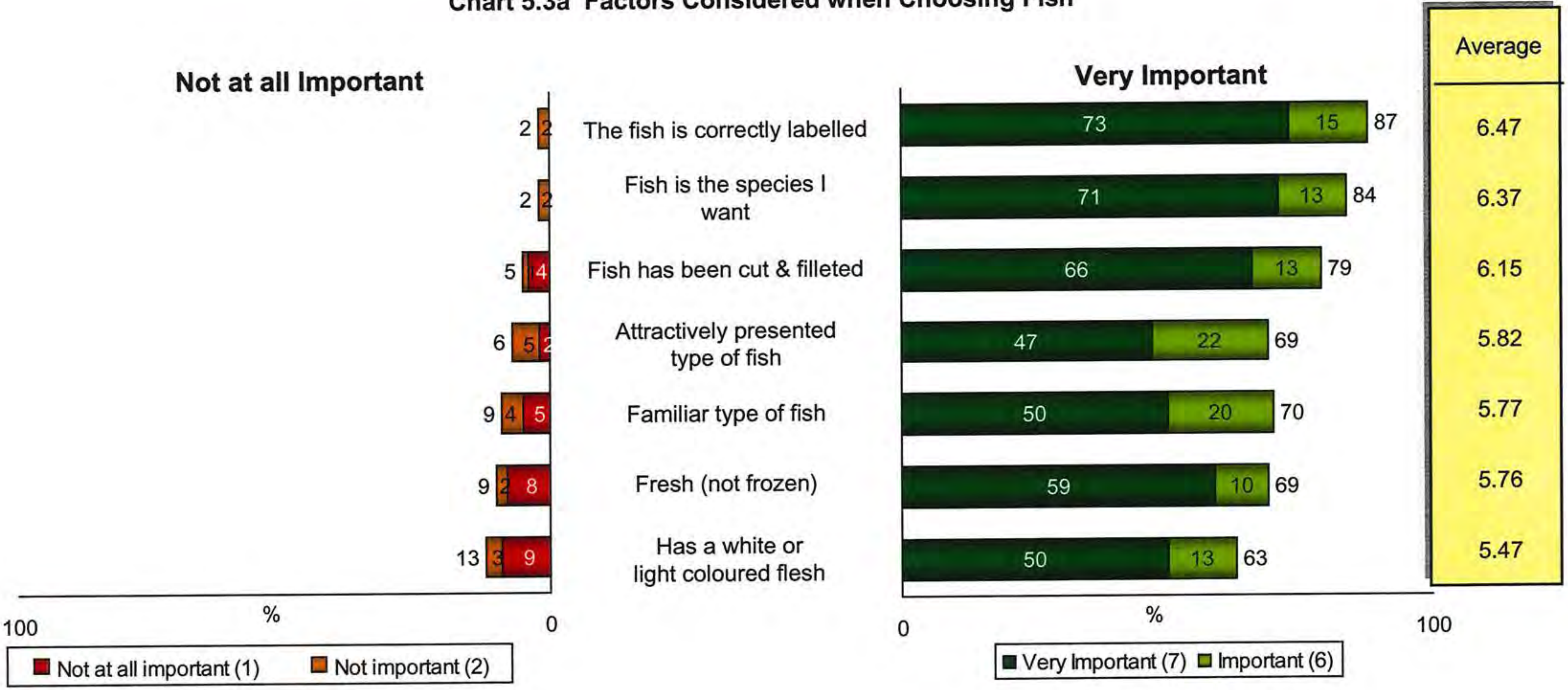


Also rating above an average score of 6-points were 'the fish is the species I want' (6.37) and 'fish has been cut and filleted' (6.15).

Of least importance to respondents were '*recommended by the retailer*' (average score of 4.08) and '*is a deep sea species*' (average score of 4.09).

5.3 Ratings of Factors When Choosing Fish For a Meal (At Home)

Chart 5.3a Factors Considered when Choosing Fish



Base: Weighted respondents (N=2,943,000) unweighted respondents (n=740)

5.3 Ratings of Factors When Choosing Fish For a Meal (At Home) (cont)

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Chart 5.3a Factors Considered when Choosing Fish (cont)

Base: Weighted respondents (N=2,943,000) unweighted respondents (n=740)

5.4 Type of Fish/Seafood Consumed In Home

As shown in Table 5.4a, 52% of respondents had consumed fish in home during the week preceding the survey and 14% of people had consumed seafood with 2% consuming a meal that combined fish and seafood. By weight, more fish was consumed per person per meal (215.3 grams) than seafood (192.3 grams).

* Women reported a higher frequency of consumption for both fish and seafood (59% and 17% respectively) than men (44% and 12% respectively).
* The frequency of fish consumption clearly rose as a function of age from 22% for 15 to 19 year olds to 69% for people over 60 years.
* The frequency of fish consumption was higher for households with an income over $40k.

Table 5.4a Type of Consumption (in home)

		GENDER		AGE GROUP				EMPLOYMENT			HOUSEHOLD INCOME					
	Total %	Male %	Female %	15-19 %	20-39 %	40-59 %	60+ %	Full Time %	Part Time %	None %	< $25k %	< $25-40k %	$40k - 60k %	$60k - 80k %	Over $80k %	Average Weight Consumed (grams)
Resp.	740	88	652	14	311	301	114	193	210	335	156	120	140	98	83	
Wtd Resp ('ooo)	2943	1431	1512	257	1204	907	575	1043	632	1251	839	487	409	366	262	
Fish	52	44	59	22	41	64	69	38	52	64	46	44	62	64	64	215.3
Seafood	14	12	17	18	13	18	9	15	15	13	10	16	21	19	21	192.3
Combination (Seafood/fish)	2	2	1	-	3	1	-	2	1	2	-	0	4	2	2	268.9
Don't know	7	8	7	-	4	8	16	1	11	11	12	4	4	6	2	184.1

From the accompanying species consumption table (5.4b) it can be seen that salmon and tuna were the most often consumed species (15% and 14% respectively) followed by perch (7%) and prawns (7%).

5.4 Type of Fish/Seafood Consumed (cont)

5.4b Species Consumed (in home)

	GENDER			AGE GROUP				EMPLOYMENT			HOUSEHOLD INCOME						
	Total	Male	Female Years	15-19 Years	20-39 Years	40-59 Years	60+ Time	Full Time	Part	None	<$25k $40k	$25k- $60k	$40k- $80k	$60- $80k	Over $80k	Average Weight Per Meal (grams)	Cost Per Meal $
All resp.	740	88	652	14	311	301	114	193	210	335	156	120	140	98	83		
Wtd resp. ('000)	2943	1431	1512	257	1204	907	575	1043	632	1251	839	487	409	366	262		
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		
Anchovies	1	1	1	-	2	0	1	-	3	0	3	1	-	1	-	-	-
Barramundi	2	3	1	-	3	2	1	4	3	1	-	1	5	1	6	509.6	19.8
Blue Eye	0	-	1	-	0	1	-	1	1	0	1	-	0	1	-	674.4	11.7
Boneless Fillet	1	-	1	-	1	0	1	1	1	1	-	-	-	1	2	353.7	2.5
Bream	6	5	7	-	4	4	11	3	5	8	6	6	10	4	4	594.2	5.5
Cod	2	1	3	-	4	2	1	1	4	2	0	3	2	2	8	499.1	8.4
Combination	4	5	3	-	6	5	1	5	3	4	0	3	5	8	3	1009.8	21.3
Crabs	0	-	1	-	1	-	-	1	0	0	-	1	1	1	-	947.5	15.3
Crumbed Seafood	3	3	3	-	6	1	2	7	1	2	4	1	-	6	3	649.6	3.5
Dory	3	3	3	25	2	4	2	4	1	4	5	1	2	7	-	787.7	11.4
Fish Cocktails	0	-	0	-	1	-	-	-	-	0	-	1	1	-	-	-	-
Fish Pasta	1	2	0	-	-	2	-	3	-	0	0	-	-	5	-	-	-
Flathead	5	6	4	-	3	5	8	4	3	6	8	6	6	1	2	542.0	8.6
Flounder	0	-	0	-	0	-	-	-	-	0	-	-	-	-	-	2000.0	9.5
Gemfish	1	-	2	-	2	0	1	1	1	1	1	1	1	1	1	607.3	-
Grenadier	2	3	1	-	2	4	-	1	5	2	3	3	0	6	-	271.9	2.5
Hake	1	-	1	-	1	1	-	1	1	0	-	1	2	1	-	773.2	7.7
Herring	0	-	0	-	-	0	-	-	0	0	0	-	-	-	1	-	-
Jewfish	0	-	1	-	0	-	1	1	-	0	1	-	-	1	-	1500.0	13.6

5.4 Type of Fish/Seafood Consumed (cont)

Fresh / Frozen

5.4b Species Consumed (in home) (con't)

	GENDER			AGE GROUP				EMPLOYMENT			HOUSEHOLD INCOME						
	Total	Male	Female Years	15-19 Years	20-39 Years	40-59 Years	60+ Time	Full Time	Part	None	<$25k $40k	$25k- $60k	$40k- $80k	$60- $80k	Over $80k	Average Weight Per Meal	Cost Per Meal
All resp.	740	88	652	14	311	301	114	193	210	335	156	120	140	98	83		
Wtd resp. ('000)	2943	1431	1512	257	1204	907	575	1043	632	1251	839	487	409	366	262		
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		$
Kipper	0	-	0	-	-	0	1	-	-	0	1	1	-	-	-	-	-
Ling	2	3	0	-	3	2	-	3	3	0	-	7	-	5	1	995.7	14.0
Lobster	0	-	0	-	0	-	-	-	-	0	-	-	-	1	-	3000.0	100.0
Mackerel	0	-	1	-	0	-	1	1	-	0	-	-	-	1	-	1500.0	17.0
Milk Fish	1	2	0	0	2	-	3	-	0	-	8	-	-	-	-	1000.0	7.8
Mullet	0	-	1	-	-	0	1	0	0	0	1	-	-	-	1	300.0	3.0
Mussels	1	-	2	25	1	-	-	-	0	1	2	-	-	1	-	571.0	4.5
Orange Roughy	0	-	0	-	-	0	-	-	0	-	0	-	-	-	-	400.0	11.5
Other Fish	1	-	2	25	0	0	1	0	1	1	2	-	2	-	1	1020.9	7.2
Oysters	0	-	0	-	-	-	-	-	-	-	-	-	-	-	-	359.0	15.5
Perch	9	10	8	-	9	8	11	8	8	10	12	6	8	3	15	1371.8	13.8
Pizza	1	-	2	-	2	2	-	1	2	1	-	1	3	2	1	-	-
Prawns	9	6	12	25	8	10	7	14	6	8	9	13	11	9	7	680.3	15.4
Redfish	1	2	1	-	-	0	5	-	0	3	4	1	0	-	-	209.1	6.5
Salmon	12	11	13	-	9	12	17	12	10	13	9	17	21	3	13	371.6	10.2
Sardines	2	2	2	-	0	3	1	0	4	1	1	1	-	6	1	-	-
Seafood Platter	0	-	0	-	0	-	-	-	-	0	-	-	1	-	-	-	-
Shark	1	1	1	-	3	1	-	1	-	2	-	1	4	-	2	456.8	9.2
Snapper	3	5	1	-	1	0	9	0	1	5	5	-	1	8	1	900.1	12.6

5.4 Type of Fish/Seafood Consumed (cont)

Fresh / Frozen

5.4b Species Consumed (in home) (con't)

	GENDER			AGE GROUP				EMPLOYMENT			HOUSEHOLD INCOME						
	Total	Male	Female Years	15-19 Years	20-39 Years	40-59 Years	60+ Time	Full Time	Part	None	<$25k $40k	$25k- $60k	$40k- $80k	$60- $80k	Over $80k	Average Weight Per Meal	Cost Per Meal
All resp.	740	88	652	14	311	301	114	193	210	335	156	120	140	98	83		
Wtd resp. ('000)	2943	1431	1512	257	1204	907	575	1043	632	1251	839	487	409	366	262		
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%		$
Sole	0	-	0	-	0	-	-	1	-	-	-	1	-	-	-	-	5.0
Squid/ Octopus	2	3	1	-	4	3	-	7	1	1	-	-	1	6	9	630.9	4.1
Swordfish	2	4	1	-	0	2	5	3	0	3	5	-	-	1	-	414.7	7.4
Tilapia Fish	0	-	0	-	0	-	-	1	-	-	-	-	-	-	-	1000.0	5.0
Trevally	1	1	-	-	2	-	-	-	3	-	-	-	-	-	-	1000.0	10.0
Trout	1	-	1	-	1	1	-	1	1	0	-	1	1	-	1	810.4	9.4
Tuna	9	9	10	-	9	11	7	4	15	9	7	7	8	6	17	1166.7	18.0
Warehou	1	2	0	-	-	2	-	-	0	2	0	1	-	-	-	260.0	2.6
Whiting	0	-	1	-	1	0	-	0	-	0	1	-	-	1	-	707.6	9.7
Don't know	6	6	7	-	6	5	9	2	10	6	11	6	3	2	2	-	-
Refused	0	-	0	-	0	-	-	-	0	-	-	1	-	-	-	411.4	5.1

5.5 Purchase and Preparation Fish/Seafood for In-Home Consumption

In-home respondents who had consumed fish/seafood in the last week at home were asked to specify the location of purchase for each fish/seafood item consumed. Chart 5.5a demonstrates that the majority of fish/seafood purchases were from a supermarket (61% all fish/seafood, 54% for fresh fish/seafood only). Fresh fish shops were the second most likely purchase point for both fresh fish/seafood (21%) and all fish/seafood (15%).

Table 5.5a reveals the form in which the seafood consumed in the last week had been purchased. From this table it can be seen that canned fish/seafood and fresh fish fillets accounted for over half of all fish/seafood purchases (32% and 26% respectively).

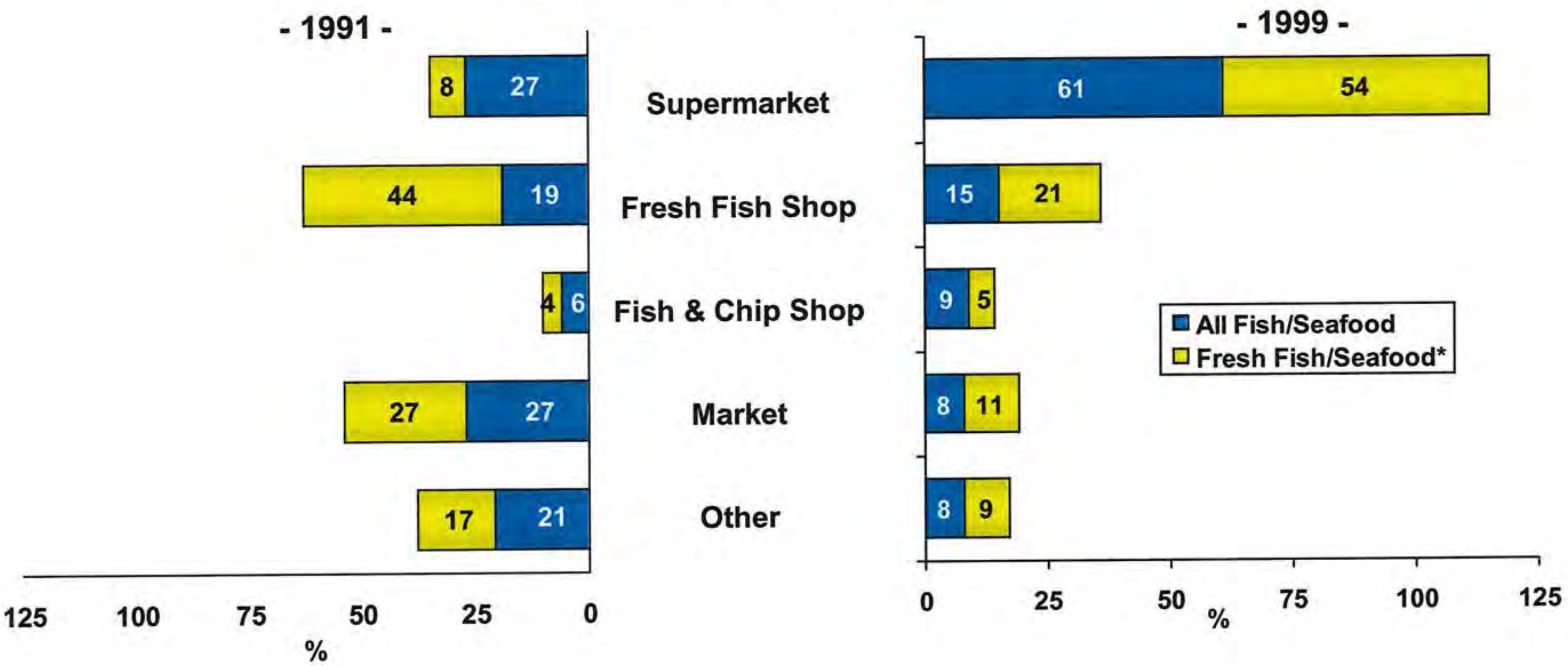
Chart 5.5a reveals that supermarkets now account for more than 50% of individual sales of fresh and frozen (unprocessed) fish/seafood and that the fresh fish shops share of individual sales has declined since 1991.

The form of purchase by the type of outlet reveals that:

* The most common purchases at **fish and general markets** were *fresh fillets* (55%) and *whole fish* (36%). Produce was most often bought to be *cooked and served at home* (99%).
* **Fresh fish shop** purchases were mostly *fresh fillets* (61%) and *fresh whole fish* (20%) again most likely to be *cooked and served at home* (96%).
* Purchases from **fish and chip shops** were almost exclusively *cooked fillets* (77%) and *other* items (21%) with all purchases to be *brought home ready to eat* (100%).
* **Supermarket** purchases of fish and seafood were most often reported to be *canned* (52%), *fresh fillets* (17%) or *frozen/packaged ready to cook* products (14%). Most often purchases from a supermarket were to be *cooked and served at home* (64%).

From Table 5.5b it can be seen that for respondents providing consumption weight and purchase location details, the average amount of fresh fish/seafood consumed from supermarkets had fallen considerably while fish/general markets and fresh fish shops demonstrated an increase in consumer consumption.

Chart 5.5a Point of Purchase for Fish/Seafood Products Consumed in the Last Week*



Base: Weighted respondents (N=1,922,000)
unweighted respondents (n=378)

Base: Weighted respondents (N=1,058,000)
unweighted respondents (n=1058)

*** NB. Fresh fish/seafood includes all fresh fish/seafood, frozen (unprocessed) fillets/whole fish and fresh pre-prepared raw fish/seafood**

5.5 Purchase and Preparation Fish/Seafood for In-Home Consumption (cont)

Table 5.5a Form of Seafood Bought and Prepared According to Point of Purchase

		Total	Fish/ General Market	Fresh Fish Shop	Fish & Chip Shop	Supermarket	Other/ Don't Know
	Respondents	1,058	75	177	78	641	87
	Weighted Respondents	3,829	295	571	326	2,319	319
		%	%	%	%	%	%
Form Bought	Fresh Whole	9	36	20	-	3	18
	Fresh Fillet/cutlet	26	55	61	1	17	22
	Fresh Headed & Gutted/Peeled	1	1	1	-	1	-
	Frozen Fillet/Cutlet	5	-	2	-	8	1
	Fresh prepared ready to cook	1	5	4	-	1	1
	Frozen Packaged/Ready to Cook	10	1	8	-	14	1
	Smoked	2	1	-	1	2	7
	Canned	32	1	-	-	52	3
	Glass Bottle	2	-	-	-	2	4
	Cooked Fillet	7	-	0	77	-	6
	Other (specify)	6	1	4	21	1	34
	Don't Know	10	-	1	0	1	3
Preparation	Cooked and Served	75	99	96	-	78	64
	Brought Home Ready to Eat	24	1	3	100	20	36

5.5 Purchase and Preparation Fish/Seafood for In-Home Consumption (cont)

Table 5.5b Total Weight of Fresh Fish/Seafood Served - by Location of Purchase

		Total (grams)	Fish/ General Market (grams)	Fish Shop (uncooked) (grams)	Fish & Chip Shop (grams)	Supermarket (grams)	Other/ Don't Know (grams)
1991	Respondents	226	46	105	14*	26*	35
	Wt'd Resp's	1121	233	501	79	115	193
	Total Weight	1027716	225074	480092	38780	132367	151403
	Average Weight	597.4	583.8	577.2	482.3	877.8	784.5
1999	Respondents	279	44	112	1*	102	20*
	Wt'd Resp's	1020	181	348	2	405	83
	Total Weight	1,043,565	237,780	458,063	201	295,545	51,976
	Average Weight	718.3	879.9	1045.9	120.0	478.0	626.2
	Average 1999 - Average 1991	120.9	296.1	468.7	#	-399.8	-158.3

* Note low base

\# Base too small to make comparisons

NB. Please note that multiple puurchases apply

5.5 Purchase and Preparation Fish/Seafood for In-Home Consumption (cont)

As show in Table 5.5c below, most fish was purchased canned (32%).

* 71% of salmon purchases were canned as were 99% of tuna purchases.
* In the 1991 survey, canned fish accounted for just 14% of all purchases and was only the third most common form of purchase.

Fresh fillets and whole fish purchases accounted for 26% and 9% respectively of domestic fish/seafood purchases. The disparity between these forms was less apparent in the 1991 survey where fresh fillets accounted for 24% of domestic retail purchases in Sydney and whole fish purchases accounted for 19%.

Table 5.5c Species Consumed by Form Bought (in home)

	Total	Bream*	Flathead	Dory	Cod*	Perch	Salmon	Prawns	Crumbed Seafood	Tuna	Combination	Other
Respondents	1,058	46	29	15	22	57	181	77	50	195	31	289
Wtd Respondents	3,289	138	129	72	61	55	556	224	185	657	113	1,112
	%	%	%	%	%	%	%	%	%	%	%	%
Fresh Whole	9	14	19	21	-	4	-	52	-	-	17	12
Fresh Fillet/cutlet	26	70	58	40	56	86	15	-	-	1	4	33
Fresh Headed & Gutted/Peeled	1	1	-	-	-	-	-	-	-	-	-	2
Frozen Fillet/Cutlet	5	7	-	21	15	2	0	-	3	-	-	6
Fresh prepared ready to cook	1	-	-	-	-	1	-	5	-	-	2	3
Frozen Packaged/Ready to Cook	10	-	-	11	10	2	0	1	86	-	4	8
Smoked	2	-	-	-	15	-	12	-	-	-	-	-
Canned	32	-	-	-	-	-	71	2	-	99	-	8
Glass Bottle	2	-	-	-	-	-	-	-	-	-	-	5
Cooked Fillet	7	8	26	7	3	5	-	8	8	-	42	11
Other (specify)	5	-	-	-	-	-	-	25	1	-	27	10
Don't Know	0	-	-	-	-	-	-	4	-	-	2	0

* Cod = blue eye, hake, smoked, red cod and other unspecified, *Bream = silver bream and other unspecified

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5.5.1 Form of Fish/Seafood Bought According to Preparation Method

As show in Table 5.5.1a, fish/seafood purchased for consumption at home was most commonly purchased to be eaten straight (that is, in the form purchased) or used as an ingredient (22% and 23% respectively).

* **Ingredients** were most often canned fish (70%).
* **Pan frying** was most often used with fresh fillets/cutlets (66%).
* **Barbecuing** was very popular for both whole fish (43%) and fresh fillets (48%).
* **Microwaving** was most popular with fresh fillets/cutlets (55%) and frozen products (24%).
* In 1991, the most common methods of preparation/consumption were deep frying (19%) and straight (18%). Use of fish/seafood as an ingredient in 1991 was much less common (10%).

