1979/14

PA

FISHING INDUSTRY RESEARCH COMMITTEE

INSTITUTIONAL AND CATERING MARKETS

FOR

FISH AND FISH PRODUCTS : AUSTRALIA

R.G. Logie-Smith/J.E. Hocking
PA Australia
Melbourne
April 1981

CONTENTS

CONTENTS (Continued)

Appendices

INDEX OF TABLES

INDEX OF TABLES (Continued)

1. INTRODUCTION

P.A. Consulting Services Pty. Ltd. was commissioned to conduct research into the Australian markets for fish and fish products. This is the final report on the research which was conducted during 1979/1980. The survey was funded by the Fishing Industry Research Trust Account.

The aims of the study were to provide information on the accessibility and requirements of the Australian markets for fish.

The key issues to be addressed were:

- What markets for fish and fish products are available to the Australian fishing industry?

- Can the requirements of these markets be satisfied by Australian caught fish, rather than imported fish?

- Are these markets sufficiently large to justify the further development of Australian offshore fisheries by Australian business enterprises?

- How can the fishing industry improve the marketing of fish and fish products?

The survey was conducted in two phases.

In Phase I, P.A. Consulting Services carried out a broad, Australia-wide investigation of the use of fish in each of the major institutional and catering markets. The segments within each market were:

Institutional

- Hospitals
- Industrial Canteens
- Educational Establishments
- Government Establishments
- Social Institutions.

Catering

- Hotels
- Restaurants
- Mass Caterers
- Fast Food Chains.

Phase II was specifically designed to research the hotel, club and mass catering segments in more detail.

Interviews were conducted with officials in 205 establishments in Phase I, and 133 establishments in Phase II, providing information on the accessibility and requirements of the Australian markets for fish and fish products. The survey concerned fish only; it did not include crustacea or molluscs.

Phase I took place in July/August 1979 in Brisbane, Sydney, Melbourne, Hobart, Adelaide and Perth. Interviews for Phase II (hotels) were conducted in Brisbane, Sydney, Melbourne, Adelaide and Perth during October/November 1979.

Details of the sample surveyed are tabled in Section 9, and names of the respondents are listed in Appendix I.

The following information was obtained:

- The approximate size of the market segments.
- The species, form and state of fish used.
- Pricing.
- Buying processes.
- Product trends and gaps.
- Key factors influencing the purchasing decision.
- Imported products' share.

The size of the market segments surveyed was estimated by grossing up the sample data. The method of grossing up is described in detail in Section 9, Research Methodology.

We should point out that Phase I required a broad overview of these segments, rather than detailed quantification of size, as the relative size between segments was the key factor to be established in Phase I. The size of the hotel and club segments was estimated on the basis of a larger sample base in Phase II.

Basis for Studying Hotes/Clubs in Phase II

To choose the segment to be studied in Phase II, a number of factors were considered. As a result of the analysis of these results, the hotels and clubs was chosen to be studied further in Phase II on the basis of:

- The quantity of fish used.
- The proportion of fish used which was imported.
- The potential for fish, especially Australian fish.

In order to evaluate the relative value of each segment in terms of increasing consumption of Australian fish and as a target for future industry marketing action, the following criteria were established:

- Potential for significant increase in fish use.
- High use of imported fish which could be replaced by Australian-caught fish.

These criteria were based on the following variables:

- Quantity of fish used.
- Potential to increase fish usage.
- Quantity of imported fish used.
- Requirements concerning type of fish, supply and price.
- Flexibility of requirements.
- Suitability of Australian fish types.
- Accessibility.

The findings from the study are presented in two major parts:

- Sections 3 - 7. The overall institutional and catering markets, based on the information obtained in Phase I from all outlets except hotels and clubs where Phase II data has replaced that gathered in Phase I.

- Section 8. Hotel and Club Study, based on the Phase II survey of those outlets.

  Hotels and clubs were handled together as only New South Wales has a large number of licensed clubs. In states other than New South Wales, hotels fulfil the role of these clubs.

The summary and recommendations follow this Introduction.