Table 5.5.1a Form of Seafood Bought and Prepared Method

	Total	Baked/ Oven	Grilled	Deep Fried	Microwaved	Straight	BBQ	Pan Fried	Ingredients	Other/ Don't Know
Respondents	1,065	78	40	92	32	244	40	110	277	61
Wtd Respondents	3,867	323	428	312	108	860	110	486	910	226
	%	%	%	%	%	%	%	%	%	%
Fresh Whole	9	6	10	4	8	1	43	8	3	37
Fresh Fillet/Cutlet	25	20	58	23	55	0	48	66	11	10
Fresh Headed & Gutted/Peeled	1	-	3	-	-	-	3	0	-	1
Frozen Fillet/Cutlet	5	27	8	1	10	-	-	4	1	14
Fresh prepared ready to cook	1	-	1	-	-	-	2	1	3	6
Frozen Packaged/Ready to Cook	10	46	16	6	24	2	2	16	2	-
Smoked	2	-	-	-	2	6	-	-	2	1
Canned	31	-	-	-	2	65	-	1	70	5
Glass Bottle	2	-	-	-	-	3	-	-	4	5
Cooked Fillet	8	-	3	54	-	12	-	-	2	-
Other (specify)	5	-	-	10	-	11	-	3	3	19
Don't Know	0	-	-	1	-	1	-	-	0	1
AVERAGE	**100**	**8**	**11**	**5**	**3**	**22**	**3**	**13**	**23**	**12**

5.6 Attribute Rating of Fish/Seafood Purchasing Outlets

Respondents were read a list of statements about outlets selling fish and seafood and asked to determine how important these factors were in their decision to purchase fish/seafood from a specific retail outlet. Chart 5.6a shows the overall importance of factors. From Chart 5.6a it can be seen that over three quarters of respondents considered the following factors to be very important when selecting a store from which to make a fish/seafood purchase:

- Easily accessible (87% *very important*)
- Friendly staff (83% *very important*)
- Good reputation for quality (84% *very important*)
- Clean outlet/store (79% *very important*)
- I frequently shop there (78% *very important*)
- Variety of fish and seafood products (76% *very important*)

BOX 5.6a OUTLET OPTIONS

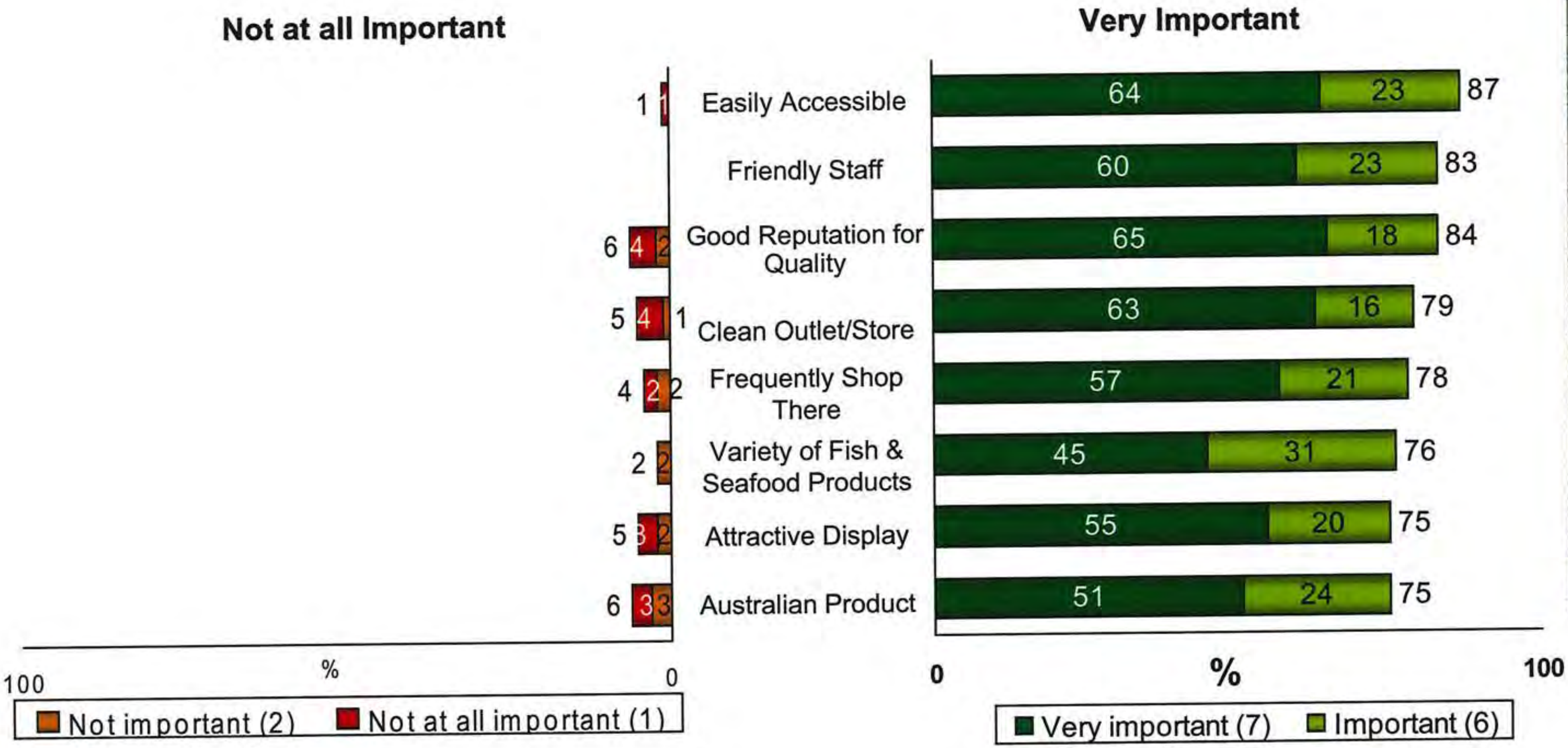
Commercial fishermen
Other fishermen
Wholesaler/co-operative
Fish or general market
Retail fish shop
Fish and chip shop/take-away
Supermarket/food store
Convenience store
Delicatessen
None

Using these same importance statements, respondents were asked to consider their last purchase of fish/seafood for in-home consumption and determine which statements applied to the outlet of their last fish/seafood purchase. The categorisation of outlets is shown in Box 5.6a.

Table 5.6a shows the importance of factors by specific retail outlet while Chart 5.6b models the relationship between statements and outlets. From this chart it can be seen that **retail fish shop**, **fish and chip shop** and **fish or general markets** were all closely aligned. For these outlets, shoppers were strongly influenced by *offers specials*, has *reputation for quality*, *offers a wide variety of seafood* and *frequently shop there*. **Wholesaler co-operative**, **commercial fishermen** and **other fishermen** were also clustered together. These outlets were most associated with *Australian fish and seafood*, *fresh not frozen* and *informed staff about seafood*.

5.6 Attribute Rating of Fish/Seafood Purchasing Outlets (cont)

Chart 5.6a Factors Affecting the Selection of Fish/Seafood Outlets

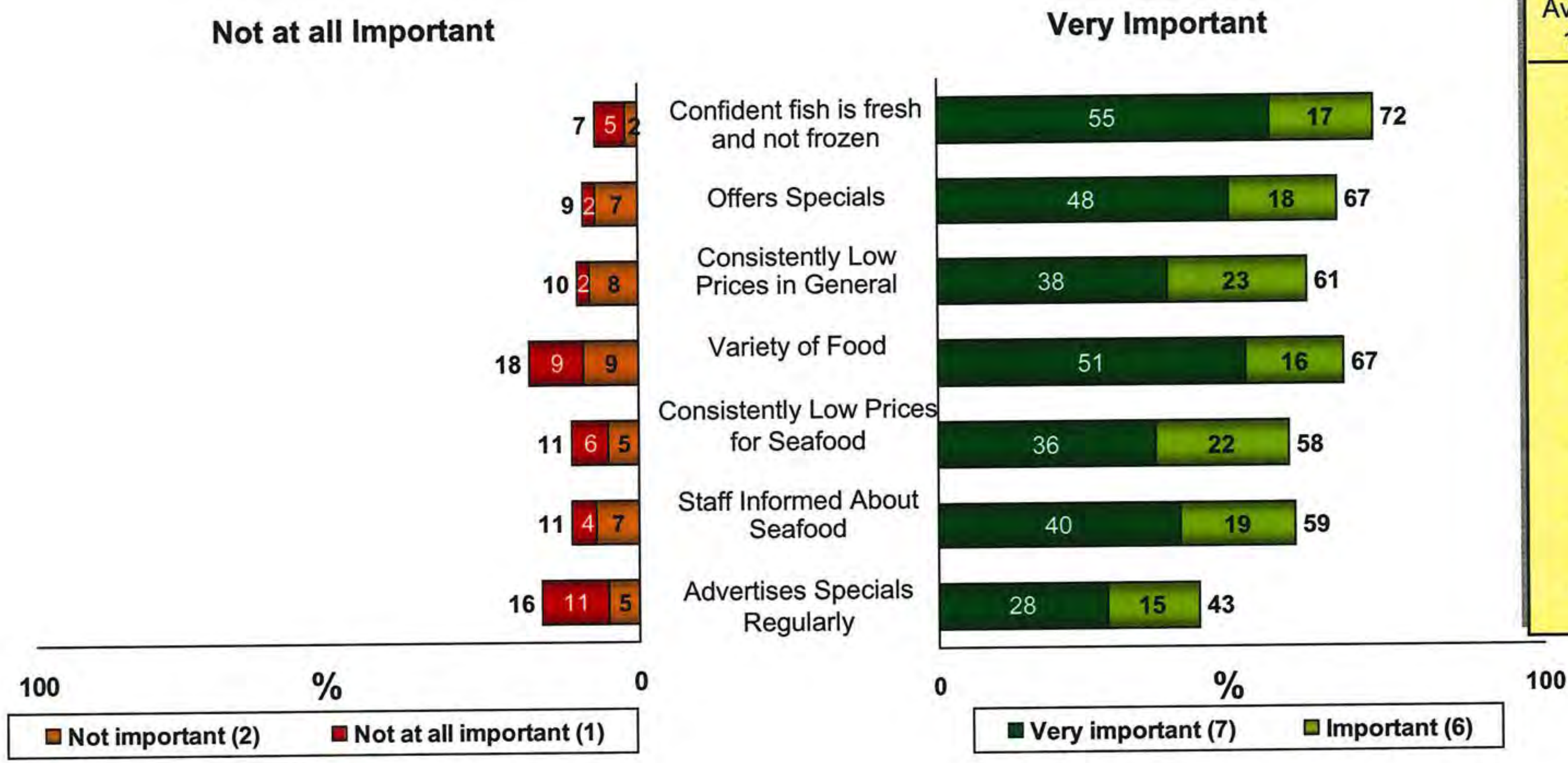


Average 1991	Average 1999
6.0	6.4
5.9	6.3
6.2	6.2
6.7	6.1
5.4	6.1
5.8	6.1
5.6	5.1
5.7	5.9

Base: Weighted respondents (N=2,943,000) unweighted respondents (n=740)

5.6 Attribute Rating of Fish/Seafood Purchasing Outlets (cont)

Chart 5.6a Factors Affecting the Selection of Fish/Seafood Outlets (cont)



Average 1991	Average 1999
5.1	5.8
3.9	5.7
4.9	5.5
4.8	5.4
5.1	5.4
4.9	5.3
4.6	4.6

Base: Weighted respondents (N=2,943,000) unweighted respondents (n=740)

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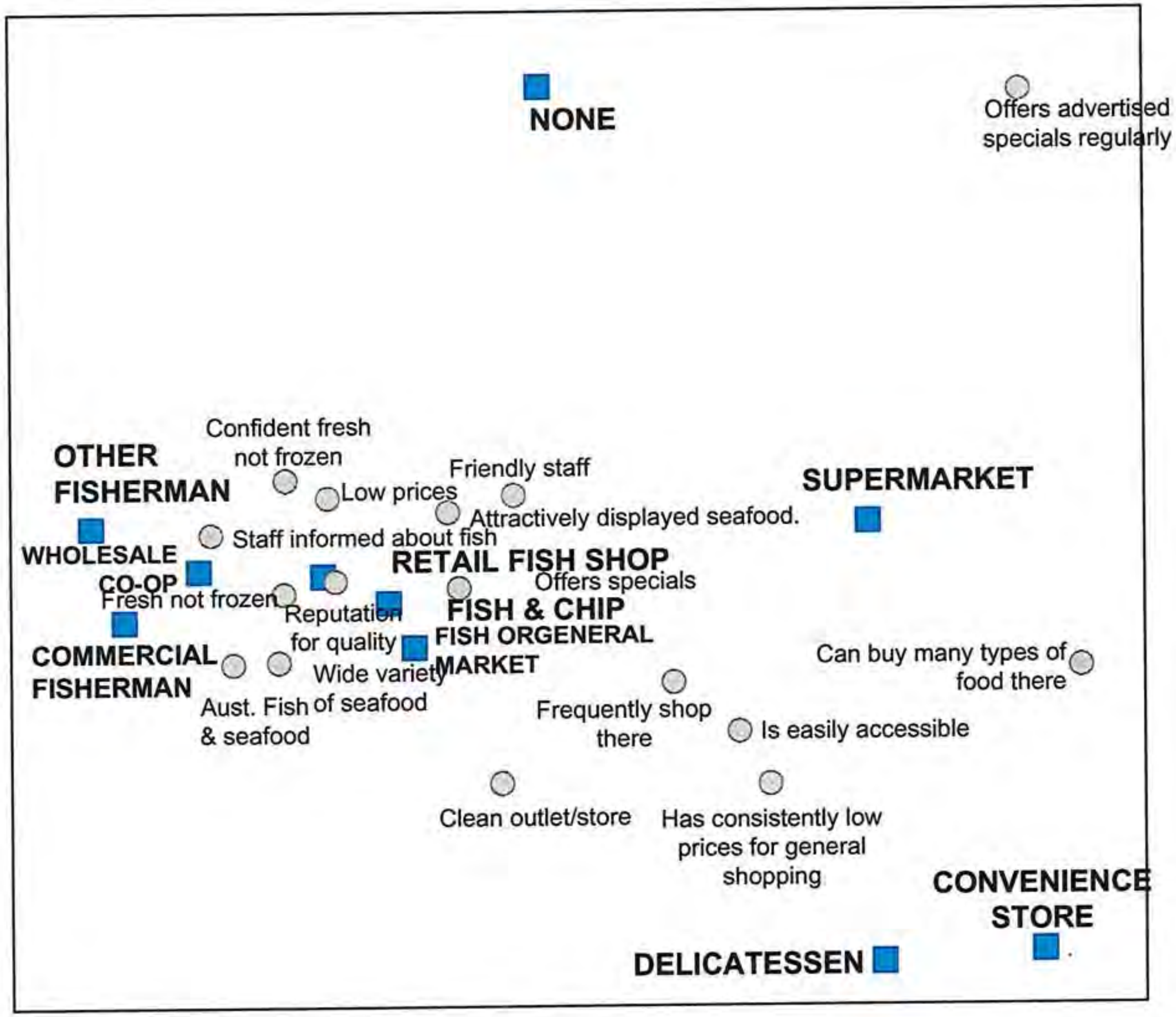
5.6 Attribute Rating of Fish/Seafood Purchasing Outlets (cont)

Chart 5.6a Factors Affecting the Selection of Fish/Seafood Outlets



Base: Weighted respondents (N=2,943,000) unweighted respondents (n=740)

5.6 Attribute Rating of Fish/Seafood Purchasing Outlets (cont)

Table 5. 6a Rating of Factors Affecting the Selection of Fish/Seafood Outlets (average scores)

	TOTAL	Fish or General Market	Retail Fish Shop	Supermarket/ Food Store
Respondents	310	42	104	104
Wtd Respondents ('000)	1,118	177	329	612
Clean outlet/store	6.13	6.97	6.84	5.77
Attractive display	5.99	5.67	6.66	5.80
Consistently low prices for seafood	5.37	5.22	5.25	5.49
Frequently shop there	5.85	5.05	5.91	6.07
Australian product	5.85	5.70	6.22	5.67
Offers specials	5.53	5.06	5.32	5.81
Informed staff about seafood	5.42	5.26	6.00	4.96
Consistently low prices in general	5.49	5.26	5.03	5.85
Easily accessible	6.31	5.72	6.12	6.59
Advertises specials regularly	4.65	3.70	4.14	5.20
Variety of food	5.49	4.36	4.33	6.50
Variety of species	6.16	6.22	6.44	6.01
Friendly staff	6.27	5.97	6.61	6.18
Good reputation for quality	6.25	6.67	6.79	5.83
Confident fish is fresh and not frozen	5.90	6.46	6.47	5.40

Scales 1 to 7 where 7 is 'very important' and 1 is 'not at all important'.

5.7 Alternative Meal Choice When Desired Species Not Available

Chart 5.7a Reaction to Species Unavailability

Base: Weighted respondents (N=1,704,000), unweighted respondents (n=310)

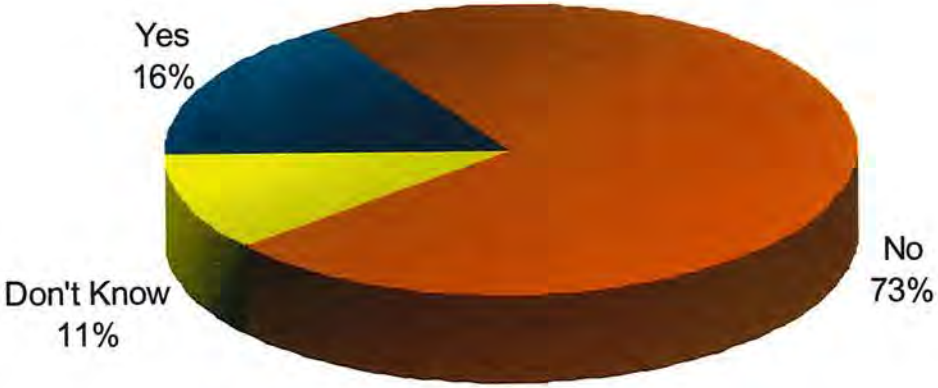
As shown in Chart 5.7a opposite, over half of the Sydney residents surveyed (57%) considered that if a species of fish they desired was unavailable at the point of purchase they would choose another species of fish. **Over one third of people (37%) would choose another type of food.**

- ✶ Males reported a higher likelihood of choosing another fish species (60% another fish 34% another food) in contrast to female consumers (46% another fish, 45% another food).
- ✶ Compared to the 1991 survey, respondents were much more likely to choose another type of fish/seafood (47% in 1991) and less likely to select another type of food (46%in 1991)

This suggests that many people, particularly women, do not see fish species as interchangeable but rather select species by factors like the style of preparation or taste preference. Where the purchaser has limited knowledge of alternative fish species, and their preferred species is unavailable, this may result in a lost sale.

5.8 Species Habitat

Chart 5.8a Habitat Effect on Purchase Decisions



Base: All respondents weighted by sex within age (n=2,943,000), unweighted respondents (n=1142)

Almost three quarters of the Sydney population (73%) did not consider whether a fish came from its natural habitat or was farmed.

* There was a slight influence of age on the response to this issue with younger people generally more concerned about natural habitat/farming issues than older people.
* Country of birth was also found to have an impact with Europeans being the most concerned about these issues (29%).
* This result was similar to the 1991 survey where 76% of people were not interested in species habitat.

6. Out of Home Fish/Seafood Consumption

6.1 Fish/Seafood Meals Eaten Out of Home

Table 6.1a Fish and Seafood Consumption by Location

	Total	Fish	Seafood	Combination (Seafood/Fish)
Resp.	717	316	276	29
Wtd Resp ('ooo)	1743	785	639	71
	%	%	%	%
TYPE OF MEAL				
Entrée/Snack	13	9	22	9
Main	87	91	78	91
PLACE WHERE BOUGHT/ ATE SEAFOOD				
Work Cafeteria	4	4	3	-
Restaurant	28	20	39	27
Function Centre	3	0	5	5
Club	14	13	15	34
Hotel	2	3	2	4
Coffee Lounge/Café	3	5	3	-
Fish & Chip Shop	10	12	6	6
Fast Food Outlet/Take-away	12	12	9	16
Sandwich/Milk Bar	5	8	2	2
Friends/Relatives House	10	9	12	2
Other	8	13	3	4
Took Sandwiches to Work	0	-	1	-
No Response	0	1	-	-
Average Weight (in grams)	194.7	203.5	181.5	255.6

As shown in the accompanying table and charts most out of home fish/seafood meals were purchased as a main meal (87% compared to 78% in 1991) rather than an entrée (13% compared to 20% in 1991).

* **Fish** was most likely to be served as a main meal than an entrée (91% and 9 % respectively).
* **Seafood** was also more likely to be served as a main meal (78%) though an entrée serve was still quite popular (22%).
* In the 1991 survey fish/seafood was more likely to be served as an entrée than in the current survey (20% entrée, 78% main meal in 1991).

It can also be seen that both fish and seafood were more likely to be chosen at a restaurant than other outlets.

6.1 Fish/Seafood Meals Eaten Out of Home (cont)

Chart 6.1a Meal Type

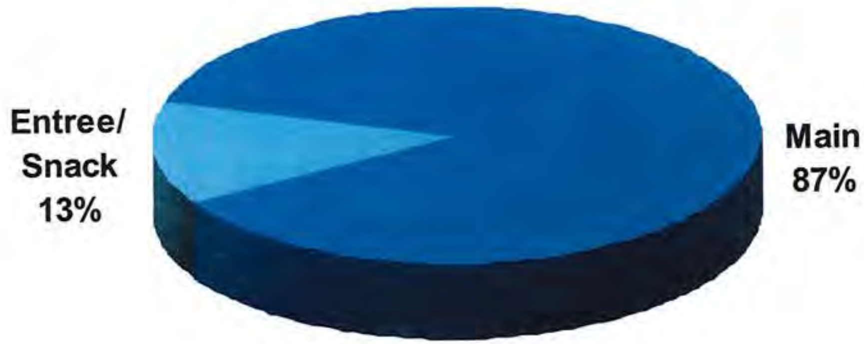
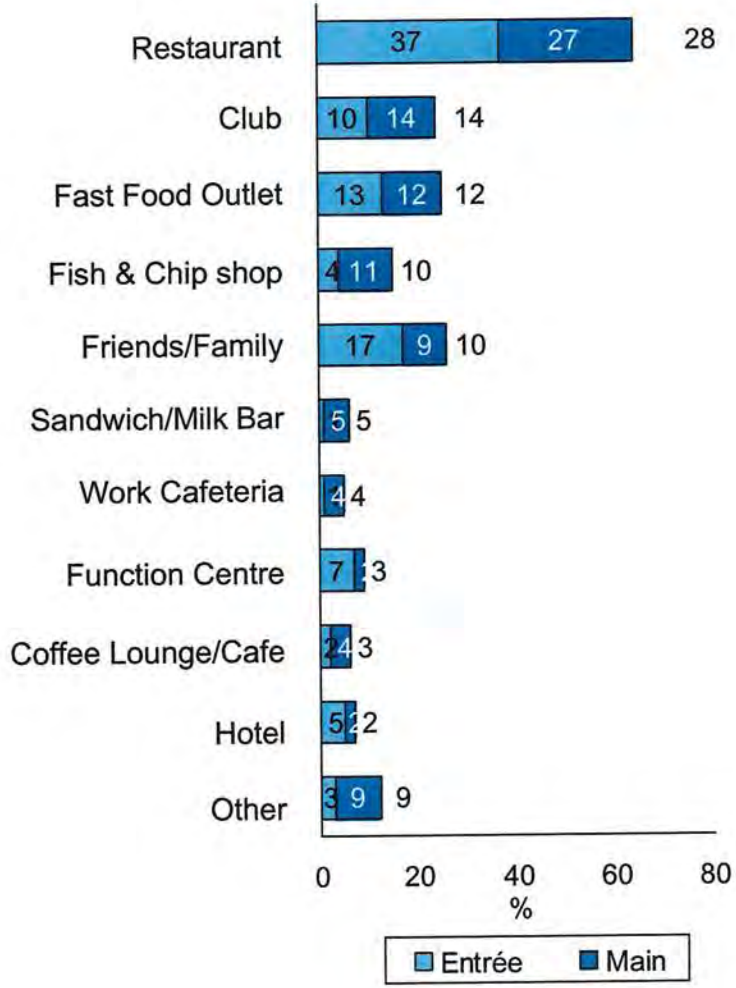


Chart 6.1b Location of Purchase



Base: All respondents weighted by sex within age (n=2,943,000), unweighted respondents (n=1,142)

6.1 Fish/Seafood Meals Eaten Out of Home (cont)

From Chart 6.1b it can be seen that fish/seafood courses were most popular at restaurants, with orders here accounting for 28% of all out of home consumption. This was a moderate decrease since the 1991 survey where restaurants were found to have accounted for 38% of all fish/seafood meals consumed out of home (See Box 6.1).

* Entrees were particularly popular at restaurants (37%) and with friends/families (17%) than at other locations.
* Fish/seafood main meals were most commonly purchased at restaurants (28%), clubs (14%) or fast food outlets (12%).

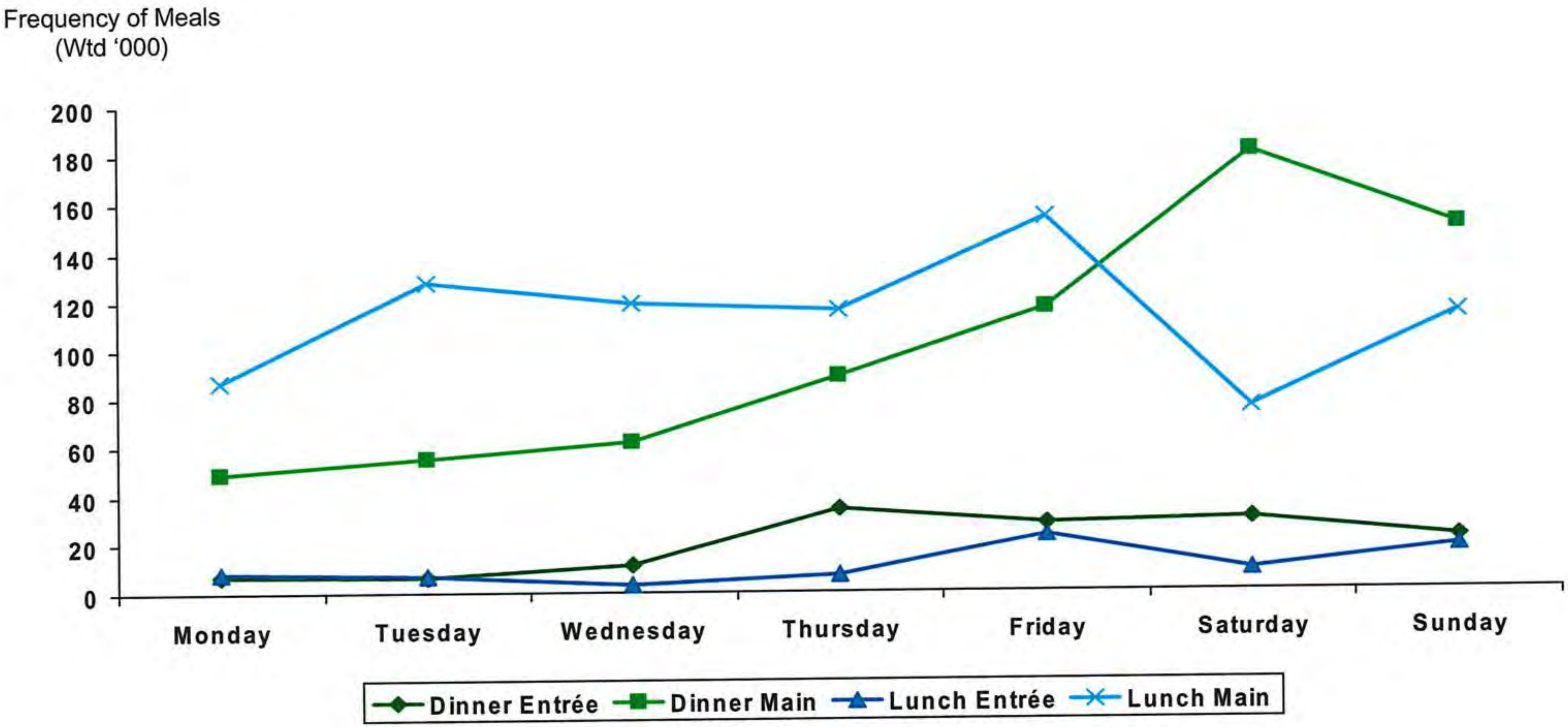
Chart 6.1c graphically displays the consumption of fish/seafood entrees and main courses for dinner and lunch across the course of a week. From this it can be seen that fish/seafood was more common as a main lunch meal during the week than as an evening meal, however, this situation reversed on the weekend when evening meals of fish/seafood were more popular. The consumption of fish/seafood as an entrée, whether at lunch-time or for an evening meal was relatively constant but showed a slight increase towards the end of the week, reflecting higher rates of out of home dining over these days.

Box 6.1 Location of Consumption by Survey Year

	1999 (%)	**1991** (%)
Restaurant	28	38
Club	14	9
Fast Food Outlet	12	6
Fish & Chip Shop	10	5
Friends/Family	10	14
Sandwich/Milk Bar	5	3
Work Cafeteria	4	8
Function Centre	3	1
Coffee Lounge/Cafe	3	2
Hotel	2	2
Other	9	10

6.1 Fish/Seafood Meals Eaten Out of Home (cont)

Chart 6.1c Meal Type by Day of the Week



Base: All respondents weighted by sex within age (n=2,943,000), unweighted respondents (n=1,142)

6.2 Type of Fish/Seafood Consumed Out of Home

The estimated average weekly consumption of fish/seafood out of home per person for Spring and Summer 1998/1999 was 161.7 grams per week. As shown in Table 6.2a, **19% of Sydney residents had eaten fish out of home in the last week and 17% had eaten seafood out of home.** The average weight consumed per person was slightly higher for fish (203.5 grams) than for seafood (181.5 grams).

- Women were more likely to consume both fish and other seafood than men.
- Consumption of fish and other seafood were both more likely in households with higher income.
- There was also a notable difference in out of home fish and seafood consumption based on employment status, with those not in the workforce having the lowest consumption rates.

Table 6.2a Type of Consumption (out of home)

		GENDER		AGE GROUP				EMPLOYMENT			HOUSEHOLD INCOME					
	Total %	Male %	Female %	15-19 %	20-39 %	40-59 %	60+ %	Full Time %	Part Time %	None %	< $25k %	< $25-40k %	$40k - 60k %	$60k - 80k %	Over $80k %	Average Weight Consumed
Resp.	1142	338	804	93	500	394	155	415	289	433	182	160	197	143	168	
Wtd ('ooo)	2943	1431	1512	257	1204	907	575	1210	608	1105	484	391	453	355	435	
Fish	19	17	21	13	22	19	17	21	24	15	19	15	19	32	24	203.5g
Seafood	17	13	20	6	22	18	11	20	19	13	12	11	19	23	23	181.5g
Combination (Seafood & Fish)	2	1	3	2	2	2	1	2	2	2	2	3	2	3	3	255.6g
Don't know	6	6	7	7	6	8	6	9	7	4	5	3	6	9	9	293.0g

6.2 *Type of Fish/Seafood Consumed Out of Home (cont)*

The accompanying Table (6.2b) shows the frequency of species selection and average weight consumed when eating fish and seafood out of home. This demonstrates that the most frequently selected species were:

- Prawns (9%)
- Salmon (5%)
- Combination (5%)
- Squid/Octopus (3%)
- Tuna (3%)

The species with the highest average serve sizes (edible weight) were:

- Trout (797.0 grams)
- Barramundi (375.9 grams)
- Swordfish (350.0 grams)
- Mussels (339.7 grams)
- Cod (310.8 grams)

Table 6.2c shows the location of purchase for the main species consumed (where location data was available). Barramundi (71%), prawns (42%), oysters (38%), squid/octopus (37%), perch (33%) and sushi (31%) were most commonly ordered at a restaurant, while while boneless fillets (29%), shark (26%) and crumbed fish (35%) were most commonly ordered at a fast food outlet.

6.2 Type of Fish/Seafood Consumed Out of Home (cont)

Table 6.2b Frequency of Species Selection and Average Consumption Weight

	GENDER			AGE GROUP				EMPLOYMENT			HOUSEHOLD INCOME					
	Total	Male	Female	15-19 Years	20-39 Years	40-59 Years	60+ Years	Full Time	Part Time	None	<$25k	$25k-$40k	$40k-$60k	$60-$80k	Over $80k	Average Weight Consumed
	1142 2943 % %	338 1431 %	804 1512 %	93 257 %	500 1204 %	394 907 %	155 575 %	415 1210 %	289 608 %	433 1105 %	182 484 %	160 391 %	197 453 %	143 355 %	168 435	(Grams)
Anchovies	0	0	0	-	0	1	0	0	1	-	-	1	0	1	-	30.7
Barramundi	1	1	1	1	1	1	1	2	1	1	1	-	2	1	2	375.9
Blue Eye	0	0	0	-	0	0	-	1	-	0	-	-	-	-	-	188.3
Boneless Fillet	1	-	2	-	1	1	0	-	2	1	2	1	1	-	1	181.4
Bream	2	3	1	-	2	2	4	3	1	2	2	2	3	1	3	258.1
Cod	0	0	0	-	0	0	-	1	-	-	-	-	-	0	1	310.8
Combination	5	3	6	3	6	5	2	6	5	3	4	4	6	7	7	250.9
Crabs	0	-	0	1	0	-	-	0	0	0	-	-	-	-	0	124.9
Crumbed Seafood	1	1	1	3	1	0	1	1	1	1	0	1	0	1	1	194.7
Dory	0	-	0	-	0	0	-	-	1	0	-	0	0	0	-	150.0
Fish Cocktails	1	1	1	1	1	0	-	1	0	1	2	1	1	1	-	196.4
Flathead	1	1	1	-	1	0	0	0	-	1	-	-	1	2	1	152.2
Flounder	0	-	0	-	-	0	-	-	-	0	-	-	-	0	-	149.0
Gemfish	0	-	0	-	0	-	-	-	0	-	-	0	-	-	-	195.0
Hake	0	0	0	-	0	0	0	0	-	1	1	-	1	-	0	183.7
Jewfish	0	-	0	-	0	0	0	-	1	0	0	-	0	-	-	250.0
Kipper	0	-	0	-	-	0	-	0	-	-	-	-	-	-	0	75.0

6.2 Type of Fish/Seafood Consumed Out of Home (cont)

Table 6.2b Frequency of Species Selection and Average Consumption Weight (cont)

		GENDER		AGE GROUP				EMPLOYMENT			HOUSEHOLD INCOME					
	Total	Male	Female	15-19 Years	20-39 Years	40-59 Years	60+ Years	Full Time	Part Time	None	<$25k	$25k-$40k	$40k-$60k	$60-$80k	Over $80k	Average Weight Consumed
	1142 2943	338 1431 %	804 1512 %	93 257 %	500 1204 %	394 907 %	155 575 %	415 1210 %	289 608 %	433 1105 %	182 484 %	160 391 %	197 453 %	143 355 %	168 435 %	(grams) %
Lobster	1	1	1	1	1	2	2	1	2	1	0	0	0	2	27	-
Mullet	0	-	0	-	-	0	-	-	-	0	0	-	-	-	-	150.0
Mussels	1	-	1	-	1	0	1	0	1	0	-	1	1	2	-	339.7
Other Fish	1	1	0	1	0	1	-	1	0	0	0	1	0	1	0	300.1
Oysters	1	1	1	1	1	2	2	1	2	1	0	0	0	2	2	36.7
Perch	1	2	1	-	2	1	0	2	3	0	1	-	1	1	2	174.6
Pizza	0	0	1	-	1	0	-	1	0	0	0	-	2	1	-	200.0
Prawns	9	8	11	4	12	9	7	11	9	7	8	5	10	10	13	181.7
Salmon	5	3	8	2	5	6	9	5	7	5	8	2	4	10	9	155.6
Sardines	0	0	0	-	-	0	0	0	0	-	1	-	1	-	-	71.9
Seafood Platter	0	-	1	-	-	0	1	-	1	0	0	1	1	-	-	-
Shark	1	1	1	1	1	1	-	1	1	1	1	1	1	2	0	229.0
Snapper	1	1	1	-	2	-	0	1	2	-	1	-	1	3	-	272.4
Sole	0	1	0	-	0	-	2	-	0	1	1	-	1	-	0	251.9
Squid/ Octopus	3	2	3	-	4	3	0	3	3	2	1	3	2	2	4	149.7
Sushi	1	1	1	1	2	0	-	1	0	0	-	0	-	5	0	138.9
Swordfish	0	-	0	-	-	0	-	0	-	-	-	-	-	-	0	350.0

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6.2 *Type of Fish/Seafood Consumed Out of Home (cont)*

Table 6.2b Frequency of Species Selection and Average Consumption Weight (cont)

		GENDER		AGE GROUP				EMPLOYMENT			HOUSEHOLD INCOME					
	Total	Male	Female	15-19 Years	20-39 Years	40-59 Years	60+ Years	Full Time	Part Time	None	<$25k	$25k-$40k	$40k-$60k	$60-$80k	Over $80k	Average Weight Consumed
	1142 2943 % %	338 1431 %	804 1512 %	93 257 %	500 1204 %	394 907 %	155 575 %	415 1210 %	289 608 %	433 1105 %	182 484 %	160 391 %	197 453 %	143 355 %	168 435	(grams)
Trout	0	-	0	-	0	0	0	0	0	0	-	1	0	-	0	797.0
Tuna	3	2	3	-	4	2	2	4	3	1	2	4	1	5	3	171.4
Whiting	1	1	0	-	0	2	-	1	-	0	-	0	-	2	1	287.9
Don't know	6	6	7	7	6	8	6	9	7	4	5	3	6	9	9	188.1
Refused	0	-	0	-	0	0	-	0	-	-	-	-	-	0	0	40.0

6.2 *Type of Fish/Seafood Consumed Out of Home (cont)*

Table 6.2c Location of Species Purchase

	Work Cafeteria %	Restaurant %	Function Centre %	Club %	Hotel %	Coffee Lounge %	Fish & Chip Shop %	Fast food Outlet/ Take-away %	Sandwich/ milk bar %	Friends/ relatives house %	Other %
Barramundi	-	71	-	19	5	-	-	-	-	5	
Boneless Fillet	-	16	-	21	1	12	22	29	-	-	-
Perch	-	33	-	16	19	10	14	10	-	-	-
Salmon	5	21	-	13	3	8	2	4	16	12	18
Shark	9	-	-	-	-	-	66	26	-	-	-
Squid/Octopus	5	37	-	15	3	4	15	10	-	6	-
Prawns	5	42	4	14	3	2	1	7	3	13	3
Crumbed Seafood	6	-	19	6	-	6	13	35	-	19	-
Tuna	11	4	-	3	-	2	-	8	14	4	11
Combination Seafood	-	29	3	24	2	-	8	14	4	11	7
Oysters	-	38	4	29	5	-	5	-	-	22	-
Sushi	-	41	-	-	-	-	-	33	-	-	26
Other	1	31	4	26	2	5	16	20	4	10	6

Base: All respondents weighted by sex within age (n=2,943,000), unweighted respondents (n=1,142)

6.3 Importance of Factors When Selecting Seafood From a Menu

All respondents were asked to determine the importance of a series of factors (listed in Box 6.3a) when make a fish/seafood purchase at one of the following outlets:

- ✱ Restaurants
- ✱ Clubs
- ✱ Fish and Chip Shops
- ✱ Hotels
- ✱ Fast Food Outlets

Chart 6.3b shows the factors that were most important to out of home purchasers overall. Clearly *clean premises* was the most important attribute (91% very important). *Fresh fish (not frozen)*, a *reputation for quality* and *offers Australian fish/seafood* were also important to most Sydney residents (74%, 74% and 56% respectively).

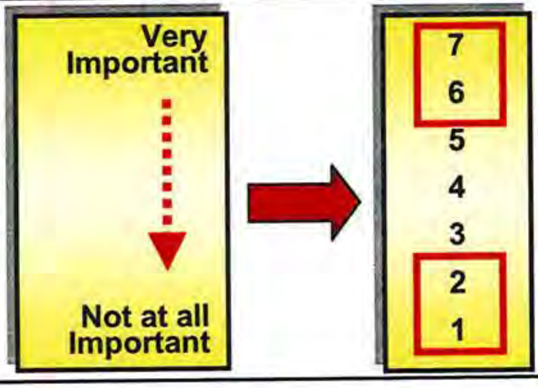
While in the 1991 Sydney survey *clean premises* and *fresh fish (not frozen)* were still the top two categories, their importance was somewhat below the level recorded in the present study (85% and 66% very important). Further, in 1991 *uses preparation method I could not use at home* was much more important (59%).

BOX 6.3a Statements selecting fish from a menu

- Clean premises
- Fresh fish (not frozen)
- Reputation for quality
- Consistently low prices
- Offers Australian fish/seafood
- Knowledgeable staff
- Offers variety
- Uses preparation method unable to use at home

BOX 6.3b SCALE

Respondents were asked to rate each statement on a scale from 1 to 7 where 1 was *not at all important* and 7 was *very important*. *Very important* was used to refer to the top two codes (7 and 6) combined



The accompanying matrix (Chart 6.3a) shows that it was considered important that **restaurants** *use a method of preparation that I could not do at home, have a reputation for quality* and *offer fresh rather than frozen fish/seafood.*

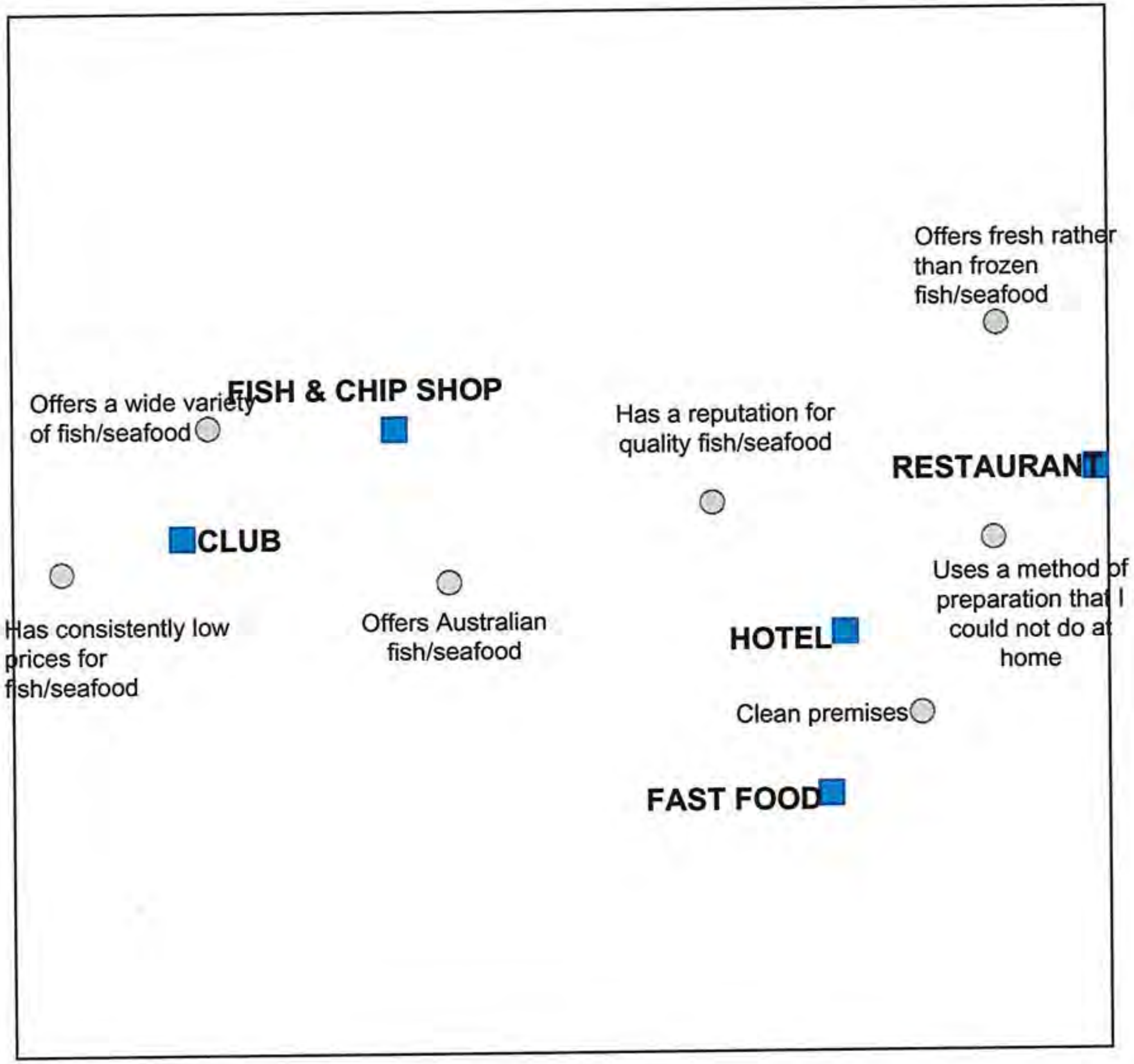
Offers Australian fish/seafood was seen as important to all outlets.

Has consistently low prices was important for **clubs**.

Clean premises was seen as particularly important for **hotels** and **fast food outlets**.

6.3 Importance of Factors when selecting fish/seafood from a menu (cont)

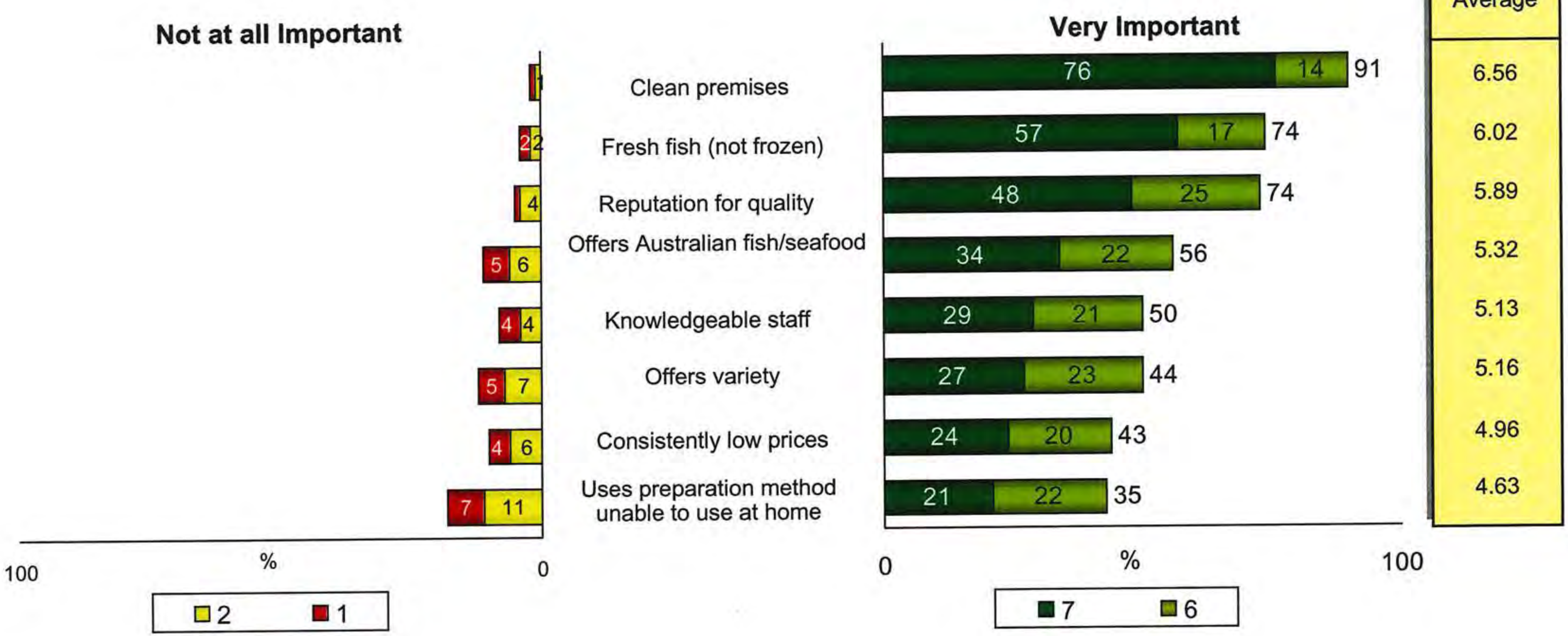
Chart 6.3a Importance of Factors by Outlet Type



Base: All respondents weighted by sex within age (n=2,943,000), unweighted respondents (n=1,142)

6.3 Importance of Factors When Selecting Seafood From a Menu (cont)

Chart 6.3b Meal Type by day of the Week



Base: All respondents weighted by sex within age (n=2,943,000), unweighted respondents (n=1,142)

6.3 Importance of Factors When Selecting Seafood From a Menu (cont)

Table 6.3a Attribute Rating of Out of Home Outlets (average scores)

	Restaurant	Club	Hotel	Fish & Chip Shop	Fast Food Outlet/ Take-away
All respondents	163	64	14	61	61
Weighted respondents	395	157	34	159	150
	%	%	%	%	%
Clean premises	6.54	6.67	6.89	6.44	6.52
Fresh fish (not frozen)	6.18	5.89	5.87	6.37	5.42
Reputation for quality	5.81	6.41	6.01	6.02	5.36
Consistently low prices	4.79	5.33	4.75	5.23	4.80
Offers Australian fish/seafood	5.22	5.69	4.65	5.65	4.98
Knowledgeable staff	5.16	5.17	5.20	5.25	4.85
Offers variety	5.09	5.61	4.85	5.44	4.59
Uses preparation method unable to use at home	4.81	4.32	4.71	4.66	4.42

Scale: 1 to 7, where 1 is 'not at all important' and 7 is 'very important'
Base: All respondents weighted by sex within age (n=2,943,000), unweighted respondents (n=1,142)

7. References

7 References

Fisheries R & D Corporation. Canberra. 1992. National seafood consumption study. 83pp. PA Consulting Group.

Part Two

Focus Group Discussions

1. Objectives

1. Objectives

The focus group discussions were the first stage of a three-staged research program to provide up-to-date information on seafood consumption patterns in Sydney.

The objectives of this stage of the research program were to:

- Develop an understanding of current grocery/seafood shopping patterns.
- Identify the species bought and purchase patterns of seafood consumers.
- Examine the factors influencing consumers' decisions to purchase seafood.
- Identify methods of increasing seafood consumption.
- Develop a profile of consumers' image of under-utilised species.

2. Research Methodology

2. Research Methodology

A total of five focus group discussions were convened at the Sydney offices of Yann Campbell Hoare Wheeler (YCHW). All participants were recruited by YCHW and discretely screened to ensure they were responsible for the purchase of seafood for their household. All focus groups were held in the week commencing 15 September, 1998.

The demographic composition of each group is set out in the table below.

Table 2: Demographic Composition of Focus Groups

	Age	Gender	Employment
Group 1	45 years and over	Women	Working
Group 2	45 years and over	Women	Non-working
Group 3	Under 45 years	Women	Working
Group 4	Under 45 years	Women	Non-working
Group 5	Open Age	Men	Working/Non-working

3. Overview of Findings

3. Overview of Findings

Uncertainty about safety, price and lack of cooking knowledge were amongst the strongest barriers to increased fish/seafood consumption. There was general agreement that seafood is over priced and too expensive to be eaten more often. Men and women with less cooking skills were likely to articulate their lack of skill in cooking seafood as a barrier. For these people seafood was a special occasion meal to be eaten when out.

Fish was recognized as a healthy meal. However, this information was seen as "old news". Seafood was generally seen as being high in contamination risk (such as oysters) or high in cholesterol (crustaceans and molluscs).

"Quick and easy" meals were seen as desirable for all groups, except when planning for a special occasion meal. Stir-fries and pasta dishes were the most popular. Low fat, healthy meals that could be frozen or re-heated the next day were desired by most participants. This was seen as incongruent with the average perception of fish which is that it does not freeze well, cannot be reheated and should be eaten the day it is purchased.

There was a general consensus that it is easier to tell if fish is spoiled or contaminated than meat products just by look and smell. Chicken and pork were seen as higher contamination risks than seafood. The recent contamination issue with oysters was still top of mind. People who were more confident in cooking were also more likely to feel confident in identifying the freshness of fish.

The need for fish to be fresh and handled appropriately was continuously mentioned. There was a feeling that many shop assistants, particularly in the non-specialist outlets, did not know how to handle fish safely.

The issue of fish and seafood being Australian or caught by an Australian owned company was seen as less important for fish/seafood than other foods. Fish and seafood were viewed as a more global product. Of greater concern to participants was the pollution levels where the fish/seafood was caught. Rivers and coastal areas were seen as particularly high in contamination risk.

Fresh fish shops were the most popular outlet for purchasing fresh or frozen fish/seafood. The Sydney Fish Market was seen as the premium place of purchase, time permitting, with many participants. Supermarkets were mostly viewed as a poor option for seafood, to be frequented either by people without the time "to shop around" or with limited finances. The reasons given for preferring to purchase seafood from specialist outlets rather than supermarkets included the freshness of the fish, the expertise of the retailer, the better packaging (not in plastic), the variety and the ability to choose the number of fillets desired. There was also an importance placed on the relationship between the retailer and the customer. "Trust" was a reoccurring theme here.

The ideal packaging of seafood for the majority of all participants was paper, as currently used in fresh fish outlets. Fish sealed in plastic was not seen as desirable. Vacuum packaging received a mixed reaction. The concept of pre-prepared meals was not well received by most groups for the reason that the seafood would be considered to be old.

All groups reported a lack of awareness of any category advertising for seafood. Knowledge of media promotions was limited to the very occasional mention of the "Omega 3" in the press. Women particularly felt their eating habits had been changed by beef and pork category advertising.

4. Detailed Findings

4.1 Methods Of Increasing Fish/Seafood Consumption

Price was the strongest barrier to increased seafood consumption for many people. There was general agreement that seafood was over priced and too expensive to be eaten more often.

Participants also suggested more information regarding simple, easy to prepared seafood meals. Education in seafood preparation, through cooking demonstrations and "idiot proof" recipe cards were some methods suggested for achieving this. Many participants also felt that there were skills in seafood preparation that had been known by previous generations but were now lost. This included information on how to clean and debone fish.