2. SUMMARY, FINDINGS AND RECOMMENDATIONS

2.1 Summary

2.1.1 Market Overview

Institutional

Given the supply and marketing constraints which surround Australian caught fish, the institutional market is a difficult segment in which to sell Australian fish. The difficulties are:

- Price constraints.
- Strict product and supply requirements, e.g:
  - Fillets which are portion controlled
  - Absolutely bone-free fish
  - Individually frozen portions (shatter pack)
  - Constant supply
  - 'Acceptable' quality.
- The hold which frozen food wholesalers have on the market.
- Resistance to change by the decision-makers in the institutional market.
- The tender system used by government bodies.

These characteristics make it more difficult to increase usage of Australian fish in the institutional market than in the catering market.

In order to supply the institutional market, the Australian industry needs to develop a product package which meets this market's requirements.

Catering

The catering market, on the other hand, does offer more opportunity than the institutional market due to the following characteristics:

- The entrepreneurial nature of the proprietors (buyers).
- The non-regulated structure of the market.
- The pricing structure, which covers a greater range than that in the institutional segment.
- The product requirements, which are more flexible.
- The relative ease of reaching the decision maker.

The segments with the greatest potential to utilise an increased volume of Australian fish are those within the catering market.

2.1.2. Rating of Segments

The segments studied can be assessed on the criteria in the 2nd, 3rd and 4th columns of the table below and rated on their potential for fish marketing.

Table 1

Rating of Segments

Segment	Quantity of Fish (Tonnes)	Quantity of Imported Fish (Tonnes)	Potential	Rating
Catering				
Hotels	3,600	1,800	Very large market with flexible requirements and easy access.	High
Clubs	2,500	1,250	A large New South Wales market which buys higher priced Australian fish. Individual establishments are very large.	High
Restaurants	7,290	1,590	Very large market with flexible requirements. Harder to reduce imported share below 20%. Not easy to influence.	High
Mass Caterers			Medium market with potential for growth, flexible requirements and easy access.	High
Institutional				
Hospitals	1,680	860	Large market, but strict requirements and limited accessibility.	Medium
Industrial Canteens	710	258	Medium market. Australian fish would suit.	Medium
Education	85	45	Small market. Could be reached via mass caterers.	Low
Government	500	298	Medium market. Could be reached via mass caterers.	Medium
Social Institutions	500	296	Medium market with strict requirements.	Low

2.1.3 Market Size and Structure

About 17,000 tonnes of fish (edible weight) are used by the catering and institutional markets in Australia. The requirements and preferences for the fish used varies by segment.

The main types of fish used in the institutional market are:

- Japanese flounder
- Hake
- Cod.

The three types of fish: flounder, hake and cod comprise 33% of all fish used.

The catering segments use a variety of fish, mainly Australian. The most popular types are:

- Snapper
- Barramundi
- Flounder
- Whiting.

The segments which used the most fish, and their estimated annual volumes are:

- Catering
  - . Restaurants (7,300 tonnes per annum)
  - . Hotels (3,600 tonnes per annum)
  - . N.S.W. Clubs (2,500 tonnes per annum).
- Institutional
  - . Hospitals (1,700 tonnes per annum).

The average price paid by all segments was $3.82.
On average:

- The institutional segment pays $2.61 per kilo.
- The catering segment pays $4.62 per kilo.

Note that these averages are based on Phase I results.

Most fish used is imported, accounting for 55% of the weight of the total institutional and catering market. This is particularly the case for institutions, whereas hotels and restaurants use mainly Australian fish (60% and 80% of total weight used respectively).

The main suppliers to these institutional and catering markets are the frozen food wholesalers. The wholesaler has a strong influence on the catering and institutional segments, attention should therefore be directed at the wholesalers.

The wholesaler plays a part in the major task of increasing the purchaser's knowledge of and enthusiasm for various types of fish.

2.1.4 Hotels and Clubs - Potential

This market segment uses a large quantity of fish (6,100 tonnes) and has potential to increase the number of fish meals served.

There is potential for greater use of fish in hotels, as hotel catering grows and as fish replaces other meals. There is a trend for more meals to be eaten outside the home and hotels should share this increased consumption. Hotels are placing more emphasis on providing meals, according to respondents and the licencing commission, to attract custom as bar sales have decreased and bottle shop sales have increased.

Hotels mainly require filleted fish, but also use other forms of fish. Their requirements are reasonably flexible and can be satisfied by Australian fish. The fish they use does not have to be completely boneless as it generally does for hospitals. Hotels can also vary the type of fish used and so do not need such a constant supply of one type of fish.