Group One (working women aged 45 years and over)

"… if it was cheaper I'd be more inclined to buy fish"

Fish was considered to be "remarkably expensive" by the women in this group. They felt that there was no justification for such expense, other than because seafood is both fashionable and nutritious and therefore people are going to buy it regardless of the cost.

"...the technique of preparing fish is a bit mystifying"

A further barrier to buying fish was the de-boning process for both the time consumed in comparison to other meals and the fact that the women did not have a great deal of knowledge of how to prepare fish. These women suggested in-store cooking demonstrations focusing on both the preparation of a fish and different cooking ideas would encourage increased product purchase. Similarly, these women also suggested that selling fish with a preferred method of cooking would increase sales, for example, "good to BBQ", "great for mornay", etc.

Group Two (women not in the workforce aged 45 years and over)

Clearly the expense of fish/seafood was considered to be an important factor for these women. It was commented that for people not in the work-force seafood is a luxury item.

An area of great enthusiasm for these women was recipe cards which were used as a frequent reference source for new cooking ideas. In addition, cooking demonstrations and taste tests were popular. Many of the women commented that they would like to take cooking classes but the cost was again an intervening factor. The Sydney Fish Market was praised as a provider of excellent seafood preparation and cooking classes.

> "I like them being pro-active and telling us these things".

The women from this group wanted additional information not only about original ways to cook fish but also about the health and safety aspects of the food.

Group Three (working women aged under 45 years)

Some women felt that for their consumption of fish/seafood to increase they would need better access to seafood outlets and cheaper prices. The smell of fish was also an issue with a few women not wanting to bring the "fishy" smell into their homes.

These women also commented that they tend to "forget about having fish". It was suggested that more advertising was required to "jolt people's memories" about seafood and its health benefits. The participants noted that there is a perception that fish is not filling and is not appropriate for adolescent boys and working men with large appetites. There was consensus that this could be addressed through category advertising.

Group Four (women not in the workforce aged under 45 years)

The principle factor which influenced the buying of fish/seafood and species selection were "price and what we like". While the issue of expense continued to be major theme for this group, they were also concerned about pleasing family members tastes. There was also concern that fish with bones is not suitable for children.

Contamination was of great concern for these women. They emphasized the need for fish to be fresh and handled appropriately. They felt that a public education campaign to demonstrate best practices in the catching, transporting, processing, retail sale and preparation of fish/seafood would build their trust in the industry and show them what practices to be looking for from retailers.

Group Five (men - open age and employment status)

The fish/seafood consumption was fairly high for most of these men. They felt there was not a great deal that could be done to improve sales. However for men that were not big seafood eaters it was felt that a reduction in price would increase their consumption. Recipes cards for quick and easy seafood dishes were also suggested.

Men believed they had not been influenced by category advertising for beef and pork. They also reported that the health benefits were not a consideration in their purchase of seafood. Their motivations were more focused on providing a varied diet for their family and cooking something quick and tasty, such as a whole barbecued fish. Whole fish was favored by men who generally considered prepared fillets and other cuts to be "too fiddly and hard to cook".

4.2 Knowledge Of Fish/Seafood As A Healthy Dietary Alternative

Seafood, fish in particular, was recognized as a healthy meal. However, this information was seen as "old news". As the men articulated best, most people tend to actively avoid unhealthy foods rather than concern themselves with what is actually good for them. The concept that fish is healthy would seem to be at saturation point.

Group One (working women aged 45 years and over)

"… (fish) was hot a few years ago. It was top of the pop. Why you should eat it, what you should eat and how much you should eat. I think it has tended to die down".

Women in this group recognized the need to consume fish due to its great health benefits however the price of fish/seafood makes this unreasonable. There was a general feeling that the price of fish is high because it is nutritious and the seafood industry knows it will be bought regardless of the price.

Group Two (women not in the workforce aged 45 years and over)

"(Fish) is very good for you"

The majority of women in this group considered seafood (excluding fish) to be "high in cholesterol", "but it so low in fat." It was felt that this contrast "...balances out" but not for shellfish which was seen as high in fat. Others thought that the small amount of oil needed for cooking fish was a health benefit.

Group Three (working women aged under 45 years)

These women were aware of the health benefits of fish and seafood citing Omega 3 as a particular benefit which fish/seafood offers. They felt that the health benefits should be the focus of any advertising about seafood.

4.2 Knowledge Of Fish/seafood As A Healthy Dietary Alternative (cont)

Group Four (women not in the workforce aged under 45 years)

Women in this group were aware that fish is an excellent source of Omega 3 and recognized its low fat qualities. By attempting to include fish in their weekly diet and by admitting that they do not include enough fish in their diet, these women demonstrated that they are cognizant of the health benefits to be found with a diet high in fish products.

Group Five (men - open age and employment status)

Male participants were aware of the importance of fish/seafood as a healthy alternative and its low fat content. Most men had never heard of 'Omega 3', while others were aware only that it is a quality specific to seafood. The majority of men reported that they would not increase their consumption because they already ate enough fish, "you could go down to the chemist and get Omega 3 in tablet form" and because " I think about things that are bad and not so much about things that are good". Hence, as long as you are not consuming unhealthy foods, it is not necessary to be pro-actively seeking and eating healthy foods.

"Whatever you eat today that they are telling you is healthy,
a week later they'll tell you its not".

4.3 Knowledge and Impact of Contamination/ Spoilage Risks

There was a general consensus that it is easier to tell if fish is spoiled or contaminated than other protein products just by look and smell of the produce. Chicken and pork were seen as higher contamination risks than fish/seafood. The recent contamination issue with oysters was still top of mind. People who were more confident in cooking were also more likely to feel confident in identifying the freshness of fish.

Group One (working women aged 45 years and over)

The women in this group reported that fish and chicken products were of greater contamination risk because they are not cooked as long as red meats. These products therefore needed to be fresher. The women believed they could tell a fish was fresh by looking at it, seeing it's texture, by the smell and by the turnover in the retail outlet.

Group Two (women not in the workforce aged 45 years and over)

These participants also thought they would be able to tell if a fish was fresh or not by the feel, look or texture of the fish. This was considered to be an advantage over red meat because with red meat "(you) just don't know how long it's been in cold storage". Chicken and pork were the produce considered to be the most likely to have contamination problems because they do not require a long cooking time. One woman thought the issue of animals drinking contaminated water was something which "hasn't been considered enough".

Group Three (working women aged under 45 years)

> "If you were from Sydney you would know not to eat the oysters."

Food poisoning was something the women considered when buying meat. It was also felt that the point of purchase had an impact on the perception of contamination and food safety issues. Oysters were noted as a particular contamination risk.

4.3 Knowledge and Impact of Contamination/Spoilage Risks (cont)

Group Four (women not in the workforce aged under 45 years)

Contamination was considered to have been a problem recently. These women all noted that they observe the hygiene standards at the retail outlet when determining whether to make a purchase or frequent the outlet in the future. It was noted that in supermarkets, seafood was often sold from the delicatessen counter. There was concern that poor understanding of sales assistants about food handling best practices could lead to contamination of the produce they handle - ; "those gloves are a joke ... they use them without tongs! They maul everything and it all gets cross-contaminated". The women were quite suspicious of all handling techniques - "I think it is important to have standards of hygiene .. I would hate to think what goes on in the back of the shop".

The contamination scare turned one participant away from oysters and she hasn't eaten them since. There was general agreement with this. Although there was a feeling that nothing is safe anymore, these women felt that there were fewer problems associated with fish than there was with other sources of protein. This was because fish is generally wild or free-range and not fed artificial feed containing antibiotics or steroids. It was also felt that people are generally more aware of possible contamination with fish and cook it on the day it is purchased and ensure it is properly refrigerated.

Some women would not freeze fish because they believed fish does not reconstitute very well. The origin of the catch was noted as one area for concern. Several women expressed the view that "harbor fish" was too high in heavy metals and should be avoided.

Looking on the lighter side, one woman found the contamination scares to have had a positive effect. It was believed that the scare had resulted in such a great "clean-up" of everything, that as a result oysters were "now just beautiful".

Group Five (men - open age and employment status)

"It doesn't take much for fish to go off"
"Most of us wouldn't know by looking at a fish if it was good or not."

For men, the important issue was the freshness of the product. While they had some approaches to checking freshness, like eye clarity, fillet color, and smell, they still felt that their best check was the reputation of the retailer and their relationship with that retailer.

Some men did not feel that contamination scares had affected what they buy or where they buy it. One participant remembered a scare on Spanish Mackerel once and has not bought this fish since. Most men felt that they would not be able to tell whether a fish was fresh just by looking at it, although a clear eye was one clue as was the fish color (remembering that men showed a clear preference for whole fish). It was felt that white meat such as fish, chicken and pork was more vulnerable to contamination in comparison to red meat.

4.4 Meal Preparation

"Quick and easy" meals were seen as desirable for all groups, except when planning for a special occasion meal. Low fat, healthy meals that could be frozen or re-heated the next day were the most popular. Stir-fries and pasta dishes were also favored.

Group One (working women aged 45 years and over)

Two women from this group reported being very health conscious eating a holistic diet focusing on fresh fruit and vegetables. The most commonly mentioned meals included salads, pasta, casseroles, roasts, curries and Asian food. Most of these women reported being enthusiastic cooks, however, their cooking range was limited by the food preferences of family members and time constraints. Non-fat cooking, by steaming or grilling food was favored.

Group Two (women not in the workforce aged 45 years and over)

"I like to cook … easy, fast meals that are still nutritious"

Healthy, nutritious eating was a consistent theme emerging from this group. Many women liked to keep the meals simple and wholesome because they were concerned that their family should be eating correctly. Self serve meals were important for women who have family members dropping in for dinner unexpectedly. Popular meals included meat, vegetables, pasta and rice dishes. One woman reported that the diet in her household consisted mainly of salads or perhaps a red Thai curry. Indian was the principle meal of another woman who included a "lot of fish and a lot of pork" in her dishes. It was felt that eating patterns had changed dramatically in the past ten years as a result of immigration.

Group Three (working women aged under 45 years)

"anything that's quick - pasta, rice, stir fry"

The message for this group was also relatively consistent. The women were interested in fast meals or "things that are easy", "veggie's and quick things". The most popular dishes including Italian or pasta, stir fries, rice and roasts. Seafood was popular with one respondent. Influences on buying behaviour included the quantity of fat, what is on special and what is in season. It was considered that meals were different to the meat and three vegetable routine the women had when they were growing up. These days, less meat and more cold meat is being consumed. Meals are also more multicultural.

Group Four (women not in the workforce aged under 45 years)

There was quite a variety of meals consumed within this group. This diversity was primarily the result of children, husbands and women within a household preferring different dishes. For example, in one home a women reported that one child has an eating disorder, the husband was a meat eater and the other children like fresh food such as vegetables. Similarly diverse patterns emerged for the most of the remaining homes. Stir fries were mentioned frequently as were pasta, rice and vegetarian meals. Most women reported attempting to include seafood in their diet once a week.

Group Five (men - open age and employment status)

"You don't have to be an excellent cook to cook fish."

There was a mixture of men in this group who felt competent in the kitchen and those who felt they did not have the same "cooking prowess" as the other group members. For those who were competent chefs the meals included chicken, fish and some red meat. Stir fries were a popular dish as were grilled meals (fish and steak) particularly for men who were trying to watch their weight. Roasts were also mentioned occasionally. Variety was essential for one respondent; "never have same meal in one week". For one not so confident cook his "main preoccupation when buying something is the speed of it and the simplicity of it". He purchased lean cuisines because they are "idiot proof". "Quick and easy to cook" was a must for another male who cooks with lots of rice, noodles and makes vegetarian meals with sauces such as curries. Many men reported that they were cutting down on red meat or attempted to include a number of vegetarian meals in their dining routine.

One respondent felt that the enthusiasm put into meals "depends on people's situation, if people are living alone and are only cooking for themselves, then they can't be bothered".

4.5 Meal Decisions

The influence of family members' food preferences was consistent over all groups. Generally, competent cooks planned meals in advance while less competent cooks tended to be more pragmatic and "pick something up on the way home". Again, participants with greater culinary skills were also more likely to experiment and try new recipes or products.

Group One (working women aged 45 years and over)

For the women in this group with families the preferences of other family members, in particular children, determined what would be cooked. Half of the women shopped once a week. Some women had an idea of what the five meals are going to be for that week while others brought the "standard" items required each week. Some participants who were not weekly shoppers will pick up something "on the way home" from work each night.

Group Two (women not in the workforce aged 45 years and over)

Most of the women reported being solely responsible for the cooking in their household. One respondent, however, alternates the cooking nightly with her husband who enjoys cooking. It was felt that these days younger men were more inclined to cook than in previous eras. It was also thought that men would not cook different foods to women. Several women shopped weekly although one participant shopped daily. The majority of women in this group reported that shopping lists were essential when food shopping. Again, the likes of children dictated the shopping needed.

4.5 Meal Decisions (cont)

Group Three (working women aged under 45 years)

Many of the women in this group shared cooking and shopping responsibilities with their partners. Most women reported enjoying the time they spend in the kitchen. Only one woman "hates" cooking. This same respondent buys food daily and cooks it. Most of the women were weekly shoppers. One respondent shopped every two to three weeks. One woman would have a couple of dishes in her mind to be cooked over the coming fortnight and pick up the ingredients when shopping along with other standard items.

Group Four (women not in the workforce aged under 45 years)

The women in this group did the majority of the shopping. The groceries were largely determined by the food likes and dislikes of individual family members. When going shopping two of the women planned their meals while the remainder "don't plan in advance". Planning is somewhat dependent on whether a certain meal is to be made "I'd plan if making a lasagna..." A respondent with students in her home felt that you have to plan ahead otherwise "you're in a panic at 5 o'clock". Several of these women felt that they were "always in the shops". One respondent doesn't like shopping and as a result leaves it to the last minute.

Group Five (men - open age and employment status)

"I plan in advance … you've got to with kids"
"I go to the Fish Market and make a day of it…It's a great outing with the kids."

Three participants reported shopping once a week. A male respondent with the care of two teenage girls was responsible for all the domestic duties. One male reported that he shops every couple of days because he only shops for a few meals ahead of time. Several men plan their meals, some, however never plan for their shopping trips. Shopping was used by these men as entertainment; "I love shopping because I look for ideas."

4.6 Frequency of Eating Fish/Seafood

Seafood was often referred to as a "special occasion" food. The main reason given for this was due to the difficulty in preparing these dishes. Generally, women not in the workforce were more comfortable with cooking seafood and attempted to include a fish meal in their diet at least once a week. Group five contained a blend of men skilled in seafood preparation and would therefore include a number of fish dishes each week while price and the lack of cooking skills prevented other men eating fish more regularly. Several participants commented that they felt they did not eat as much fish as they either should or would like to, due to availability (fish is usually bought and eaten on the same day), lacking of cooking options or cost.

Group One (working women aged 45 years and over)

Seafood for a number of women in this group was considered to be a special occasion meal ordered when out, both because of a perception that it was difficult to prepare and because it was not liked by all the household. Fish did not play a major role in any of these participants diets although it was never completely excluded. One woman reported eating a minimal amount of fish despite enjoying fish because she felt a "lack of confidence" in cooking these dishes. These women felt there was little choice in prepared meals other than marinara.

Group Two (women not in the workforce aged 45 years and over)

Some of the fish varieties popular amongst the women in this group were trout and salmon (steaks). Marinara mix was familiar to these women and a regular purchase for some. A common cooking technique mentioned by many women was in the microwave; "fish is better than any other meat or chicken in the microwave".

Group Three (working women aged under 45 years)

These participants reported that changes in their eating patterns over the last decade had resulted in an increase of fish consumption because of the health benefits, the ease of purchasing fish and increased cooking options to make seafood interesting. Most women felt that fish was not easy to cook and were not very confident with it. Seafood in some families was considered to be a "special occasion" meal because of the expense and because it's a "bit fussy too, to cook and eat because you've got to get bones out and skin off and it's a bit of waste". There was great variation in the frequency of eating seafood for this group with one respondent eating fish three times a week and another saving seafood for when she dines out. One woman felt that she did not have seafood enough. There was also a perception that seafood was a seasonal food with the highest consumption being in summer. Seafood was not seen as filling enough to constitute a hearty winter meal.

Group Four (women not in the workforce aged under 45 years)

All women, except one, reported attempting to include fish in their families diet once a week. One woman felt that she did not eat enough seafood while another didn't like fish and so it wasn't a part of their weekly diet. Fish was seen as a meal to eat when dieting or health conscious and concerned about fat intake.

Group Five (men - open age and employment status)

"I'm a creature of habit. I can tell you now that Wednesdays and Sundays are fish nights"

The amount of fish consumed in this group was quite high. Most of these men ate fish several times a week. Some of the popular fish varieties include bream, cod and snapper. The fish was commonly steamed, grilled or barbecued. One respondent reported having cooked a whole fish in the dishwasher. Another respondent commented that "seafood is our main specialty". The expense of seafood was too high to be included in one participant's diet.

Only one participant felt that fish was hard to prepare - "I don't cook any fish at home ... I don't know how to."

The participants believed that their fish eating habits differed to females as women will buy fish that has already been filleted and de-boned whereas men prefer to buy and cook whole fish.

4.7 Australian Owned/Produced Issues for Fresh Produce

Many of the female participants reported that they would be inclined to purchase Australian fish rather than imported varieties. Younger women and men felt that some areas of Australia were not optimal as sources of seafood. Participants would buy foreign fish when it was required for a particular recipe or because they liked that species. All groups were uncertain as to whether they would be able to determine if a fish was Australian or not. Most participants felt fresh seafood would be Australian.

Group One (working women aged 45 years and over)

Generally, these women "try to buy Australian" fish although some purchase the cheaper non-Australian product, others admit to having never actually checked where the fish came from. They believed that the majority of fish in their fresh fish shop would be Australian. Most women felt they would not know if a fish was Australian. One woman believed that the freshness of the fish would be one way to determine if it was local or not. Foreign fish would be purchased to "try something different" or if needed for a special recipe.

Group Two (women not in the workforce aged 45 years and over)

All women felt supporting Australian industries was very important and would be more inclined to purchase Australian species of fish rather than overseas varieties. The women thought they would need to ask the retailer if a fish was caught locally or not as branding is not prevalent.

Group Three (working women aged under 45 years)

The women from this group preferred to buy the Australian product however cost was an important issue for them. They felt that if Australian fish was a better product and only marginally more expensive then they would buy local. It was felt that most fresh fish would be caught by Australian owned companies. The quality of Australian fish was seen as dependent on where in Australia the fish was caught.

Group Four (women not in the workforce aged under 45 years)

Several women would "prefer to buy an Australian fish" rather than foreign species. Most of the women reported that they would assume that "any fresh fish is caught up the coast". However they also felt that Australian seas were not as clean as the seas and oceans found in other global locations.

Group Five (men - open age and employment status)

"We've got enough fish to choose from here."
"Where does fish come from? How would you know?"

There was some question about whether the men would know if a fish was an Australian species or not. Nonetheless, it was felt that "Australia's got a great reputation for high quality fish". Some men believed that when we have such a high quality fish "why would you look elsewhere?" Other participants reported that their favorite fish is foreign and they feel that "its of no consequence whether its imported or not". They felt that some foreign seafood was much better than Australian seafood.

Generally, the men considered seafood to be a global resource ("fish don't know about coastal limits") and would purchase based on quality first, with price and Australian ownership of secondary importance. Furthermore, these men were likely to deliberately choose an imported product if they believed the exporting country had a reputation for quality. For example, "New Zealand mussels, they're better than anything here".

4.8 Point of Purchase

Fresh fish shops were the most popular outlet for purchasing fresh fish/seafood. The Sydney Fish Market was seen by some as the premium place of purchase, time permitting. Supermarkets were viewed as a poor option for seafood, to be used either by people without the time "to shop around" or with limited finances. The reasons given for preferring to purchase seafood from specialist outlets rather than supermarkets included the freshness of the fish, the expertise of the retailer, the better packaging (not in plastic), the variety and the ability to choose the number of fillets. There was also an importance placed on the relationship between the retailer and the customer. "Trust" was a reoccurring theme here.

Group One (working women aged 45 years and over)

A few participants reported buying fish from a supermarket. The remaining women were strongly against purchasing seafood from this type of outlet with most women buying their seafood from a fresh fish shop. It was believed that supermarket fish were a risk because "you don't know how old it is" and because it has been "under bright lights all day". There was also concern that the supermarket staff would not know how to appropriately handle seafood (for example, stacking packaged fish above the load line in cold storage areas). The women who do buy their fish from supermarkets reported going only to supermarkets where they knew there was a big turnover and where the fish "looks good". The all-in-one shopping at the supermarket was an important influencing factor for these women.

> "I haven't got time to go around to lots of different places".

The issue of store turnover was also considered to impact the purchasing of fish at fresh food stores; "I only go to fish shops where I know there is a good turnover...if you don't know there is a good turn-over then you're at risk".

Group Two (women not in the workforce aged 45 years and over)

Most women reported buying their fish and seafood from either fresh fish shops or fish markets. An advantage of supermarkets was "having a use by date" - which was frequently not conveyed in fresh fish shops - though there was concern that the use-by date does not count if the product is handled inappropriately.

The freshness of supermarket fish was questioned by this group because the fish is covered in plastic (either put into a plastic bag when purchased or presented for purchase on a cling-wrapped tray). Packaging was also seen as limiting the opportunity to choose the number of individual pieces required. There was consensus that supermarket seafood was cheap and convenient but specialty retailers and markets sold a better quality product. There was also a feeling that "supermarkets pushed more to the meat".

Group Three (working women aged under 45 years)

This group reported a mix of shopping for fish at the supermarket and fresh fish shop. One respondent "likes going to the fresh fish shop" because they have such great variety, the people are specialists in fish and can give advice on cooking and handling. One woman did not purchase fish from a supermarket because "she had not really noticed it at the supermarket". Reasons for not buying fish at a supermarket were due to "concerns about its freshness" partially because of the way the fish looks and because the fish was thought to have been frozen. Supermarket fish was considered to be more expensive by this group.

Group Four (women not in the workforce aged under 45 years)

Few women would purchase fish/seafood, other than canned tuna or salmon, from a supermarket. The most popular point of purchase for fish included fresh fish shops and fish markets. The reasons given for not wanting to buy fish/seafood from a supermarket included a lack of freshness, a lack of expertise in seafood handling and plastic packaging which was considered to be unhealthy. One respondent said "a good piece of fish depends on its freshness, meat can be kept longer... (fish) is more delicate".

There were some issues which fresh fish shops need to be mindful of if they are to continue to be a primary fish retailer to the public. "Presentation is really important", expertise and personal service from the retailer, the location and ensuring there is a high turn-over. Fresh fish shops were trusted, in contrast to supermarkets because, "they (fresh fish shops) are picking up the best at the fish markets and you assume they know what they are doing". Contamination risks were expected to be lower in a fresh fish shop where there is expert handling. The variety of fish in the fresh fish shop was also a selling point.

Group Five (men - open age and employment status)

"I go to the Fish Market because I know it's fresh...It might be cheaper (at Coles) but is it as fresh?"

Most of these men buy their fish and other seafood from the Sydney Fish Market or a fresh fish shop. Two participants buy their fish from the supermarket. Men who had not purchased fish from a supermarket expressed concern about the freshness of the product available through these outlets.

Financial support of small business was one reason given by men for buying produce from specialty stores rather than from a supermarket. The men felt that there was an "abundance of variety" in a fresh fish shop. Good variety, freshness and presentation were all qualities that they expected from specialist outlets.

"If it looks good, if its well presented, if its fresh, then I'll go back".

These men felt that fish was too expensive to risk buying a poor quality product. Quality and taste were very important issues for these men, more so than price. The relationship with the retailer was seen as essential to getting a quality product. There was a notion that regular customers are afforded preferential treatment and that "if he (the retailer) knows you, you're Jake. He'll look after you. If not ..."

4.9 Pre-prepared Meals

The concept of pre-prepared meals was not well received by most groups for the reason that the seafood would be considered to be old. It was also felt that raw fish would adulterate the taste of the other ingredients. The ideal packaging of seafood for the majority of all participants was always reported to be paper packaging as currently used by most fresh fish outlets. Few people liked fish in plastic wrapping. Vacuum packaging had a mixed although slightly positive reception.

Group One (working women aged 45 years and over)

While one woman felt there was not sufficient take-away fish meals, the remainder of the group felt they would be cautious of pre-packaged meals with vegetables, salad or sauce. The reasons for this caution included concern that the fish might "adulterate" the taste of the accompanying ingredients, sauces would be used to "hide old fish" and it would not be possible to tell the species of fish used in the mixture. Most women preferred to buy the fish and add the other ingredients themselves. Some women reported that they might consider purchasing a meal with fish fillets and prepared sauce as long as they were separately contained.
There was a mixed reaction to frozen meals. Some women would not buy frozen fish while others found this to be quite acceptable. Of those who purchased frozen fish some found it tasteless while others found the taste to be no different to the taste of fresh fish.

Group Two (women not in the workforce aged 45 years and over)

One woman thought the concept of prepared seafood snacks was a good idea particularly because she felt fish was best cooked in the microwave. Another respondent was very impressed with the tempura prawns she was able to purchase from the fish markets. Greater confidence, the women believed, could be had with pre-prepared meals because technology had improved. One woman "doesn't like freezing fish…I just think that it loses all its taste somehow". There was agreement that fish should be bought and eaten on the same day.

Women identified marinara, kebabs with fillet pieces and octopus, salmon steaks, seafood salad and fish cakes as pre-prepared meals. One would like pre-prepared oysters. Many of the women were keen to try pre-prepared meals such as scallops in curry if there was a use-by date. The real test was tasting it; " if it didn't taste good and you got sick, you wouldn't have it ever again". Some participants, however, remained adamant against eating something hidden in sauce or where there was doubt about the hygiene of the food handling. There was a feeling that the fish "might be yesterdays".

The women were also suspicious of fish products which were wrapped in plastic. Plastic bags were also problematic as they can leak leaving behind a fish odor. The women believed the best manner in which to take home the pre-prepared products would be in clear plastic containers. Vacuum packaging was quite acceptable; "you have to try it", however the women would require information on how the packaging was done and the date the product should be used by.

Group Three (working women aged under 45 years)

Some of the pre-prepared meals that the women in this group were able to identify included stir fries, rissoles, kebabs and marinara mix. There was some agreement with the respondent who said," I'd be concerned about the bits that have gone into the mixes and how fresh it was. If they had covered it up because it was old or something? I don't think I'd buy it." Others thought that pre-prepared meals were acceptable to eat. One woman would be less concerned about the safety of fish if it was vacuum packed however most were dubious.

Group Four (women not in the workforce aged under 45 years)

The majority of women in this group were concerned about the safety of plastic wrapped fish. They preferred their fish to be packaged in paper rather than plastic.

Some women did not have a problem with the vacuum packaging of fish. This process was considered to work particularly well with smoked fish. It was felt that if the vacuum wrapping was done in front of the customer, and a use by date stamped on the wrapping, then there would be confidence in the process. One woman commented that it will take a long time to accustom people to this presentation of seafood.

4.9 Pre-prepared Meals (cont)

It was felt that people were more adventurous these days as a result of multiculturalism. The availability of calamari rings, fish salads and sauce at local fresh fish shops reflects these changes. Some women had not seen many of these pre-prepared meals. There was a mixed reaction to these dishes with a few participants unperturbed about buying these products while others definitely would not. One woman commented that she would purchase these pre-prepared meals if she was either "desperate or lazy". The reason given by the women who reported that they would not buy these meals included the dislike of them sitting so close to raw fish, the length of time the food has been sitting in the shop and because it is considered to have the same problems associated with it as supermarket fish. The dish that the women had the greatest objection to was raw fish with vegetables.

Group Five (men - open age and employment status)

"Presentation is very important to me. I won't buy it (fish) if its on a tray. Its not appealing"

Most men would not buy fish on the plastic trays or fish that is wrapped up in plastic. There was also a mixed reception to the vacuum packaging of fish. For those men who would not purchase seafood in this form the reason given was the suspicion of the packaging date.

Kebabs and fish cakes were some pre-prepared meals which had been seen in fresh fish shops by some men. These meals, however, had never been purchased. Most men would not be against buying seafood pre-prepared in this manner but they would need the freshness guaranteed. It was believed that the seafood in this style of presentation could be old and the consumer would not be able to tell because the visibility of the fish is lessened.

"Anything that's crumbed or covered in sauce... its old."

Pre-prepared products would not necessarily attract members of this group who described themselves as poor cooks, although one member thought he might give it a go. One respondent purchases all his fish already grilled from the fresh fish shop.

"I'd try anything once or twice."

4.10 Sources of Recipes for Fish/Seafood

Most of the women were aware of and used recipe cards. Pictures were considered to be important in attracting the consumer and showing the end product. Both men and women wanted easy recipes that were "idiot proof" and relied on commonly held ingredients. Other sources of information about cooking seafood included cooking shows, recipe books and cooking classes.

Group One (working women aged 45 years and over)

Most of the women in this group were both aware of, and used, recipe cards. Some participants got recipe cards from the supermarket or the fresh fish shop. It was felt, however, that the basics such as de-boning a fish were not communicated and demonstrations would be useful. One woman reported, to the agreement of others, that "you can't have a stir fry with fish - it becomes a mush". This indicates a lack of knowledge and skills in buying and cooking fish. It was felt that the cooking and home shows were "really good for encouraging people to try different things".

Group Two (women not in the workforce aged 45 years and over)

" I like it when they have pamphlets... I'm always looking for new recipes".

Group two women used recipe cards from supermarkets. Everyone of these participants reported using these cards. It was felt that the picture on a recipe card draws consumers attention to it and encourages people to cook because they know what the dish is meant to look like. One woman mentioned taking cooking classes at the Sydney Fish Market where they "teach you the most wonderful things". Cooking classes were a popular idea amongst most of the women in this group. The expense, however, was a turn-off for attendance. Television demonstrations of recipes were thought to provide great inspiration for cooking.

Group Three (working women aged under 45 years)

Recipes are useful for "something different or when I get bored of spaghetti bolongaise, when I'm looking for something a bit more interesting".

Some of the women were unaware of recipe cards. Others who were aware of recipe cards would take the ones "that appeal to you". The women would try only some of the recipes that they take home. Again, the emphasis was on simple, unusual recipes that used commonly obtainable ingredients.

Group Four (women not in the workforce aged under 45 years)

Recipe cards were very popular among the women in this group. One woman would accept "any help I can get", while another's children would "pick them up and give them to me - especially for stir fries". One participant liked recipe cards and will "use them as long as they aren't too exotic". Some women were inclined to substitute ingredients while others cook by the book, including only the ingredients which had been specified by the recipe. Pictures on the recipe cards were important to this group who found it makes the recipe card more appealing and catches their eye.

Group Five (men - open age and employment status)

Several men had seen the recipe cards in supermarkets and specialty meat shops. Of these, however, only a few men had taken them home. Only two of the participants that had taken the recipe cards home had actually used them. One man felt his use of recipe cards depended on "how simple they are, if there's going to be too many ingredients to buy and too much preparation...". Another commented, "I won't go out of my way to buy three or four things". The men that did not feel proficient in the kitchen felt that if recipe cards were to be marketed to men they would need to be "incredibly simple".

Other sources of cooking ideas include recipe books. However, most men had not ever used recipe books. One male reported learning his seafood cooking skills from Geoff Janz on "What's Cooking" and similar programs.

4.11 Advertising and Promotional Materials

All of the groups reported a lack of awareness of any category advertising of seafood. Knowledge of media promotions was limited to the very occasional mention of the Omega 3 press.

Group One (working women aged 45 years and over)

Although it was felt that the health benefits had been well advertised in the past, the women from this group were not aware of any other general advertising of fish or seafood products.

Group Two (women not in the workforce aged 45 years and over)

The women from this group were unable to think of any promotional advertising for fish. Lamb and pork advertising, however, readily came into their minds. The lamb ads were described by one woman as "brilliant". Advertising was believed to be important because, as one woman stated, " you don't always buy it (fish) just for nutrition... unless you've had it drawn to your attention you're not even going to considered it, so I think the nutrition is probably second to just knowing what is available."

Group Three (working women aged under 45 years)

These women had not seen any advertising or promotions regarding fish other than "the fish that John West rejects". They were inclined to believe advertising was required to bring people's attention to seafood, reminding them that it is a meal option and that it is a healthy choice.

Group Four (women not in the workforce aged under 45 years)

These women were aware of several pork, lamb, chicken and beef ads, but except for the John West advertisement, they could not think of other fish promotions. They were vaguely aware of the Omega 3 information in the press when prompted.

4.11 Advertising and Promotional Materials (cont)

Group Five (men - open age and employment status)

The respondents in this group were aware of advertisements on television for other meats yet reported that their purchasing or eating patterns had not changed as a result of them. None of the men could recall any advertisements for seafood or fish. Most had not seen any recent media promotion or the media reports of Omega 3. Men considered that they were not influenced by category advertising.

5. Under Utilised Species

5. Image of Under-utilised Species

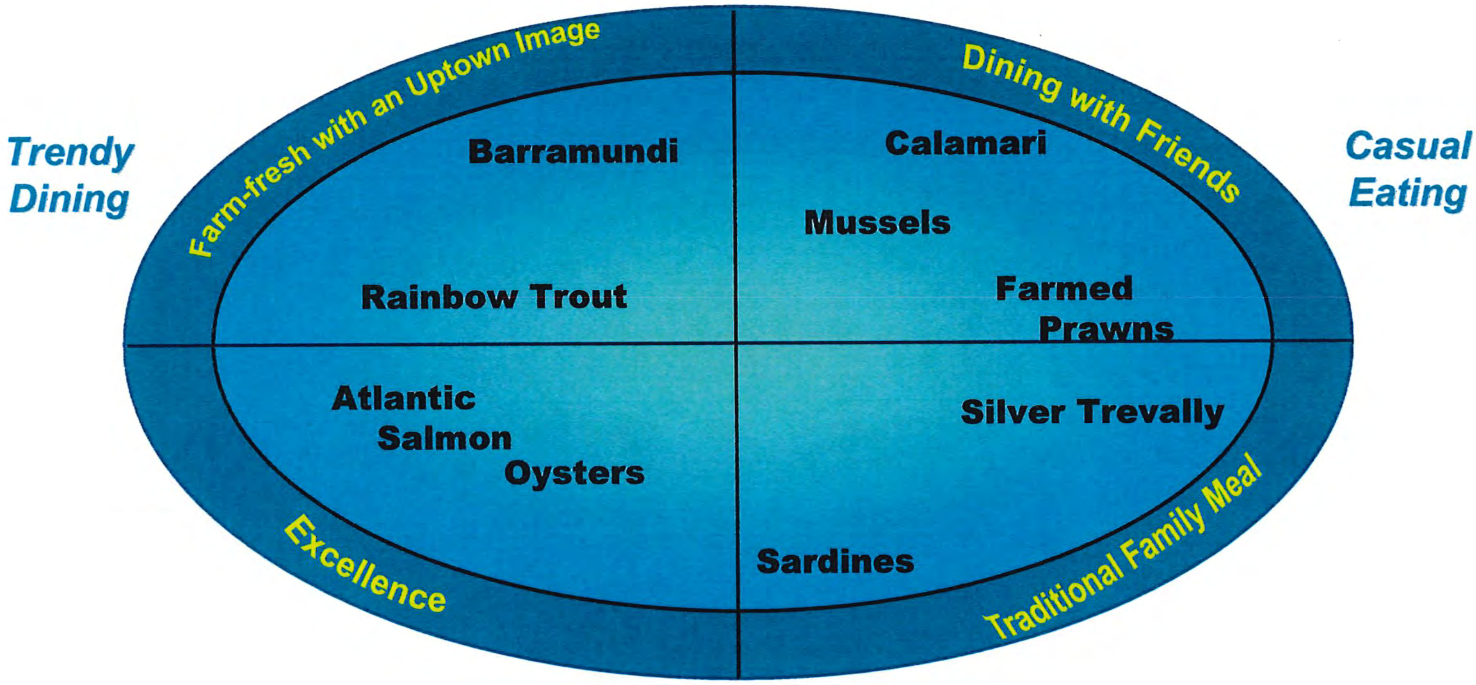
Projective techniques were used to draw-out the image of under-utilised species with the group participants. Through the use of projective techniques participants are able to look beyond their rational thoughts to identify underlying causes or motivations for their behaviour or beliefs. The findings reported in this section relate to a photo sort that required participants (working in pairs) to identify those people who were most likely to choose each of the species provided and explain their rationale for the association made.

The species option given to participants in this section included many of those species identified as under-utilised in the 1991 study. The species included were:

- Mussels
- Prawns (farmed)
- Calamari
- Silver trevally
- Sardines
- Oysters
- Atlantic salmon
- Rainbow trout
- Barramundi
- NB. Albacore tuna and warehou, while included in the first focus group, were subsequently deleted as participants lacked a basic awareness of these species.

5. Image Of Under-utilised Species (cont)

Brand Map: Consumers' Perception of the Market Position of Under-utilised Species



The brand map on the preceding page reveals the placement of species by group participants. From this, it can be seen that:

- Barramundi and rainbow trout were both viewed by participants as being a fresh, wholesome fish with a trendy image.

    - Barramundi had two distinct images. The first was as a sophisticated fish to order in a restaurant. Here it was seen as an expensive and slightly "exotic" purchase. The second image of barramundi was that of the outback farmer or holiday maker who could catch and eat their own meal. The emphasis here was on barramundi being a well-know Australian trophy fish that is good to eat. It was also considered that people catching barramundi while on holiday would purchase the fish later to recapture that "holiday feeling". Overall, barramundi was considered a well known fish, with a sophisticated image but "not as expensive as Atlantic salmon".

        - Men were more likely than women to see barramundi as a fish to be eaten at home rather than in a restaurant. Men were less likely to see this fish as sophisticated but referred to consumers as "strong", "self-confident" or "rugged". The inference here was that while male consumers may not have caught the fish themselves, they could have.

    - Rainbow trout was seen as a fresh fish that could be cooked and served at home. People cooking this fish were considered to be older and more experienced cooks. It was, however, seen as an easy fish to cook that was readily available. Like barramundi, rainbow trout was strongly associated with "creeks and rivers". Terms used to describe rainbow trout included "trendy", "subtle", "romantic" and "simple". It was also considered to be an expensive fish to buy.

5. Image of Under-utilised Species (cont)

- Salmon and oysters were also paired together by participants as being at the top-end of the seafood market. These were seen as quality products for people that wanted to project a sophisticated image.

  - Atlantic salmon was seen as a species that is purchased because it is expensive. This image applied across all focus groups. People eating Atlantic salmon were seen as successful.
    - → "She chose this because it is the most expensive thing on the menu".
    - → "He eats it because he's a success".

  - Oysters had a more diverse image than Atlantic salmon. Their popularly believed aphrodisiac qualities were a recurring theme. They were also seen as something to purchase when dining out. People eating oysters were were seen as "bossy", "elegant", "natural" and "sophisticated". It was also considered that people who eat oysters were practised consumers.
    - → "...she'd know how to eat them."

- Calamari, mussels and farmed prawns were all considered to be foods that would suit a casual dinner with friends.

  - The issue of farmed verses wild was not seen by participants as altering the image of prawns. Prawns were considered to be "easy to eat with friends", 'fresh", "fun", "young", "unsophisticated", "enjoyable" and "messy". The overall image associated with prawns was that of a relaxed party of young people. As one of the male participants noted about a prawn consumer, "He's a party goer and eats all the prawns at the party".

  - Mussels provoked different images depending on the level of processing when cooked. If bought fresh to be cooked at home, the preparer was seen as a competent, adventurous cook wanting to prepare something a little different for friends. Alternatively, smoked or pickled mussels were seen as an easy, no fuss appetiser for a party or at a restaurant.

  - Calamari was seen as a well known and liked food. It was very strongly considered to be a food to be bought when dining out with friends. While it was described as "nothing special" and "bland", it was generally considered to be an "easy to eat", "healthy", "light", "good tasting", "no fuss meal".

5. Image Of Under-utilised Species (cont)

* Silver trevally and sardines were both considered to be within the category of a traditional family meal.

  - Sardines were considered to be a traditional food of southern Europe that might appeal to migrants or their descendents wanting to maintain a connection with their culture. Sardines were described by one participants as being "not a Sydney thing". This was a typical view. Overall, sardines were seen as "the cheapest of all fish", "poor quality", "fiddly" and "masculine". People consuming sardines were described as "Italian", "mature", "working class", "fisherman's woman".

  - Silver trevally was seen more as a traditional Australian family fish to be served at home. It was described as a "plain", "ordinary" fish for people who are "not adventurous". It was considered that people would buy this fish because they would remember eating it at home from their childhood.

6. Influences of Fish/ Seafood Purchase

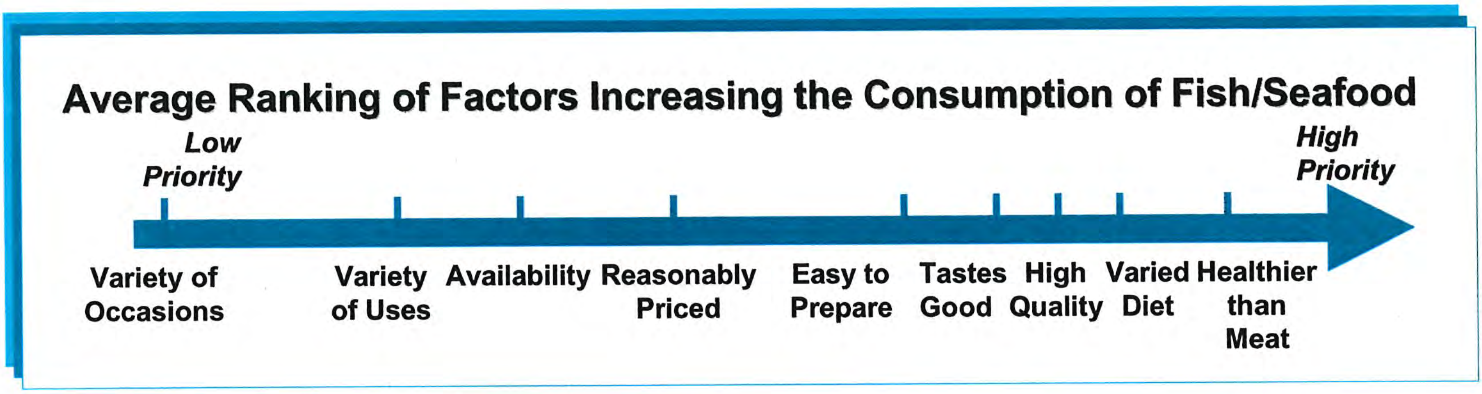
6.1 Factors Increasing Fish/Seafood Consumption

This section of the report details the findings of activities that were designed to assist participants to prioritise factors that influence the purchase of seafood. This activity was specific to fish as it was considered that the category of total seafood was too diverse to enable participants to make meaningful decisions.

To assist in prioritising the factors found to increase the consumption of fish in the 1991 study, participants were asked to rank in order of strength the following attributes in encouraging them to purchase more fish:

- Healthier than meat
- Contributes to a varied diet
- Is high quality
- Tastes good
- Is easy to prepare
- Is reasonably priced
- Is readily available
- Has a variety of uses
- Can be used for a variety of occasions.

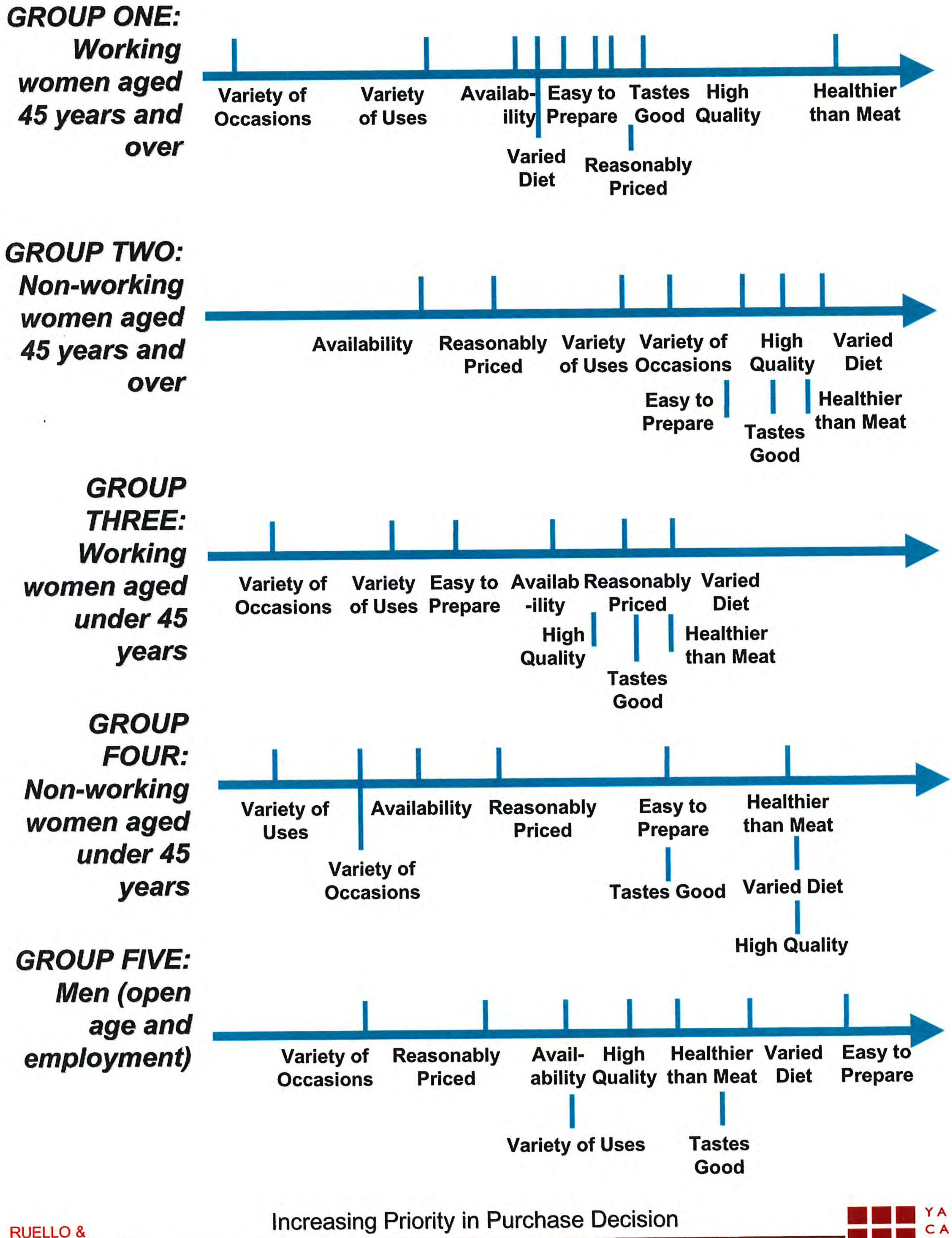
6.1 Factors Increasing Fish/Seafood Consumption (cont)



As the chart above reveals:

* **Participants were most influenced by the consideration that fish is *healthier than meat*.**
* The importance of a *varied diet* was also an important consideration.
* *High quality*, *taste* and *ease of preparation* were all issues seen as important by consumers.
* Of lesser importance in the decision to make a fish purchase were *price*, *availability*, *variety of uses* and *variety of occasions*.

6.1 Factors Increasing Fish/Seafood Consumption (cont)



6.1 Factors Increasing Fish/Seafood Consumption (cont)

As the preceding charts demonstrate, there were some notable differences in prioritisation of factors between focus groups:

Group One

Working women aged 45 years and over ranked healthier than meat as much more important in their decision to purchase fish than any other consideration.

- Conversely, contributing to a varied diet was much less important to this group.
- Price was also only of moderate importance to these older women.

Group Two

Non-working women, aged 45 years and over, were less concerned about price than other women their age in employment. For these women, contributing to a varied diet was the most important reason for choosing fish, with healthier than meat ranked second.

- This group was more strongly driven by taste than any other group.
- Similarly, the flexibility of the product, in terms of its suitability for different occasions and uses was of a much higher priority.

Group Three

Working women aged under 45 years were the most pragmatic in their approach to the purchase of fish. The low ranking of variety of uses suggests that they were list-driven shoppers. They had no strong influencers driving fish purchases.

- In first priority, though only of moderate importance to this group, were varied diet and healthier than meat.
- Easy to prepare was rated lower than any other group, suggesting this group of young women were prepared to experiment with meal preparation.
- Availability was ranked high by this group when compared to its positioning by the other groups of women.

Group Four

Non-working women aged under 45 years ranked high quality and variety diet marginally above healthier than meat. Of moderate concern to these women were easy to prepare and tastes good. These women were not strongly motivated by price.

Group Five

As would be expected, men represented a different perspective. For men, the single most important factor in buying fish was "easy to prepare".

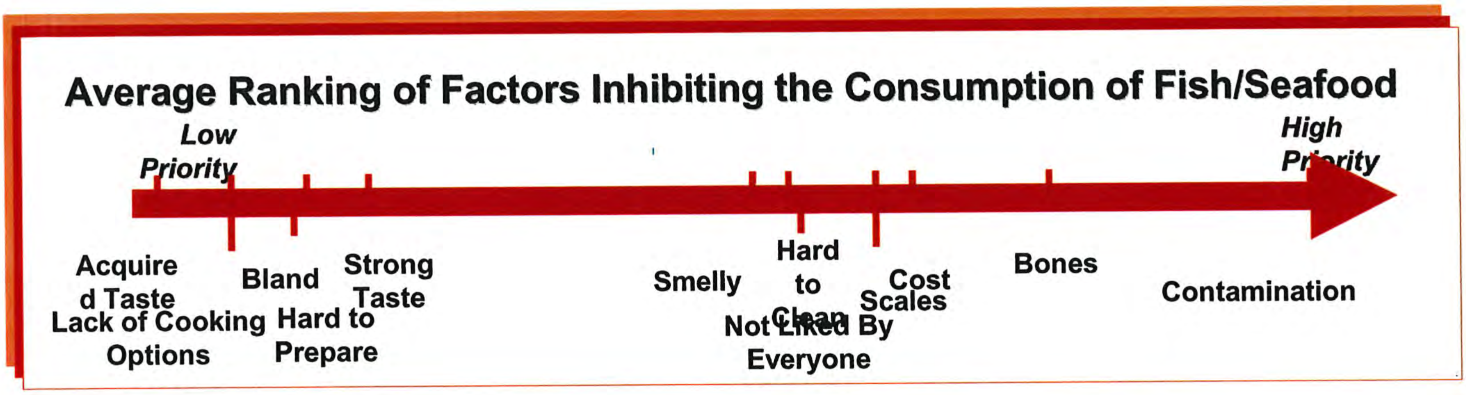
- Men were the least concerned about fish being healthier than meat or price.
- Men ranked varied diet and tastes good above healthier than meat.
- Variety of uses was relatively important to men, with only the older women who were not in the workforce rating it as more important.

6.2 Factors Decreasing Fish/Seafood Consumption

To assist in prioritising the factors found in the 1991 study to decrease the consumption of fish, participants were asked to rank in order of strength the following attributes as "turn-offs" to them purchasing more fish:

* Acquired taste
* Lack of cooking options
* Bland
* Strong taste
* Hard to prepare
* Smelly
* Hard to clean
* Not liked by everyone
* Scales
* Cost
* Bones
* Contamination.

6.2 Factors Decreasing Fish/Seafood Consumption (cont)



As the chart above reveals:

- ***Contamination* was the biggest "turn-off" in the purchase of fish.**
- The presence of *bones* also rated highly as an inhibitor of buying more fish.
- *Cost* was rated third highest as decreasing fish purchases.
- *Scales* (present on fillets), *cleaning* and *smell* were moderately important in inhibiting fish purchases.
- *Strong taste*, *bland*, *hard to prepare*, *lack of cooking options* and *acquired taste* were not seen as 'turn-offs" to the purchase of fish.