Hotels and clubs do not have price constraints as strict as some institutions, so a greater number of species will meet their price limits. Hotels currently spend an average $4.33 per kilogram, based on Phase II results. The average for the hotels surveyed in Phase I was $5.01 compared to the average of all segments surveyed of $3.80 and the $5.09 per kilogram average paid by restaurants.

There is potential for the hotel/club segment to use more Australian fish, not only through growth but also through replacement of imports. Currently, 40% or 2,400 tonnes of the fish used by hotels and clubs is imported. This segment uses the largest quantity of imported fish of all the segments studied. Hotels use mainly snapper, barramundi and flounder. A quarter of the fish is bought as fresh fish. They are willing to serve some whole fish.

Hotels are readily accessible from a marketing point of view, as they are not bound by contracts; neither do they buy direct from the markets very often. Most hotels and clubs buy from fish wholesalers. Establishments in this group indicated that it would be easier for them to sell fish to their customers if there were more marketing and promotion of fish.

2.1.5 Restaurants

Restaurants use a large quantity of fish, 7,300 tonnes p r annum, of which 80% is Australian fish. Of the 20%, or 1,590 tonnes, of imported fish used, some will be fish which is not available in Australia, such as smoked salmon or pickled herrings. This segment has over 5,000 individual establishments.

Its accessibility is limited by the nature of the operations and their owners. They are usually independent owner-operators who do their own purchasing of small amounts, often from markets. There is no centralised purchasing.

Although it is a large market with flexible requirements, it may be hard to increase the share of Australian fish above the 80% it is now.

2.1.6 Mass Caterers

This segment is important as it provides access to a number of segments. Mass caterers provide catering and purchasing expertise to large organisations, for private functions and public functions such as race meetings.

Mass caterers handle:

- Sporting events.
- Receptions.
- Industrial canteens.
- Mining camps.
- Educational establishments.
- Government canteens.

Catering services may be provided by very small operators or a multi-million dollar multi-national.

A considerable level of specialisation exists within the industry, even among the multi-nationals. The skills of the big caterers have been built around such specialisations as the mining, industrial or sporting catering markets.

There will be growth in this segment as establishments hand over the meal serving part of their business (which they run at a loss) to experts. The mining boom has also increased the size of this segment.

2.1.7 Hospitals

This segment is large and comprises a small number of individual establishments. A significant quantity, 860 tonnes, of imported fish is used.

There is potential for import replacement of this segment. However, the hospitals have strict requirements for the type of fish used. Currently, it appears that Australian fish cannot meet these requirements. Hospitals require a constant supply of low-priced, frozen, boneless fillets. This segment is not worth chasing until the industry has a product which is suitable.

The accessibility and requirements of this market were researched in some detail in Phase I, as our sample covered 19.5% of Australian hospital beds.

2.2 Findings and Recommendations

Institutional and catering markets do not use fish as much as they could. There is a large potential market for fish in these areas.

Low use is a function of the attitude of decision makers as much as of physical constraints.

Awareness of fish types and uses is low. Knowlege of fish is limited and experience of different types of fish is narrow. This lack of familiarity, prevents decision makers experimenting with fish.

Physical constraints to greater use of Australian fish include high price and lack of reliability of supply. Although price was named as a significant constraint it is not really a significant issue for the catering side.

When hotels said that price was the main reason they did not buy more Australian fish, they were usually referring to the reason for not buying the more expensive ($9/kg) varieties.

Respondents were willing to buy Australian fish if price and supply criteria were met. Many would prefer to be able to buy local fish.

There is little cachet attached to imported fish.

The total quantity of fish used by catering establishments could be increased by encouraging a variety of ways of presenting fish.

Currently in the catering trade there is strong reliance on the same few familiar names - barramundi, snapper, whiting, flounder.

These may not be just the same few species as again the question of fish naming arose in this study. A variety of species was sold to the catering establishments as, for example, hake. The catering establishments then sold this fish, often, under another name, such as barramundi.

The reliance on a few names is due to a number of factors:

- The public is reluctant to try an 'unknown' fish.
- Suppliers rarely promote and encourage the trial of new varieties by decision makers.
- Chefs/purchasers lack sufficient knowledge of other fish varieties to enable them to feel comfortable changing.