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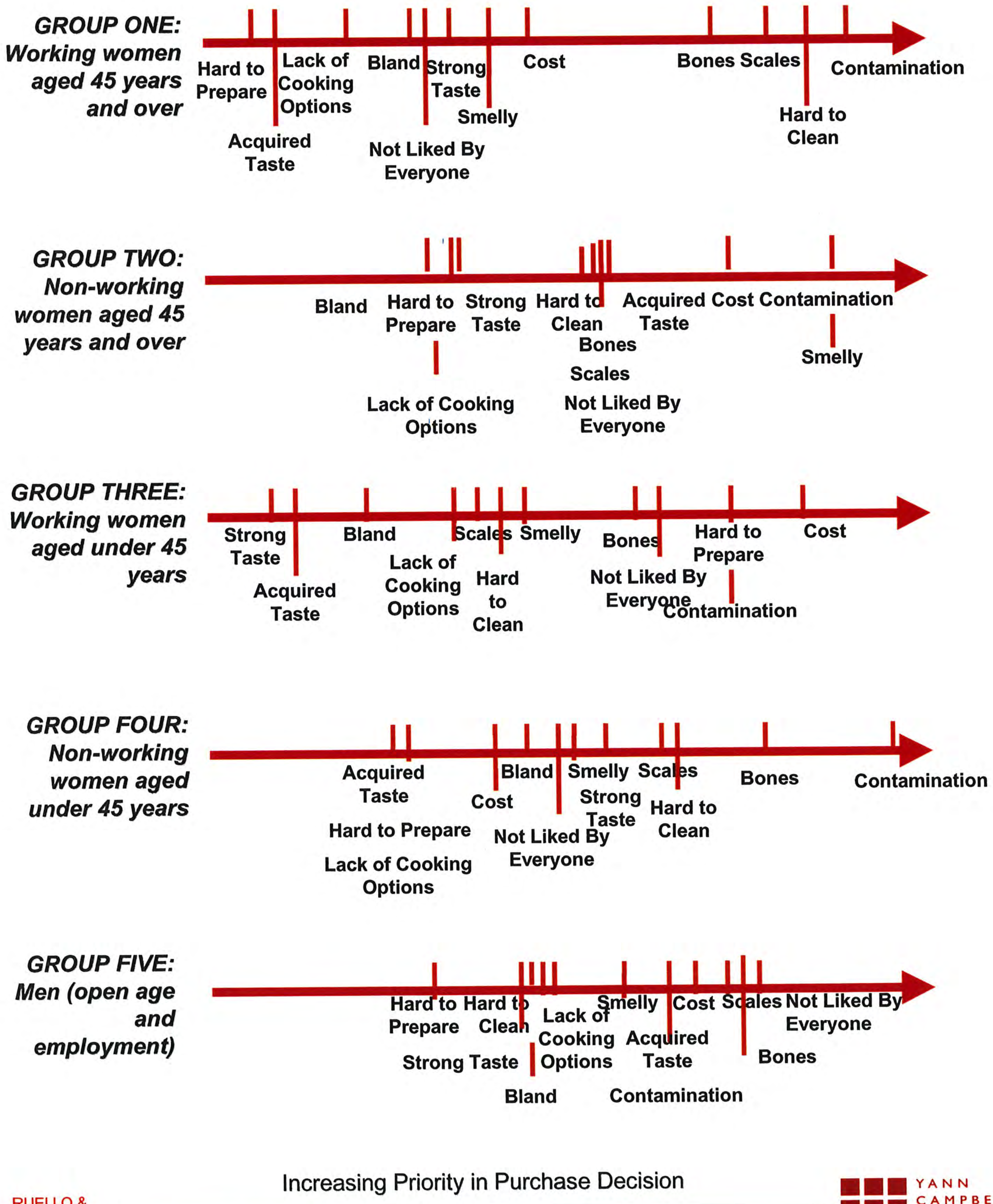
6.2 Factors Decreasing Fish Consumption (cont)



6.2 Factors Decreasing Fish/Seafood Consumption (cont)

Group One

For working women aged over 45 years, contamination out-weighed hard to clean, scales, and bones as the issue of most concern in purchasing more fish.

- These women were not strongly motivated by the cost of fish.
- Of last consideration to this group were hard to prepare and acquired taste.

Group Two

To non-working women aged over 45 years, smelly and contamination were both strong inhibitors of fish purchases.

- Cost was a relatively high consideration to these non-working women.
- This group rated acquired taste and smelly higher as considerations in not buying more fish than any of the other groups, but were the least concerned about bones.

Group Three

Working women aged under 45 years were most concerned about the cost of fish.

- Hard to prepare and contamination were second in consideration.
- Of the four groups with women, this group rated "not liked by everyone" higher than any of the other groups.
- These women were least concerned about strong taste and acquired taste.

6.2 Factors Decreasing Fish/Seafood Consumption (cont)

Group Four

Non-working women aged under 45 years were the most concerned of all groups about contamination.

- ✶ Next in importance to this group was bones.
- ✶ Hard to clean and scales were moderate inhibitors of future fish purchases.
- ✶ Of least importance to these women were hard to prepare, acquired taste and lack of cooking options.

Group Five

Men were the least concerned about contamination, rating it as fifth in importance as an inhibitor of fish purchases. Their prime concern was that fish may not be liked by everyone.

- ✶ Bones and scales were also of concern to men, most likely because of their tendency to buy whole fish.
- ✶ Cost was also rated quite highly by men.
- ✶ Of least consideration to men were hard to prepare and hard to clean

Appendix

A.1 Demographics

A.1 Sample Demographics

		WAVE 1		WAVE 2		TOTAL	
		In Home 440 %	Out Home 641 %	In Home 300 %	Out Home 501 %	In home 740 %	Out Home 1142 %
GENDER	Male	55	50	36	47	49	49
	Female	45	50	64	53	51	51
AGE	15-20 years	9	8	7	10	9	9
	20-39 years	38	38	47	45	41	41
	39-59 years	27	27	38	36	31	31
	60 years+	25	27	7	9	19	19
COUNTRY BORN	Australia	76	71	83	69	79	70
	Other Country	24	29	17	31	21	30
MIGRATION BEFORE 5 YEARS	Before 5 years old	4	9	10	13	5	10
	After 5 years old	96	91	90	86	95	89
COUNTRY OF ORIGIN	UK/Scotland/Ireland	37	33	38	21	38	28
	New Zealand	18	9	3	7	14	8
	Italy	2	1	2	8	2	4
	Greece	1	2		3	1	2
	Yugoslavia	3	3	2	1	3	2
	Netherlands	0	2		1	0	1
	Malta	1	1	1	0	1	1

A.1 Sample Demographics (Cont)

		WAVE 1		WAVE 2		TOTAL	
		In Home 440 %	Out Home 641 %	In Home 300 %	Out Home 501 %	In home 740 %	Out Home 1142 %
COUNTRY OF ORIGIN	Other	13	27	19	11	14	21
	Other European	5	5	5	11	5	7
	Middle Eastern	4	5	7	5	5	5
	Other Asian	16	13	21	31	17	20
RELIGION	Anglican/Church of England	24	24	-	21	-	23
	Baptist	2	2	-	2	-	2
	Uniting/ Presbyterian/ Methodist/ Congregational	6	6	8	6	6	6
	Roman Catholic	18	22	30	27	22	24
	Greek Orthodox	4	2	3	2	4	2
	Jewish	0	1	1	1	0	1
	Lutheran	1	1	0	1	1	1
	Other Christian	2	4	5	4	3	4
	Other	4	7	5	8	4	7
	Atheist/None	35	26	24	23	32	25
	Refused	3	3	1	1	2	2
	Muslim	1	2	1	3	1	2
MARITAL STATUS	Single	33	29	27	28	31	29
	Married/defacto	46	55	60	64	51	59
	Divorced/ separated/ widowed	20	15	13	8	18	12
	Refused	1	0	-	0	1	0

A.1 Sample Demographics (Cont)

		WAVE 1		WAVE 2		TOTAL	
		In Home 440 %	Out Home 641 %	In Home 300 %	Out Home 501 %	In home 740 %	Out Home 1142 %
ADULT INCOME EARNERS	One	39	32	29	27	36	30
	Two	29	30	47	45	35	36
	Three or more	6	12	9	18	7	15
	Refused/don't know	0	1	0	0	6	1
	None	26	25	14	10	23	19
WORK STATUS	Full time	40	38	26	46	35	41
	Part time	15	18	36	25	21	21
	Not at all	45	44	37	29	43	38
	Refused	1	1	-	-	1	1
OCCUPATION OF MAIN INCOME EARNER	Managers & administrators	6	11	12	16	8	13
	Professionals	17	17	19	24	18	20
	Para-professionals	4	5	11	6	6	5
	Tradespersons	18	15	14	16	17	15
	Clerks	5	6	8	8	8	7
	Salespersons and personal service workers	5	5	8	8	6	6
	Plant & machine operators & drivers	6	6	8	6	6	6
	Labourer & related workers	8	8	4	5	7	7
	Retired	20	20	11	7	17	15
	Not in work force	7	6	4	4	6	5

A.1 Sample Demographics (Cont)

		WAVE 1		WAVE 2		TOTAL	
		In Home 440 %	Out Home 641 %	In Home 300 %	Out Home 501 %	In home 740 %	Out Home 1142 %
MAIN INCOME EARNER	Self	63	54	37	44	55	50
	Someone else	36	43	60	51	43	47
	Don't know/can't say	1	2	2	5	2	3
OCCUPATION OF RESPONDENT	Managers & administrators	4	2	4	4	4	3
	Professionals	15	16	17	13	16	14
	Para-professionals	4	5	4	4	4	5
	Tradespersons	1	7	6	8	4	7
	Clerks	31	22	34	27	33	25

A.2 Weight Conversion Scale

INTERVIEWER AID TO MEASURING WEIGHT

The following tables have been provided to assist interviewers to convert descriptive amounts into accurate weights (in grams). Please familiarise yourself with these measures.

FISH

PRODUCT	DESCRIPTIVE MEASURE	GRAMS
Anchovy, canned-oil, drained	5 fillets	18
Bream, fried	1 fillet, 21cm x 11cm	134
Bream, steamed	1 fillet, 20.5cm x 10cm	149
Cod, smoked, simmered	1 fillet	95
Fish, battered, deep fried	1 portion	145
Flake, crumbed, fried	1 fillet, 15cm x 6cm	165
Flake, steamed	1 fillet, 13.5cm x 9cm	150
Flathead, fried	1 fillet, 18cm x 5cm	104
Flathead, steamed	1 fillet, 18.5cm x 4.5cm	83
Gemfish, crumbed, fried	1 fillet, 17cm x 8cm	195
Gemfish, steamed	1 fillet, 14.5cm x 8.5cm	175
Morwong, crumbed, fried	1 fillet, 12cm x 11.5cm	213
Morwong, steamed	1 fillet, 12.5cm x 8.5cm	144
Mullet, fried	1 fillet, 16cm x 10.5cm	74
Mullet, steamed	1 fillet, 16.5cm x 9cm	74
Mulloway, crumbed, fried	1 fillet, 13.5cm x 9cm	145
Mulloway, steamed	1 fillet, 15cm x 10cm	165
Salmon, pink, canned-brine, drain	1 cup	210
Salmon, red, canned-brine, drained	1 cup	210
Salmon, smoked	1 slice, 12cm x 8cm	25
Sardine, canned-oil, drained	5 sardines, each 7cm x 3cm x 1cm	75
Snapper, crumbed, fried	1 fillet, 18cm x 12cm	178
Snapper, steamed	1 fillet, 16.5cm x 9cm	104
Tuna, canned-oil, drained	1 cup	205
Tuna, canned-brine, drained	1 cup	190
Whiting, fried	1 fillet, 21cm x 5.5cm	54
Whiting, steamed	1 fillet, 20cm x 5cm	54

Fish Products

Product	Descriptive Measure	Grams
Fish, battered, frozen, ovenfried	1 portion	65
Fish, crumbed, frozen, ovenfried	1 portion	65
Fish cake, frozen, fried	1 fish cake, 1cm x 8cm	70
Fish finger, frozen, fried	1 fish finger (8.5cm x 2.0cm x 1.5cm)	23
Fish finger, frozen, grilled	1 fish finger (8.3cm x 2.2cm x 1.3cm)	23
Fish paste	1 tablespoon	20
Fish roe (caviar style)	1 tablespoon	19

Seafood

Product	Descriptive Measure	Grams
Crabmeat, canned-brine, drained	1 cup	145
Lobster, cooked	1 cup pieces	165
Mussel, smoked, canned-oil, drain	1/4 cup	40
Oyster, raw	12 oysters	59
Oyster, smoked, canned-oil, drain	5 oysters	30
Prawn cocktail	1 serve	119
Prawn, king, cooked	5 prawns	80
Scallop, heated	1 cup	160
Squid, fried	1 cup	95

A.3 In Home Questionnaire

YANN CAMPBELL HOARE WHEELER®

YANN CAMPBELL HOARE WHEELER
MARKET RESEARCH
11 PRINCES STREET
ST KILDA VIC 3182
PHONE: 9537 2255

TERMINATIONS

REFUSAL - MALES	
REFUSAL - FEMALES	

FISH AND SEAFOOD CONSUMPTION STUDY JOB NO: 32115 A

Today we are conducting a study on Food Consumption in Australia and would appreciate your help. The results of the study will be used in planning the supply and marketing of various food products in NSW over the coming years. PLEASE NOTE THAT THE RESPONDENT MUST BE THE MAIN PERSON RESPONSIBLE FOR THE HOUSEHOLD PURCHASE OF FISH/SEAFOOD, MEAT AND CHICKEN.

Q.1 **Do you buy and prepare food only for yourself or is food purchased and prepared for the household?** IF THE RESPONDENT LIVES ALONE THIS SHOULD BE CODED AS BUY/PREPARE FOR HOUSEHOLD (CODE 4)

BUY AND PREPARE FOOD FOR SELF ONLY	1
PREPARE FOOD FOR HOUSEHOLD	2
BUY FOOD FOR HOUSEHOLD	3
PREPARE AND BUY FOOD FOR HOUSEHOLD	4

SHOW CARD A

Q.2 **I would like to ask you about what types of meals you would select for a specific meal occasion, but before we can do this I need to know your household composition? Which description on this card best describes your household?**

CIRCLE THE FIRST MEAL OCCASION APPROPRIATE TO THE HOUSE THAT OCCURS AT, OR AFTER, THE ASTERISK.

MEAL OCCASION FOR Q.3 AND Q.4 - TO CIRCLE

	Q.2	EVENING MEAL BY SELF	HOUSEHOLD EVENING MEAL	WEEKEND HOUSEHOLD MEAL - LUNCH	ENTERTAIN -ING : ENTREE	ENTERTAIN - ING : MAIN	CHILDREN'S EVENING MEAL
SINGLE/LIVING ALONE	01	X			X	X	
SINGLE/LIVING WITH OTHER SINGLES - RELATIVES	02	X	X	X	X	X	
SINGLE/LIVING WITH OTHER SINGLES - NOT RELATIVES	03	X	X	X	X	X	
SINGLE/LIVING WITH PARENTS	04	X	X	X	X	X	
MARRIED/DE FACTO - NO CHILDREN	05	X	X	X	X	X	
MARRIED/DE FACTO - DEPENDENT CHILDREN	06	X	X	X	X	X	X
MARRIED/DE FACTO - ADULT FAMILY MEMBERS	07	X	X	X	X	X	
SINGLE PARENT - DEPENDENT CHILDREN	08	X	X	X	X	X	X
SINGLE PARENT - ADULT FAMILY MEMBERS	09	X	X	X	X	X	
REFUSED	10	X	X	X	X	X	X

SHOW CARD B

Q.3 **Which of the following meals would you be most likely to consider to prepare for** (READ OUT MEAL OCCASION & CIRCLE). **You can select as many as six?** RECORD UP TO SIX MEALS FOR THE ONE SELECTED OCCASION (Q.2).

MEAL OCCASION

	EVENING MEAL BY SELF	HOUSEHOLD EVENING MEAL	WEEKEND HOUSEHOLD MEAL - LUNCH	ENTERTAIN -ING : ENTREE	ENTERTAIN - ING : MAIN	CHILDREN'S EVENING MEAL
	1	2	3	4	5	6
MEAT						
SAUSAGES	01	01	01	01	01	01
LAMB CHOPS	02	02	02	02	02	02
STEAK	03	03	03	03	03	03
MINCE/RISSOLES	04	04	04	04	04	04
CASSEROLE OR CURRY	05	05	05	05	05	05
LAMB FOR ROAST	06	06	06	06	06	06
BEEF SHORT CUTS/PIECES	07	07	07	07	07	07
VEAL	08	08	08	08	08	08
PORK						
PORK CHOPS	09	09	09	09	09	09
PORK FOR ROAST	10	10	10	10	10	10
POULTRY						
WHOLE CHICKEN	11	11	11	11	11	11
CHICKEN FILLET/PIECE	12	12	12	12	12	12
FISH/SEAFOOD						
CANNED FISH	13	13	13	13	13	13
WHOLE FISH	14	14	14	14	14	14
FISH FILLET	15	15	15	15	15	15
SMOKED COD	16	16	16	16	16	16
FISH FINGERS	17	17	17	17	17	17
SALMON (NOT CANNED)	18	18	18	18	18	18
PRAWNS (NOT CANNED)	19	19	19	19	19	19
SCALLOPS	20	20	20	20	20	20
OTHER						
PASTA DISH	21	21	21	21	21	21
VEGETARIAN	22	22	22	22	22	22
SANDWICH/BREAD	23	23	23	23	23	23
PIES/PASTIES	24	24	24	24	24	24
CANNED VEGETABLES/MEAT	25	25	25	25	25	25
SOUP	26	26	26	26	26	26
SHOW CARD FOR Q.4 CIRCLE APPROPRIATE MEAL OCCASION (FROM ABOVE)	C1	C2	C3	C4	C5	C6

SHOW CARD C FOR APPROPRIATE MEAL OCCASION AND TICK MEAL BOX

Q.4 **In other research people have made a number of statements about various foods for** (READ OUT MEAL OCCASION). **I'm going to read out some statements and would like you to tell me to which, if any, each statement applies. You may nominate none, one or as many as you like. There are no right or wrong answers, we are just interested in your opinion.** ROTATE TO ASTERISK.

The first statement is .... (READ OUT FIRST STATEMENT). **From the card which foods does this statement apply to for** (READ OUT MEAL OCCASION)**?**

SHOW CARD	TICK BOX FOR MEAL	MEAL OCCASION									
C1	☐	**EVENING MEAL BY SELF**	CANNED FISH	PASTA DISH	SAUSAGES	LAMB CHOPS	FISH FILLET	FISH FINGERS	VEGETAR -IAN	PIE/ PASTIE	NONE	DON'T KNOW
C2	☐	**HOUSEHOLD EVENING MEAL**	CANNED FISH	PASTA DISH	SAUSAGES	STEAK	PORK CHOPS	FISH FILLET	WHOLE CHICKEN	LAMB FOR ROAST	NONE	DON'T KNOW
C3	☐	**WEEKEND HOUSEHOLD MEAL - LUNCH**	CANNED FISH	PASTA DISH	STEAK	WHOLE FISH	WHOLE CHICKEN	LAMB FOR ROAST	PIE/ PASTIE	PRAWNS (NOT CANNED)	NONE	DON'T KNOW
C4	☐	**ENTERTAINING - ENTREE**	PASTA DISH	FISH FILLET	VEGETAR -IAN	BEEF SHORT CUT - PIECES	SALMON (NOT CANNED	PRAWNS (NOT CANNED	SCALL -OPS	SOUP	NONE	DON'T KNOW
C5	☐	**ENTERTAINING - MAIN**	PASTA DISH	STEAK	WHOLE FISH	FISH FILLET	CHICKEN FILLET/ PIECES	PORK FOR ROAST	VEAL	PRAWNS (NOT CANNED)	NONE	DON'T KNOW
C6	☐	**CHILDREN'S EVENING MEAL**	CANNED FISH	PASTA DISH	SAUSAGES	MINCE/ RISSOLES	FISH FILLET	FISH FINGERS	PIE/ PASTIE	CANNED VEGET -ABLES/ MEAT	NONE	DON'T KNOW

IS TOO EXPENSIVE FOR THE MEAL	01	02	03	04	05	06	07	08	09	10
PRESENTS A PROBLEM IN WASTE DISPOSAL	01	02	03	04	05	06	07	08	09	10
I DON'T MIND COOKING IT	01	02	03	04	05	06	07	08	09	10
I NEED MORE INFORMATION ABOUT ITS COOKING	01	02	03	04	05	06	07	08	09	10
IS READILY AVAILABLE TO BUY	01	02	03	04	05	06	07	08	09	10
I DON'T HAVE THE KNOWLEDGE TO BUY IT CONFIDENTLY	01	02	03	04	05	06	07	08	09	10
IT ISN'T EASY TO PREPARE FOR COOKING	01	02	03	04	05	06	07	08	09	10
IS NOT A FILLING MEAL	01	02	03	04	05	06	07	08	09	10
HAS A TASTE THAT IS DISLIKED	01	02	03	04	05	06	07	08	09	10
CONTAINS LITTLE FAT	01	02	03	04	05	06	07	08	09	10
SOMETHING I WOULD BUY ONLY ON SPECIAL	01	02	03	04	05	06	07	08	09	10
THERE IS WASTAGE AS A LOT OF WHAT YOU BUY CAN'T BE EATEN	01	02	03	04	05	06	07	08	09	10
I CAN COOK IT IN THE MICROWAVE	01	02	03	04	05	06	07	08	09	10
ITS QUALITY IS TOO VARIABLE	01	02	03	04	05	06	07	08	09	10
IS A HEALTHY MEAL	01	02	03	04	05	06	07	08	09	10
IS POPULAR WITH THE PEOPLE WHO WILL BE EATING THE MEAL	01	02	03	04	05	06	07	08	09	10

Now I'd like to ask some specific questions about your household.

SHOW CARD D

Q.5 **Could you please tell me the members of your household who live in your home, and their sex and age.** RECORD BELOW

Now we shall talk about fish and seafood consumption, by that I mean, all species of fish and other seafood like, prawns, lobster, scallops and oysters. I want you to think of any type of fish or seafood. By that I mean fresh, frozen, prepackaged, canned or bottled and fish or seafood used as an ingredient in for example, pizza, casseroles or sandwiches.

FOR EACH HOUSEHOLD MEMBER ASK Q.6

Q.6 **Which members of this household have eaten fish or seafood in the last year? And who have not eaten fish or seafood in the last year?** RECORD BELOW

RELATIONSHIP/NAME OF MEMBER OF HOUSEHOLD

PLEASE RECORD DETAILS OF RESPONDENT FIRST

HOUSEHOLD MEMBER			RESPONDENT								
			1	2	3	4	5	6	7	8	9
Q.5	SEX -	MALE	1	1	1	1	1	1	1	1	1
	-	FEMALE	2	2	2	2	2	2	2	2	2
Q.5	AGE -	0-2 YEARS	1	1	1	1	1	1	1	1	1
		3-9 YEARS	2	2	2	2	2	2	2	2	2
		10-14 YEARS	3	3	3	3	3	3	3	3	3
		15-19 YEARS	8	8	8	8	8	8	8	8	8
		20-39 YEARS	4	4	4	4	4	4	4	4	4
		40-59 YEARS	5	5	5	5	5	5	5	5	5
		60 YEARS OR MORE	6	6	6	6	6	6	6	6	6
		REFUSED	7	7	7	7	7	7	7	7	7
Q.6	**EATEN** FISH/SEAFOOD IN LAST YEAR		1	1	1	1	1	1	1	1	1
	NOT EATEN FISH/SEAFOOD IN LAST YEAR		2	2	2	2	2	2	2	2	2
	DON'T KNOW		3	3	3	3	3	3	3	3	3

IF RESPONDENT SAYS NO ONE EATS FISH OR SEAFOOD, CHECK FOR, FOR EXAMPLE CANNED FISH (TUNA AND SALMON), FISH FROM A TAKE-AWAY SHOP, FISH PASTE, FROZEN FISH/ SEAFOOD MEALS PREPARED READY TO COOK

IF ANYONE IN HOUSEHOLD EATS FISH/SEAFOOD 1 - CONTINUE

IF NO ONE IN HOUSEHOLD EATS FISH/SEAFOOD 2 - GO TO Q.24a

IF NO-ONE EATS FISH OR SEAFOOD GO TO Q.24a

MEALS EATEN IN LAST SEVEN DAYS

From this point on, when we discuss seafood we are referring to fish and other types of seafood.

Now I would like you to think about all the meals or snacks that you have had in the last seven days. Starting from dinner last night.

Q.7 **Did you eat** (READ OUT MEAL OCCASION AND DAY OF WEEK) **at home, out of home or did you miss this meal?** RECORD OPPOSITE.

IF ATE (Q.7 CODE 1 OR 2) ASK Q.8: OTHERWISE GO TO Q.7 FOR NEXT MEAL

Q.8 **Was any type of seafood (fish or other seafood) consumed at this meal. It may have been the main part of the meal or an ingredient (for example, canned fish, marinara mix, prawns or anchovies on pizza, fish paste or fillings in sandwiches or a casserole). And it may have been prepared by you or someone else, or it may have been bought?**
RECORD OPPOSITE.

IF SEAFOOD EATEN AT HOME (Q.7 CODE 1 AND Q.8 CODE 1) ASK Q.9; OTHERWISE GO TO Q.7 FOR NEXT MEAL OCCASION. IF UP TO `OTHER' MEAL GO TO Q.10 AND Q.11

Q.9a **Which household members (including yourself), ate some of this fish or seafood meal?**
RECORD HOUSEHOLD MEMBER CODE (FROM Q.5 PAGE 5)

Q.9b **Did you have any visitors (non-household members) to this meal? If so, how many?**
RECORD OPPOSITE.

GO TO Q.7

"OTHER" MEALS

OTHER (SELF)

Q.10 **Did you eat any type of seafood (fish or other seafood) at any other time during** (READ OUT DAY OF WEEK?) **IF NO:** RECORD Q.7 CODE 3 WITH OTHER(SELF)
IF YES: Ask for time of day or meal occasion? WRITE IN AND RECORD Q.8 CODE 1 THEN ASK Q.7; AND ASK Q.9 IF ATE AT HOME

OTHER PERSON

Q.11 **Did anyone else eat any type of seafood (fish or other seafood) at home during** (READ OUT DAY OF WEEK). **An example of this maybe a meal prepared especially for a child? IF NO:** RECORD Q.7 CODE 3 WITH OTHER PERSON. **IF YES: Ask for time of day or meal occasion?** WRITE IN AND RECORD Q.7 AND Q.8 CODE 1. THEN ASK Q.9.

REPEAT Q.7 TO Q.11 FOR EACH MEAL OCCASION IN THE LAST SEVEN DAYS. ROTATE START POINT TO THE PREVIOUS DAY.

IF SEAFOOD EATEN AT HOME IN THE LAST SEVEN DAYS GO TO Q.12a

IF SEAFOOD EATEN OUTSIDE HOME (BY RESPONDENT) IN THE LAST SEVEN DAYS GO TO Q.19

IF SEAFOOD NOT EATEN IN THE LAST SEVEN DAYS GO TO Q.23

SEAFOOD AT HOME	1	-	GO TO Q.12
SEAFOOD OUT OF HOME	2	-	GO TO Q19
SEAFOOD NOT EATEN IN LAST WEEK	3	-	GO TO Q.23

?? EATEN IN LAST SEVEN DAYS

	Q.7			Q.8		Q.9(a) HOUSEHOLD MEMBER CODE										Q.9(b) VISITORS IF NONE CIRCL "0"					
	AT HOME	OUT OF HOME	NOT EAT	SEAFOOD EATEN	SEAFOOD NOT EATEN																
MONDAY																					
11. DINNER	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
21. LUNCH	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
31. BREAKFAST	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
41. OTHER (SELF) ____________	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
51. OTHER PERSON ____________	1	N/A	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
TUESDAY																					
12. DINNER	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
22. LUNCH	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
32. BREAKFAST	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
42. OTHER (SELF) ____________	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
52. OTHER PERSON ____________	1	N/A	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
WEDNESDAY																					
13. DINNER	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
23. LUNCH	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
33. BREAKFAST	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
43. OTHER (SELF) ____________	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
53. OTHER PERSON ____________	1	N/A	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
THURSDAY																					
14. DINNER	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
24. LUNCH	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
34. BREAKFAST	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
44. OTHER (SELF) ____________	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
54. OTHER PERSON ____________	1	N/A	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
FRIDAY																					
15. DINNER	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
25. LUNCH	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
35. BREAKFAST	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
45. OTHER (SELF) ____________	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
55. OTHER PERSON ____________	1	N/A	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
SATURDAY																					
16. DINNER	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
26. LUNCH	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
36. BREAKFAST	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
46. OTHER (SELF) ____________	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
56. OTHER PERSON ____________	1	N/A	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
SUNDAY																					
17. DINNER	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
27. LUNCH	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
37. BREAKFAST	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
47. OTHER (SELF) ____________	1	2	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6
57. OTHER PERSON ____________	1	N/A	3	1	2	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6

IN HOME CONSUMPTION OF FISH AND SEAFOOD

		1ST OCCASION	2ND OCCASION	3RD OCCASION	4TH OCCASION	5TH OCCASION	6TH OCCASION
RECORD MEAL CODE		___	___	___	___	___	___
Q.12a	COOKED & SERVED	1	1	1	1	1	1
	BOUGHT TO EAT IN HOME	2	2	2	2	2	2
Q.12b	COMMERCIAL FISHERMAN	01	01	01	01	01	01
	OTHER FISHERMEN ($ PAID)	02	02	02	02	02	02
	WHOLESALER/CO-OP	03	03	03	03	03	03
	FISH OR GENERAL MARKET	**04**	**04**	**04**	**04**	**04**	**04**
	FISH SHOP (MOSTLY UNCOOKED)	**05**	**05**	**05**	**05**	**05**	**05**
	FISH AND CHIP SHOP (MOSTLY COOKED)	**06**	**06**	**06**	**06**	**06**	**06**
	SUPERMARKET/FOOD STORE	**07**	**07**	**07**	**07**	**07**	**07**
	CONVENIENCE STORE LATE TRADE	08	08	08	08	08	08
	DELICATESSEN	09	09	09	09	09	09
	CAUGHT BY HOUSEHOLD MEMBER	10	10	10	10	10	10
	GIFT BY NON-HOUSEHOLD MEMBER	11	11	11	11	11	11
	OTHER	12	12	12	12	12	12
	(SPECIFY)	___	___	___	___	___	
	DON'T KNOW/CAN'T SAY	13	13	13	13	13	13
Q.13	**TYPE OF FISH/SEAFOOD**						
	WRITE IN	___	___	___	___	___	
	DON'T KNOW	01	01	01	01	01	01
Q.14	**FORM BOUGHT**						
	FRESH WHOLE	**01**	**01**	**01**	**01**	**01**	**01**
	FRESH FILLET/CUTLET	**02**	**02**	**02**	**02**	**02**	**02**
	FRESH HEADED & GUTTED/PEELED	**03**	**03**	**03**	**03**	**03**	**03**
	FROZEN WHOLE	**04**	**04**	**04**	**04**	**04**	**04**
	FROZEN FILLET/CUTLET	**05**	**05**	**05**	**05**	**05**	**05**
	FROZEN HEADED & GUTTED/PEELED	**06**	**06**	**06**	**06**	**06**	**06**
	FRESH PREPARED READY TO COOK (EG. SHASLIKS)	**07**	**07**	**07**	**07**	**07**	**07**
	FROZEN PACKAGED/READY COOK (EG. FISH FINGERS, CRUMBED PORTIONS)	**08**	**08**	**08**	**08**	**08**	**08**
	SMOKED	09	09	09	09	09	09
	CANNED	10	10	10	10	10	10
	GLASS BOTTLE	11	11	11	11	11	11
	COOKED FILLET	12	12	12	12	12	12
	OTHER	13	13	13	13	13	13
	(SPECIFY)	___	___	___	___	___	
	DON'T KNOW	14	14	14	14	14	14
Q.15a	**WEIGHT OF SEAFOOD**	___ G	___ G	___ G	___ G	___ G	___ G
	PIECES/SIZE/CANS	___	___	___	___	___	
Q.15b	**PRICE**	$ ___	$ ___	$ ___	$ ___	$ ___	$ ___
	DON'T KNOW/CAN'T SAY	9999	9999	9999	9999	9999	9999
Q.16	**HOW FISH & SEAFOOD IS COOKED/PREPARED/SERVED**						
	BOIL/BOILED IN BAG	01	01	01	01	01	01
	BAKED/OVEN	02	02	02	02	02	02
	GRILLED	03	03	03	03	03	03
	DEEP FRIED-AT HOME	04	04	04	04	04	04
	DEEP FRIED-BOUGHT OUT OF HOME	05	05	05	05	05	05
	STEAMED	06	06	06	06	06	06
	MICROWAVED	07	07	07	07	07	07
	RAW	08	08	08	08	08	08
	STRAIGHT (AS BOUGHT)	09	09	09	09	09	09
	BARBEQUED	10	10	10	10	10	10
	PAN FRIED	11	11	11	11	11	11
	POACHED (WATER IN PAN)	12	12	12	12	12	12
	PIZZA TOPPING	13	13	13	13	13	13
	INGREDIENT - MORNAY	14	14	14	14	14	14
	INGREDIENT - STIR FRY	15	15	15	15	15	15
	INGREDIENT - CASSEROLE	16	16	16	16	16	16
	INGREDIENT - OTHER	17	17	17	17	17	17
	OTHER	18	18	18	18	18	18
	(SPECIFY)	___	___	___	___	___	
	DON'T KNOW	19	19	19	19	19	19
Q.17	**RECIPE**						
	YES	1	1	1	1	1	1
	NO	2	2	2	2	2	2

IN HOME CONSUMPTION OF FISH AND SEAFOOD

WRITE IN DAY AND MEAL OCCASION THAT HAD SEAFOOD IN HOME IN THE LAST SEVEN DAYS. STARTING WITH THE MOST RECENT ASK Q.12a TO Q.17. REPEAT FOR EACH FISH OR SEAFOOD MEAL IN HOME.

Q.12a **Was the meal cooked and served by you (or someone else in your household), or did you (or someone else) buy cooked fish or seafood to eat in the home?** RECORD OPPOSITE

SHOW CARD E

Q.12b **Where did you (or someone else in your household) buy or obtain this fish/seafood?** RECORD OPPOSITE.

Q.13 **What type (species) of fish/seafood was that?** WRITE IN AS MANY DETAILS AS POSSIBLE OPPOSITE.

SHOW CARD F

Q.14 **In what form was the fish/seafood bought?** RECORD OPPOSITE

Q.15a **What was the total weight of ...** (READ OUT TYPE) **served at this meal?** RECORD GRAMS. PROBE FOR WEIGHT USING INTERVIEWER AIDES. IF UNCERTAIN PROBE FOR SIZE, NUMBER OF PIECES OR CAN(S). RECORD OPPOSITE.

Q.15b **And how much did you pay for that in total?** RECORD OPPOSITE

SHOW CARD G

Q.16 **How was this fish/seafood cooked or prepared?** RECORD OPPOSITE

Q.17 **Was a recipe from a cookbook or leaflet used for this meal?** RECORD OPPOSITE

CHECK Q.7 AND Q.8 THAT THE NUMBER OF OCCASIONS FOR WHICH SEAFOOD **EATEN IN-HOME** IN THE LAST SEVEN DAYS TALLIES

IF Q.14 CODES 1 TO 8 AND ON SAME OCCASION BOUGHT FROM ...Q.12b CODES 4 TO 7 ASK Q.18a;

OTHERWISE GO TO Q.18d

Q.18a SHOW CARD H

Very Important						Not at all Important
1	2	3	4	5	6	7

You mentioned that you last bought fresh or frozen fish/seafood from a (READ OUT OUTLET Q.12b CODES 4 TO 7 FOR LAST OCCASION). **On a scale of 1 to 7, how important is** (READ OUT FIRST ROTATED STATEMENT), **when you buy fresh or frozen fish or seafood from that type of outlet?** THEN ASK Q.18b FOR THAT STATEMENT. REPEAT Q.18a AND Q.18b FOR EACH STATEMENT.

SHOW CARD I

Q.18b **And which outlets from this card does this apply. You may nominate none, one or as many as you like. There are no right or wrong answers we are only interested in your opinion.**

RECORD OUTLET FROM Q.12b ______	**Q.18a** IMPORT. RATING	**Q.18b** COMM-ERCIAL FISHER -MEN	OTHER FISHER -MEN	WHOLE -SALER CO-OP	FISH OR GEN. MARKET	RETAIL FISH SHOP	FISH & CHIP SHOP/ TAKE-AWAY	SUPER-MARKET/ FOOD STORE	CONVEN -IENCE STORE	DELICAT -ESSAN	NONE	DON'T KNOW
CLEAN OUTLET/STORE IT SELLS FRESH FISH & SEAFOOD (IE NOT FROZEN)	____	01	02	03	04	05	06	07	08	09	10	11
HAS ATTRACTIVELY DISPLAYED FISH & SEAFOOD	____	01	02	03	04	05	06	07	08	09	10	11
HAS CONSISTENTLY LOW PRICES FOR FISH & SEAFOOD	____	01	02	03	04	05	06	07	08	09	10	11
I FREQUENTLY SHOP THERE	____	01	02	03	04	05	06	07	08	09	10	11
OFFERS AUSTRALIAN FISH & SEAFOOD	____	01	02	03	04	05	06	07	08	09	10	11
OFFERS FISH & SEAFOOD SPECIALS	____	01	02	03	04	05	06	07	08	09	10	11
HAS STAFF INFORMED ABOUT FISH & SEAFOOD	____	01	02	03	04	05	06	07	08	09	10	11
HAS CONSISTENTLY LOW PRICES FOR SHOPPING IN GENERAL	____	01	02	03	04	05	06	07	08	09	10	11
IS EASILY ACCESSIBLE TO ME	____	01	02	03	04	05	06	07	08	09	10	11
IT OFFERS ADVERTISED SPECIALS REGULARLY	____	01	02	03	04	05	06	07	08	09	10	11
YOU CAN BUY MANY DIFFERENT TYPES OF FOOD THERE	____	01	02	03	04	05	06	07	08	09	10	11
OFFERS A WIDE VARIETY OF FISH & SEAFOOD PRODUCTS	____	01	02	03	04	05	06	07	08	09	10	11
HAS FRIENDLY STAFF WORKING THERE	____	01	02	03	04	05	06	07	08	09	10	11
HAS A GOOD REPUTATION FOR QUALITY FISH & SEAFOOD	____	01	02	03	04	05	06	07	08	09	10	11
I CAN BE CONFIDENT THAT FRESH FISH OR SEAFOOD HAS NOT BEEN FROZEN	____	01	02	03	04	05	06	07	08	09	10	11

IN HOME

SHOW CARD H

Very Important						Not at all Important
1	2	3	4	5	6	7

Q.18c **Now I would like you to think about when you are actually selecting a specific type of fresh (or frozen) fish for a meal at home. Again on a scale of 1 to 7, how important are each of the following factors.** READ OUT STARTING AT ROTATION MARK.

	Q.18c
1. THE FISH IS THE SPECIES I WANT	_____
2. FISH HAS BEEN CUT AND FILLETED	_____
3. HAS A WHITE OR LIGHT COLOURED FLESH	_____
4. HAS A STRONG FLAVOUR	_____
5. I CAN BE SURE THAT IT DOESN'T HAVE BONES	_____
6. IT IS A DEEP SEA SPECIES	_____
7. I CAN BE SURE THAT THE FISH IS CORRECTLY LABELLED	_____
8. IT IS A FAMILIAR TYPE OF FISH	_____
9. IS A RELATIVELY LOW PRICE	_____
10. IS ATTRACTIVELY PRESENTED TYPE OF FISH	_____
11. IT IS FRESH RATHER THAN FROZEN	_____
12. HAS A LIGHT FLAVOUR	_____
13. RECOMMENDED BY THE RETAILER	_____

ALL IN-HOME RESPONDENTS

Q.18d **If the fish/seafood that you ate in home on** (READ AT LAST MEAL OCCASION WHEN ATE FISH) **was not available, what would you have eaten instead?** READ OUT

ANOTHER TYPE OF FISH/SEAFOOD	1
ANOTHER TYPE OF FOOD	2
DO NOT READ/DON'T KNOW	3

OUT OF HOME CONSUMPTION OF FISH AND SEAFOOD

	1ST OCCASION	2ND OCCASION	3RD OCCASION	4TH OCCASION	5TH OCCASION	6TH OCCASION
WRITE IN DAY AND MEAL	______	______	______	______	______	______
RECORD MEAL CODE	______	______	______	______	______	______
Q.19a PLACE WHERE BOUGHT/ATE SEAFOOD						
WORK CAFETERIA	01	01	01	01	01	01
RESTAURANT	**02**	**02**	**02**	**02**	**02**	**02**
FUNCTION CENTRE	03	03	03	03	03	03
CLUB	**04**	**04**	**04**	**04**	**04**	**04**
HOTEL	**05**	**05**	**05**	**05**	**05**	**05**
COFFEE LOUNGE/CAFE	06	06	06	06	06	06
FISH & CHIP SHOP	**07**	**07**	**07**	**07**	**07**	**07**
FAST FOOD OUTLET/TAKE-AWAY	**08**	**08**	**08**	**08**	**08**	**08**
SANDWICH/MILK BAR	09	09	09	09	09	09
FRIENDS/RELATIVES HOUSE	10	10	10	10	10	10
OTHER	11	11	11	11	11	11
(SPECIFY)	______	______	______	______	______	______
Q.19b ENTREE	1	1	1	1	1	1
MAIN	2	2	2	2	2	2
Q.19c NUMBER OF CHILDREN	______	______	______	______	______	______
Q.20 TYPE OF FISH/SEAFOOD						
WRITE IN	______	______	______	______	______	______
DON'T KNOW	01	01	01	01	01	01
Q.21 WEIGHT	___ G	___ G	___ G	___ G	___ G	___ G
PIECES/SIZE	______	______	______	______	______	______

OUT OF HOME SEAFOOD CONSUMPTION

WRITE IN DAY AND MEAL OCCASION THAT THE RESPONDENT HAD FISH OR SEAFOOD OUT OF HOME IN THE LAST SEVEN DAYS. STARTING WITH THE MOST RECENT ASK Q.19a TO Q.21. REPEAT FOR EACH FISH OR SEAFOOD MEAL OUT OF HOME.

Q.19a **Where did you purchase or eat fish/seafood for ..** (READ OUT MEAL OCCASION AND DAY OF WEEK)? RECORD OPPOSITE.

Q.19b **Was this for an entree or main meal?** RECORD OPPOSITE

Q.19c **For how many children under fifteen years of age, did you personally buy fish or seafood at this meal?** RECORD NUMBER OPPOSITE. IF NONE RECORD 0.

Q.20 **What type (species) of fish/seafood was that?** WRITE IN OPPOSITE.

Q.21 **What was the total weight of** (READ OUT TYPE) **eaten at this meal?** RECORD GRAMS. PROBE FOR WEIGHT USING INTERVIEWER AIDES. IF UNCERTAIN PROBE FOR SIZE, NUMBER OF PIECES OR CAN(S).

CHECK Q.7 AND Q.8 PAGE 6 THAT THE NUMBER OF OCCASIONS FOR WHICH SEAFOOD EATEN **OUT OF HOME** IN THE LAST SEVEN DAYS TALLIES

IF EATEN AT RESTAURANT, CLUB, HOTEL, FISH AND CHIP SHOP OR FAST FOOD OUTLET IN LAST WEEK (Q.19a BOLD CODES) ASK Q.22; OTHERWISE GO TO Q.23.

SHOW CARD H

Q.22

Very Important						Not at all Important
1	2	3	4	5	6	7

On a scale of 1 to 7 how important are each of the following factors in deciding whether you select fish or seafood from the menu at a ...
(READ OUT LAST OCCASION OUTLET FROM Q.19a BOLD CODE ON PAGE 12) **when eating out of home?**

READ OUT ROTATING TO ASTERISK.

RECORD ONLY FOR LAST OCCASION OUTLET - IE. ONE OUTLET 1	OUTLET				
	RESTAURANT 1	CLUB 2	HOTEL 3	FISH & CHIP SHOP 4	FAST FOOD OUTLET/ TAKE-AWAY 5
1. CLEAN PREMISES	____	____	____	____	____
2. FRESH RATHER THAN FROZEN FISH OR SEAFOOD IS USED	____	____	____	____	____
3. HAS A REPUTATION FOR QUALITY FISH OR SEAFOOD	____	____	____	____	____
4. HAS CONSISTENTLY LOW PRICES FOR FISH AND SEAFOOD	____	____	____	____	____
5. OFFERS AUSTRALIAN FISH AND SEAFOOD	____	____	____	____	____
6. HAS STAFF KNOWLEDGEABLE ABOUT FISH AND SEAFOOD MEALS	____	____	____	____	____
7. OFFERS A WIDE VARIETY OF FISH AND SEAFOOD MEALS	____	____	____	____	____
8. USES A METHOD OF PREPARATION OR COOKING I COULD NOT USE AT HOME	____	____	____	____	____

DO NOT ASK Q.23 IN HOUSEHOLDS WHERE FISH/SEAFOOD NEVER EATEN IN LAST YEAR – SEE Q.6

ALL FISH/SEAFOOD EATING HOUSEHOLDS

SHOW CARD J

Q.23 **In general, how often would** (READ OUT EACH TYPE OF SEAFOOD ONE AT A TIME) **be served at home?** SINGLE RESPONSE ONLY

	CRUSTACEANS			MOLLUSCS				FISH				
	PRAWNS/ SHRIMPS	LOBSTER/ CRAYFISH	OTHER CRUST ACEANS EG. CRABS, BUGS	MUSSELS	OYSTERS	SCALLOPS	SQUID/ CALAMARI	FRESH FISH OR PROC -ESSED FISH (LIKE FISH FINGERS)	FISH PRE -PARED	FROZEN FISH	CANNED FISH	FISH FROM TAKE-AWAY FOOD OUTLE
NEVER	01	01	01	01	01	01	01	01	01	01	01	01
MORE THAN ONCE A WEEK	02	02	02	02	02	02	02	02	02	02	02	02
ONCE A WEEK	03	03	03	03	03	03	03	03	03	03	03	03
ONCE A FORTNIGHT	04	04	04	04	04	04	04	04	04	04	04	04
ONCE A MONTH	05	05	05	05	05	05	05	05	05	05	05	05
SIX TIMES A YEAR (ONCE EVERY TWO MONTHS)	06	06	06	06	06	06	06	06	06	06	06	06
FOUR TIMES A YEAR (ONCE EVERY THREE MONTHS)	07	07	07	07	07	07	07	07	07	07	07	07
THREE TIMES A YEAR (ONCE EVERY FOUR MONTHS)	08	08	08	08	08	08	08	08	08	08	08	08
TWICE A YEAR (EVERY SIX MONTHS)	09	09	09	09	09	09	09	09	09	09	09	09
ONCE A YEAR	10	10	10	10	10	10	10	10	10	10	10	10
LESS OFTEN THAN ONCE A YEAR	11	11	11	11	11	11	11	11	11	11	11	11
DON'T KNOW/ CAN'T SAY	12	12	12	12	12	12	12	12	12	12	12	12

ALL RESPONDENTS

Q.24a **Did you personally buy any type of fish/seafood, in the last week, which was eaten out of home only by children, under fifteen years, (that is not by yourself as well)?** FILL IN ALL DETAILS BELOW

	YES	1
GO TO Q.24b	NO	2

DAY	MEAL	TYPE OF FISH/ SEAFOOD	GIVE NUMBER/ PIECES/SIZE - ALL DETAILS	NUMBER OF CHILDREN	WEIGHT PER SERVE
______	______	______	______	______	______
______	______	______	______	______	______
______	______	______	______	______	______
______	______	______	______	______	______

SHOW CARD K

Q.24b **I am going to read out some statements that various people have made about seafood (fish or other seafood). As I read them out, I'd like you to tell me whether you agree, disagree or neither agree nor disagree with the statement.** READ OUT STATEMENTS. ROTATING TO ASTERISK.

		AGREE STRONGLY	AGREE SOMEWHAT	NEITHER AGREE NOR DISAGREE	DISAGREE SOMEWHAT	DISAGREE STRONGLY	DON'T KNOW
1.	I PREFER AUSTRALIAN FISH AND SEAFOOD TO IMPORTED PRODUCTS	1	2	3	4	5	6
2.	THE TASTE OF FROZEN FISH IS AS GOOD AS FRESH FISH	1	2	3	4	5	6
3.	I WOULD EAT MORE FISH/SEAFOOD IF IT WAS EASIER TO OBTAIN	1	2	3	4	5	6
4.	FRESH FISH COSTS SO MUCH THAT I EAT IT RARELY	1	2	3	4	5	6
5.	I EAT FISH/SEAFOOD BECAUSE IT IS BETTER FOR MY HEALTH THAN RED MEAT	1	2	3	4	5	6
6.	I LIKE PREPARING FISH AND SEAFOOD	1	2	3	4	5	6
7.	THERE ARE ENOUGH RECIPES FOR SEAFOOD	1	2	3	4	5	6
8.	IF I KNEW OF MORE WAYS TO COOK FISH/ SEAFOOD I WOULD EAT MORE	1	2	3	4	5	6
9.	QUALITY FISH/SEAFOOD CAN BE BOUGHT ONLY FROM A SPECIALISED FISH OUTLET	1	2	3	4	5	6
10.	I AVOID FREEZING FISH IF I CAN	1	2	3	4	5	6
11.	I FIND FISH/SEAFOOD TO BE LESS FILLING THAN CHICKEN	1	2	3	4	5	6
12.	I DISLIKE FISH WITH BONES	1	2	3	4	5	6
13.	I LIKE TO BUY FAMILIAR TYPES OF FISH/SEAFOOD	1	2	3	4	5	6
14.	I LIKE TO TRY DIFFERENT TYPES OF FISH/SEAFOOD	1	2	3	4	5	6
15.	I AM CONCERNED ABOUT THE IMPACT OF POLLUTION ON FISH/SEAFOOD SAFETY	1	2	3	4	5	6
16.	YOU CAN'T BE SURE ABOUT THE QUALITY OF FROZEN FISH/SEAFOOD	1	2	3	4	5	6
17.	FISH/SEAFOOD IS GOOD FOR A LIGHT MEAL	1	2	3	4	5	6
18.	I FIND FISH EASY TO COOK	1	2	3	4	5	6
19.	I'M NOT ALWAYS SURE THAT FRESH FISH I BUY HASN'T BEEN FROZEN	1	2	3	4	5	6
20.	I DON'T BUY PACKAGED FISH OR SEAFOOD PRODUCTS	1	2	3	4	5	6
21.	FISH IS DEARER PER MEAL THAN MEAT OR CHICKEN	1	2	3	4	5	6
22.	FISH IS FOR SPECIAL OCCASIONS	1	2	3	4	5	6
23.	FISH IS LESS LIKELY TO BE CONTAMINATED THAN MEAT OR CHICKEN	1	2	3	4	5	6

Q.25	**Some species of fish come from their natural habitat, others are farmed. Does this make any difference when you purchase fish or seafood?**	YES	1
		NO	2
		DON'T KNOW/CAN'T SAY	3

Now I would like to talk about specific types of seafood.

Q.26a **Have you heard of the following types of fish or seafood?** READ OUT FULL DESCRIPTION AND RECORD.

Q.26b **Have you ever tried ...** (READ OUT THOSE THAT HEARD OF IN Q.26a)

SHOW CARD L

Q.27 **Could you indicate your own personal "like" or "dislike" of the fish or seafood you have tried?** READ OUT SEAFOOD TRIED IN Q.26b - CODE 1

	Q.26a	Q.26b			Q.27					
	HEARD OF	TRIED	NOT TRIED	DON'T KNOW	LIKE VERY MUCH	SLIGHT. LIKE	NEITHER LIKE NOR DISLIKE	SLIGHT. DIS-LIKE	DISLIKE VERY MUCH	DON'T KNOW
SQUID (OR CALAMARI)	01	1	2	3	1	2	3	4	5	6
PILCHARDS OR SARDINES (NOT CANNED)	02	1	2	3	1	2	3	4	5	6
SILVER TREVALLY (NOT JUST TREVALLY)	03	1	2	3	1	2	3	4	5	6
WAREHOU	04	1	2	3	1	2	3	4	5	6
ALBACORE TUNA (NOT JUST TUNA)	05	1	2	3	1	2	3	4	5	6
FARMED BARRAMUNDI	06	1	2	3	1	2	3	4	5	6
FARMED PRAWNS (NOT JUST PRAWNS)	07	1	2	3	1	2	3	4	5	6
RAINBOW TROUT (FRESHWATER)	08	1	2	3	1	2	3	4	5	6
ATLANTIC SALMON (FRESH NOT SMOKED)	09	1	2	3	1	2	3	4	5	6
MUSSELS	10	1	2	3	1	2	3	4	5	6
OYSTERS	11	1	2	3	1	2	3	4	5	6
NONE - GO TO Q.29	12									

IF DISLIKED AT LEAST ONE TYPE (Q.27 CODE 4 OR 5) ASK Q.28; OTHERWISE GO TO Q.29

Q.28 **What did you dislike about** (READ OUT TYPE DISLIKED)**?**

TYPE DISLIKED (Q.27)	REASON DISLIKED
______________ :	______________
______________ :	______________
______________ :	______________
______________ :	______________

Q.29 **What actions need to be taken by the fishing industry for more fish and seafood to be bought and eaten by your household?**

____

____

____

Q.30a **Over the last three months how many members of your household have been fishing, on at least one trip, for recreation or leisure?**

WRITE IN: ________________

GO TO Q.31 ________ NONE 0

Q.30b **Over the last three months approximately what weight of fish was caught by all members of this household and brought home to eat?** RECORD IN GRAMS

WRITE IN: ________________ GRAMS DON'T KNOW 9998

GO TO Q.31 ________ NONE 9999

Q.30c **Of this catch over the last three months, what were the main types of fish brought home and eaten?**

____

____

____

CLASSIFICATION

Q.31 **Sex:** (INTERVIEWER TO RECORD)

MALE	1
FEMALE	2

Q.32 **Which age group do you fall in?**

15 - 19	1
20 - 39	2
40 - 59	3
60 YEARS OR MORE	4

Q.33 **Would you mind telling me your marital status?**

SINGLE	1
MARRIED/DE FACTO	2
DIVORCED/SEPARATED/WIDOWED	3
REFUSED	4

Q.34a **Were you born in Australia or another country?**

GO TO Q.35	AUSTRALIA	1
	ANOTHER COUNTRY	2

Q.34b **Did you migrate to Australia before or after you were 5 years old?**

GO TO Q.35	BEFORE 5 YEARS OLD	1
	AFTER 5 YEARS OLD	2

Q.34c **In which country were you born?**

UNITED KINGDOM/SCOTLAND/ IRELAND/WALES	01
NEW ZEALAND	02
ITALY	03
GREECE	04
YUGOSLAVIA	05
VIETNAM	06
NETHERLANDS	07
MALTA	08
OTHER EUROPEAN	10
MIDDLE EASTERN	11
OTHER ASIAN	12
OTHER (SPECIFY) ____________	09

SHOW CARD M

Q.35 **Do you belong to any of these religious groups?**

ANGLICAN/CHURCH OF ENGLAND	01
BAPTIST	02
UNITING/PRESBYTERIAN/ METHODIST/CONGREGATIONAL	03
ROMAN CATHOLIC	04
GREEK ORTHODOX	05
JEWISH	06
LUTHERAN	07
OTHER CHRISTIAN	09
MUSLIM	13
OTHER (SPECIFY) ____________	10
ATHEIST/NONE	11
REFUSED	12

Q.36a **How many adult income (wage) earners in total are there in your household?**

THOSE ON ANY PENSION OR WHO ARE RETIRED DO NOT COUNT AS AN INCOME EARNER.

NONE	0
ONE	1
TWO	2
THREE OR MORE (SPECIFY) ____________	3
REFUSED/DON'T KNOW	9

Q.36b **Do you work full time, part time or not at all?**

FULL TIME	1
PART TIME	2
NOT AT ALL	3

Q.36c **What is the occupation of the main income earner in your household?** (IF UNEMPLOYED OR RETIRED ASK USUAL OR MOST RECENT OCCUPATION)

OCCUPATION: ____________________

INDUSTRY: ____________________

Q.36d **Are you yourself the main income earner in your household or is someone else the main income earner?**

SELF	1
SOMEONE ELSE	2
DON'T KNOW/CAN'T SAY	3

IF SOMEONE ELSE MAIN INCOME EARNER (Q.39d CODE 2) AND RESPONDENT WORKS (Q.36b CODE 1 OR 2) ASK Q.36e

Q.36e **What is your occupation?**

OCCUPATION: ______________________

INDUSTRY: ______________________

SHOWCARD N

Q.36f **What is the total yearly gross (before tax) family income for all household members?**

LESS THAN $15,000	1
$15,000 - $25,000	2
$25,001 - $40,000	3
$40,001 - $60,000	4
$60,001 - $80,000	5
Over $80,000	6
REFUSED/DON'T KNOW	7

THANK YOU VERY MUCH FOR YOUR HELP AS I SAID, I AM FROM YANN CAMPBELL HOARE WHEELER MARKET RESEARCH.

THE STUDY IS BEING CONDUCTED FOR THE FISHING INDUSTRY RESEARCH AND DEVELOPMENT COUNCIL TO HELP IN PLANNING THE SUPPLY AND MARKETING OF FISH AND SEAFOOD IN AUSTRALIA IN THE FUTURE

NAME: ______________________

ADDRESS: ______________________

SUBURB: ______________ POST CODE ______________

PHONE NUMBER: ______________________

I hereby certify that this is a true, accurate and complete interview.

SIGNED: .... (Interviewer)

DATE: ....

A.4 Out of Home Questionnaire

YANN CAMPBELL HOARE WHEELER®

YANN CAMPBELL HOARE WHEELER
MARKET RESEARCH

JOB NO: 32115B

TERMINATIONS

REFUSAL - MALES	
REFUSAL - FEMALES	

FISH AND SEAFOOD CONSUMPTION STUDY
TELEPHONE SURVEY

Good morning/afternoon/evening. My name is ..... from Yann Campbell Hoare Wheeler Market Research. Today we are conducting a study on Food Consumption in Sydney and would appreciate your help. The results of the study will be used in planning the supply and marketing of various food products in NSW over the coming years. Could I please speak to a person in the household who is 16 years or older and who **is not** the main person responsible for household shopping or cooking. REPEAT INTRODUCTION IF TRANSFERRED TO SOMEONE ELSE.

---

1 (a) Now, think about the meals or snacks that you ate in the last seven days. Starting from DINNER yesterday, did you eat dinner at home, out of home or did you skip this meal? RECORD BELOW

IF ANSWERED Q1 CODE 2,
1 (b) Was any fish or seafood eaten at this meal? RECORD BELOW

REPEAT Q1a AND Q1b FOR EACH MEAL OCCASION LISTED AND FOR EACH DAY OF THE WEEK
1 (c) Did you eat fish or seafood away from home at any other time during that day? IF YES WRITE IN "OTHER" AND SPECIFY WHETHER AM OR PM. RECORD BELOW

REPEAT Q1(a) - (c) FOR EACH DAY OF THE WEEK

	Q1(a) WHERE MEAL EATEN			Q(b) SEAFOOD		Q1(c) OTHER SEAFOOD MEALS OUT OF HOME	
	AT HOME	OUT OF HOME	NOT EATEN	EATEN	NOT EATEN	YES	NO
MONDAY							
11. DINNER	1	2	3	1	2	5	6
21. LUNCH	1	2	3	1	2	5	6
31. BREAKFAST	1	2	3	1	2	5	6
41. OTHER ____________	1	2	3	1	2	5	6
TUESDAY							
12. DINNER	1	2	3	1	2	5	6
22. LUNCH	1	2	3	1	2	5	6
32. BREAKFAST	1	2	3	1	2	5	6
42. OTHER ____________	1	2	3	1	2	5	6
WEDNESDAY							
13. DINNER	1	2	3	1	2	5	6
23. LUNCH	1	2	3	1	2	5	6
33. BREAKFAST	1	2	3	1	2	5	6
43. OTHER ____________	1	2	3	1	2	5	6
THURSDAY							
14. DINNER	1	2	3	1	2	5	6
24. LUNCH	1	2	3	1	2	5	6
34. BREAKFAST	1	2	3	1	2	5	6
44. OTHER ____________	1	2	3	1	2	5	6
FRIDAY							
15. DINNER	1	2	3	1	2	5	6
25. LUNCH	1	2	3	1	2	5	6
35. BREAKFAST	1	2	3	1	2	5	6
45. OTHER ____________	1	2	3	1	2	5	6
SATURDAY							
16. DINNER	1	2	3	1	2	5	6
26. LUNCH	1	2	3	1	2	5	6
36. BREAKFAST	1	2	3	1	2	5	6
46. OTHER ____________	1	2	3	1	2	5	6
SUNDAY							
17. DINNER	1	2	3	1	2	5	6
27. LUNCH	1	2	3	1	2	5	6
37. BREAKFAST	1	2	3	1	2	5	6
47. OTHER ____________	1	2	3	1	2	5	6

WRITE IN DAY AND MEAL OCCASION THAT THE RESPONDENT HAD FISH OR SEAFOOD OUT OF HOME IN THE LAST SEVEN DAYS. STARTING WITH THE MOST RECENT ASK Q.2a TO Q.4. REPEAT FOR EACH FISH OR SEAFOOD MEAL OUT OF HOME.

Q.2a **Where did you purchase or eat fish/seafood for ..** (READ OUT MEAL OCCASION AND DAY OF WEEK)**?** RECORD BELOW.

Q.2b **Was this for an entrée/snack or main meal?** RECORD BELOW

Q.2c **For how many children under fifteen years of age, did you personally buy fish or seafood at this meal?** RECORD NUMBER BELOW. IF NONE RECORD 0.

Q.3 **What type (species) of fish/seafood was that?** WRITE IN BELOW.

Q.4 **What was the total weight of** (READ OUT TYPE) **eaten at this meal?**
RECORD GRAMS. PROBE FOR WEIGHT USING INTERVIEWER AIDES. IF UNCERTAIN PROBE FOR SIZE, NUMBER OF PIECES OR CAN(S). RECORD BELOW

SEAFOOD MEALS

	1ST OCCASION	2ND OCCASION	3RD OCCASION	4TH OCCASION	5TH OCCASION	6TH OCCASION
WRITE IN DAY AND MEAL FROM Q1(a)	______	______	______	______	______	______
	______	______	______	______	______	______
Q.2a PLACE WHERE BOUGHT/ATE SEAFOOD						
WORK CAFETERIA	01	01	01	01	01	01
RESTAURANT	02	02	02	02	02	02
FUNCTION CENTRE	03	03	03	03	03	03
CLUB	04	04	04	04	04	04
HOTEL	05	05	05	05	05	05
COFFEE LOUNGE/CAFE	06	06	06	06	06	06
FISH & CHIP SHOP	07	07	07	07	07	07
FAST FOOD OUTLET/TAKE-AWAY	08	08	08	08	08	08
SANDWICH/MILK BAR	09	09	09	09	09	09
FRIENDS/RELATIVES HOUSE	10	10	10	10	10	10
OTHER	11	11	11	11	11	11
(SPECIFY)	______	______	______	______	______	______
Q.2b ENTRÉE/SNACK	1	1	1	1	1	1
MAIN	2	2	2	2	2	2
Q.2c NUMBER OF CHILDREN	______	______	______	______	______	______
Q.3 TYPE OF FISH/SEAFOOD						
WRITE IN	______	______	______	______	______	______
DON'T KNOW	01	01	01	01	01	01
Q.4 WEIGHT	___ G	___ G	___ G	___ G	___ G	___ G
PIECES/SIZE	______	______	______	______	______	______

IF SEAFOOD EATEN AT RESTAURANT, CLUB, HOTEL, FISH AND CHIP SHOP OR FAST FOOD OUTLET IN LAST WEEK (Q.2a CODES 1 - 8) ASK Q.5; OTHERWISE GO TO Q.6.

Q2a CODES 1-8 ONLY
Q.5

Very Important						**Not at all Important**
1	2	3	4	5	6	7

On a scale of 1 to 7 how important are each of the following factors in deciding whether you select fish or seafood from the menu at a ...
(READ OUT LAST OCCASION OUTLET FROM Q.2a CODES 1 - 8) **when eating out of home?** **WRITE CODE IN APPROPRIATE COLUMN FOR EACH STATEMENT**

ROTATE

	OUTLET				
RECORD ONLY FOR LAST OCCASION OUTLET - IE. ONE OUTLET	RESTAURANT FUNCTION CENTRE 1	CLUB 2	HOTEL 3	FISH & CHIP SHOP CAFE 4	FAST FOOD OUTLET/ TAKE-AWAY 5
1. CLEAN PREMISES	______	______	______	______	______
2. FRESH RATHER THAN FROZEN FISH OR SEAFOOD IS USED	______	______	______	______	______
3. HAS A REPUTATION FOR QUALITY FISH OR SEAFOOD	______	______	______	______	______
4. HAS CONSISTENTLY LOW PRICES FOR FISH AND SEAFOOD	______	______	______	______	______
5. OFFERS AUSTRALIAN FISH AND SEAFOOD	______	______	______	______	______
6. HAS STAFF KNOWLEDGEABLE ABOUT FISH AND SEAFOOD MEALS	______	______	______	______	______
7. OFFERS A WIDE VARIETY OF FISH AND SEAFOOD MEALS	______	______	______	______	______
8. USES A METHOD OF PREPARATION OR COOKING I COULD NOT USE AT HOME	______	______	______	______	______

ALL RESPONDENTS

Q.6 **In general, how often would you order** (READ OUT EACH TYPE OF SEAFOOD ONE AT A TIME) **when you were eating a meal of snack away from home?** SINGLE RESPONSE ONLY

	CRUSTACEANS			MOLLUSCS				FISH				
	PRAWNS/ SHRIMPS	LOBSTER/ CRAYFISH	OTHER CRUSTACEANS EG. CRABS, BUGS	MUSSELS	OYSTERS	SCALLOPS	SQUID/ CALAMARI	FRESH FISH OR PROCESSED FISH (LIKE FISH FINGERS)	FISH PRE-PARED	FROZEN FISH	CANNED FISH	FISH FROM TAKE-AWAY FOOD OUTLE
NEVER	01	01	01	01	01	01	01	01	01	01	01	01
MORE THAN ONCE A WEEK	02	02	02	02	02	02	02	02	02	02	02	02
ONCE A WEEK	03	03	03	03	03	03	03	03	03	03	03	03
ONCE A FORTNIGHT	04	04	04	04	04	04	04	04	04	04	04	04
ONCE A MONTH	05	05	05	05	05	05	05	05	05	05	05	05
SIX TIMES A YEAR (ONCE EVERY TWO MONTHS)	06	06	06	06	06	06	06	06	06	06	06	06
FOUR TIMES A YEAR (ONCE EVERY THREE MONTHS)	07	07	07	07	07	07	07	07	07	07	07	07
THREE TIMES A YEAR (ONCE EVERY FOUR MONTHS)	08	08	08	08	08	08	08	08	08	08	08	08
TWICE A YEAR (EVERY SIX MONTHS)	09	09	09	09	09	09	09	09	09	09	09	09
ONCE A YEAR	10	10	10	10	10	10	10	10	10	10	10	10
LESS OFTEN THAN ONCE A YEAR	11	11	11	11	11	11	11	11	11	11	11	11
DON'T KNOW/ CAN'T SAY	12	12	12	12	12	12	12	12	12	12	12	12

Q.7a **Did you <u>personally buy</u> any type of fish/seafood, in the last week, which was <u>eaten out of home only by children, under fifteen years</u>, (that is not by yourself as well)?** FILL IN ALL DETAILS BELOW

	YES	1
GO TO Q.7b	NO	2

DAY	MEAL	TYPE OF FISH/ SEAFOOD	GIVE NUMBER/ PIECES/SIZE - ALL DETAILS	NUMBER OF CHILDREN	WEIGHT PER SERVE
______	______	______	______	______	______
______	______	______	______	______	______
______	______	______	______	______	______
______	______	______	______	______	______

Q.7b **I am going to read out some statements that various people have made about seafood (fish or other seafood). As I read them out, I'd like you to tell me whether you agree, disagree or neither agree nor disagree with the statement.** ROTATE

	AGREE			DISAGREE		
	STRONGLY	SOMEWHAT	NEITHER AGREE NOR DISAGREE	SOMEWHAT	STRONGLY	DON'T KNOW
1. I PREFER AUSTRALIAN FISH AND SEAFOOD TO IMPORTED PRODUCTS	1	2	3	4	5	6
2. THE TASTE OF FROZEN FISH IS AS GOOD AS FRESH FISH	1	2	3	4	5	6
3. I WOULD EAT MORE FISH/SEAFOOD IF IT WAS EASIER TO OBTAIN	1	2	3	4	5	6
4. FRESH FISH COSTS SO MUCH THAT I EAT IT RARELY	1	2	3	4	5	6
5. I EAT FISH/SEAFOOD BECAUSE IT IS BETTER FOR MY HEALTH THAN RED MEAT	1	2	3	4	5	6
6. I LIKE PREPARING FISH AND SEAFOOD	1	2	3	4	5	6
7. THERE ARE ENOUGH RECIPES FOR SEAFOOD	1	2	3	4	5	6
8. IF I KNEW OF MORE WAYS TO COOK FISH/ SEAFOOD I WOULD EAT MORE	1	2	3	4	5	6
9. QUALITY FISH/SEAFOOD CAN BE BOUGHT ONLY FROM A SPECIALISED FISH OUTLET	1	2	3	4	5	6
10. I AVOID FREEZING FISH IF I CAN	1	2	3	4	5	6
11. I FIND FISH/SEAFOOD TO BE LESS FILLING THAN CHICKEN	1	2	3	4	5	6
12. I DISLIKE FISH WITH BONES	1	2	3	4	5	6
13. I LIKE TO BUY FAMILIAR TYPES OF FISH/SEAFOOD	1	2	3	4	5	6
14. I LIKE TO TRY DIFFERENT TYPES OF FISH/SEAFOOD	1	2	3	4	5	6
15. I AM CONCERNED ABOUT THE IMPACT OF POLLUTION ON FISH/SEAFOOD SAFETY	1	2	3	4	5	6
16. YOU CAN'T BE SURE ABOUT THE QUALITY OF FROZEN FISH/SEAFOOD	1	2	3	4	5	6
17. FISH/SEAFOOD IS GOOD FOR A LIGHT MEAL	1	2	3	4	5	6
18. I FIND FISH EASY TO COOK	1	2	3	4	5	6
19. I'M NOT ALWAYS SURE THAT FRESH FISH I BUY HASN'T BEEN FROZEN	1	2	3	4	5	6
20. I DON'T BUY PACKAGED FISH OR SEAFOOD PRODUCTS	1	2	3	4	5	6
21. FISH IS DEARER PER MEAL THAN MEAT OR CHICKEN	1	2	3	4	5	6
22. FISH IS FOR SPECIAL OCCASIONS	1	2	3	4	5	6
23. FISH IS LESS LIKELY TO BE CONTAMINATED THAN MEAT OR CHICKEN	1	2	3	4	5	6

Q.8 **Some species of fish come from their natural habitat, others are farmed. Does this make any difference when you purchase fish or seafood?**

YES	1
NO	2
DON'T KNOW/CAN'T SAY	3

Now I would like to talk about specific types of seafood.

Q.9a **Have you heard of the following types of fish or seafood?** READ OUT FULL DESCRIPTION AND RECORD.

Q.9b **Have you ever tried ...** (READ OUT THOSE THAT HEARD OF IN Q.9a)

Q.10 **Could you indicate your own personal "like" or "dislike" of the fish or seafood you have tried?** READ OUT SEAFOOD TRIED IN Q.9b - CODE 1

	Q.9a	Q.9b			Q.10					
	HEARD OF	TRIED	NOT TRIED	DON'T KNOW	LIKE VERY MUCH	SLIGHT. LIKE	NEITHER LIKE NOR DISLIKE	SLIGHT. DIS-LIKE	DISLIKE VERY MUCH	DON'T KNOW
SQUID (OR CALAMARI)	01	1	2	3	1	2	3	4	5	6
PILCHARDS OR SARDINES (NOT CANNED)	02	1	2	3	1	2	3	4	5	6
SILVER TREVALLY (NOT JUST TREVALLY)	03	1	2	3	1	2	3	4	5	6
WAREHOU	04	1	2	3	1	2	3	4	5	6
ALBACORE TUNA (NOT JUST TUNA)	05	1	2	3	1	2	3	4	5	6
FARMED BARRAMUNDI	06	1	2	3	1	2	3	4	5	6
FARMED PRAWNS (NOT JUST PRAWNS)	07	1	2	3	1	2	3	4	5	6
RAINBOW TROUT (FRESHWATER)	08	1	2	3	1	2	3	4	5	6
ATLANTIC SALMON (FRESH NOT SMOKED)	09	1	2	3	1	2	3	4	5	6
MUSSELS	10	1	2	3	1	2	3	4	5	6
OYSTERS	11	1	2	3	1	2	3	4	5	6
NONE - GO TO Q.12	12									

IF DISLIKED AT LEAST ONE TYPE (Q.10 CODE 4 OR 5) ASK Q.11; OTHERWISE GO TO Q.12

Q.11 **What did you dislike about** (READ OUT TYPE DISLIKED)**?**

TYPE DISLIKED (Q.10) REASON DISLIKED

________________ : ________________________

________________ : ________________________

________________ : ________________________

________________ : ________________________

Q.12 **And can you suggest any actions that could be takeN by the fishing industry to increase the likelihood of people ordering seafood meals when eating out?**

CLASSIFICATION

Q.13	**Sex:** (INTERVIEWER TO RECORD)		MALE	1
			FEMALE	2
Q.14	**Which age group do you fall in? READ OUT**		15 - 19	1
			20 - 39	2
			40 - 59	3
			60 YEARS OR MORE	4
Q.15	**Would you mind telling me your marital status? Are you ... READ OUT**		SINGLE	1
			MARRIED/DE FACTO	2
			DIVORCED/SEPARATED/WIDOWED	3
			REFUSED	4
Q.16a	**Were you born in Australia or another country?**	GO TO Q.17	AUSTRALIA	1
			ANOTHER COUNTRY	2
Q.16b	**Did you migrate to Australia before or after you were 5 years old?**	GO TO Q.17	BEFORE 5 YEARS OLD	1
			AFTER 5 YEARS OLD	2
Q.16c	**In which country were you born?**		UNITED KINGDOM/SCOTLAND/ IRELAND/WALES	01
			NEW ZEALAND	02
			ITALY	03
			GREECE	04
			YUGOSLAVIA	05
			VIETNAM	06
			NETHERLANDS	07
			MALTA	08
			OTHER EUROPEAN	10
			MIDDLE EASTERN	11
			OTHER ASIAN	12
			OTHER (SPECIFY) ____________	09

Q.17 **Do you belong to any of these religious groups?** <u>READ OUT</u>

ANGLICAN/CHURCH OF ENGLAND	01
BAPTIST	02
UNITING/PRESBYTERIAN/ METHODIST/CONGREGATIONAL	03
ROMAN CATHOLIC	04
GREEK ORTHODOX	05
JEWISH	06
LUTHERAN	07
OTHER CHRISTIAN	09
MUSLIM	13
______________ OTHER (SPECIFY)	10
ATHEIST/NONE	11
REFUSED	12

Q.18a **How many adult income (wage) earners in total are there in your household?**

THOSE ON ANY PENSION OR WHO ARE RETIRED DO NOT COUNT AS AN INCOME EARNER.

NONE	0
ONE	1
TWO	2
THREE OR MORE (SPECIFY) __________	3
REFUSED/DON'T KNOW	9

Q.18b **Do you work full time, part time or not at all?**

FULL TIME	1
PART TIME	2
NOT AT ALL	3

Q.18c **What is the occupation of the main income earner in your household?** (IF UNEMPLOYED OR RETIRED ASK USUAL OR MOST RECENT OCCUPATION)

OCCUPATION: ______________________________

INDUSTRY: ______________________________

Q.18d **Are you yourself the main income earner in your household or is someone else the main income earner?**

SELF	1
SOMEONE ELSE	2
DON'T KNOW/CAN'T SAY	3

<u>IF SOMEONE ELSE MAIN INCOME EARNER (Q.18d CODE 2) AND RESPONDENT WORKS (Q.18b CODE 1 OR 2) ASK Q.18e</u>

Q.18e **What is your occupation?**

OCCUPATION: ______________________________

INDUSTRY: ______________________________

Q.18f **What is the total yearly gross (before tax) family income for <u>all</u> household members?**

LESS THAN $15,000	1
$15,000 - $25,000	2
$25,001 - $40,000	3
$40,001 - $60,000	4
$60,001 - $80,000	5
Over $80,000	6
REFUSED/DON'T KNOW	7

THANK YOU VERY MUCH FOR YOUR HELP AS I SAID, I AM FROM YANN CAMPBELL HOARE WHEELER MARKET RESEARCH.

THE STUDY IS BEING CONDUCTED FOR THE FISHING INDUSTRY RESEARCH AND DEVELOPMENT COUNCIL TO HELP IN PLANNING THE SUPPLY AND MARKETING OF FISH AND SEAFOOD IN AUSTRALIA IN THE FUTURE

NAME: ____

ADDRESS: ____

SUBURB: ____________________ POSTCODE ________________

PHONE NUMBER: ______________________________________

THANK-YOU FOR YOUR ASSISTANCE

I hereby certify that this is a true, accurate and complete interview.

SIGNED: .... (Interviewer)

DATE: ....

A.5 Project Team

A.5. Project Team

Cheryl Reed

Nick Ruello

Graeme Peacock

Judith Ruello