In spite of these constraints to trial new varieties, gemfish and blue grenadier have gained acceptance in New South Wales and South Australia, respectively.

All catering and institutional segments are worthy of some attention. The hotel and club segment has the most potential for development. Some specific actions which could be taken include:

- Industry sponsored training for sales representatives of frozen food wholesalers.
- Train chefs, particularly to increase their knowledge of Australian fish.
- Arrange literature and promotional evenings for chefs, such as those undertaken by the NZ FIB.
- Organise promotion weeks related to weeks of heavy supply.

- Organise selling to key accounts.

- Undertake a direct mail compaign to hotels with pictures of fish types and serving suggestions and follow up with reps.

- Use hotel magazines (e.g., catering) as a promotional vehicle.

The development of bistro trade in hotels permits increased fish use. Blackboard menus allow the type of fish offered to be varied daily or weekly whereas printed menus lock chefs into certain fish types apart from a 'Fish of the Day'.

Our recommendations cover two main areas: the distribution of fish and the marketing of fish. These are some steps which could be taken to influence attitudes of decision makers:

- Show the decision maker (chef) how to produce other popular profitable dishes by education and promotion by way of recipes, advertising, cooking demonstrations and sales people.

- Increase promotion of fish to the public in general and of varieties other than the top six.

- Improve quality and quantity of sales representation.

Other general recommendations include:

- Improve reliability of supply of Australian fish.

- Improve supply of fresh fish.

- Provide Australian alternatives to cheap imported species.

- Ensure quality is consistent.

- Improve price competitiveness of Australian fish.

- Increase use of shatter packs to enable larger pack sizes to be purchased.

- Find means of ensuring supply of Australian fish to large take-away chains.

- Co-ordinate industry marketing.

- Segment market and offer varieties to meet different needs e.g., for fish which is:

    . Cheap
    . High quality
    . Frozen bone free fillets
    . Fresh

Submitted for

PA AUSTRALIA

R.G. Logie-Smith
Principal Consultant

J.E. Hocking
Consultant

3. EXISTING MARKET SEGMENTS AND SIZE

3.1 Size of Market Segments

The total market for fish in the institutional and catering segments is of the order of 17,000 tonnes (edible weight).

Two catering segments use most fish, with restaurants accounting for over 7,000 tonnes of fish, and hotels, motels and clubs 6,000 tonnes a year.

These segments comprise a great number of outlets compared with institutions.

Hospitals are the third largest segment, using 1,700 tonnes of fish a year, with a small number of very large users. The other segments in the institutional market are much smaller.

Table 2 shows broad estimates of market size for each segment, by state.

Table 2

Estimated Market Size by State and Segment

Tonnes Per Annum (Edible Weight)

Segment \ State	NSW	Vic.	Q'ld.	S.A.	W.A.	Tas.	Total
Institutional							
Hospitals	870	310	235	100	140	27	1,682
Industrial Canteens	190	260	100	120	40	5	715
Educational Establishments	35	15	10	20	3	2	85
Government Establishments	110	200	50	50	80	4	494
Social Institutions	75	200	70	50	110	10	515
Catering							
Clubs	2,500	-	-	-	-	-	2,500
Hotels, Motels	520	1,540	720	550	240	62	3,632
Restaurants	2,900	2,150	1,025	600	445	210	7,330
(Mass Caterers	← 240	→	-	-	-	-	240)
TOTAL	7,200	4,675	2,210	1,490	1,058	320	16,953

A brief discussion of each segment follows.

3.1.1 Hospitals (1,700 tonnes per annum)

An hospital serves, on average, a fish portion weighing 150 grams two to three times per week.

The fish purchased is mostly frozen imported fillets, (51% of fish used), usually hake or flounder.

Tinned salmon is also used often.

Only 5% of the fish is purchased fresh, 70% is frozen, and 24% tinned.

Price is the dominant factor influencing the institutions' purchasing decisions. They paid, on average, $2.50 per kilo for fish.

On average, 19.5 kilograms of fish is used per bed per annum. This amount includes fish served to staff and patients. New South Wales hospitals account for over half the fish used by this segment, with a small number of large hospitals accounting for most of that consumption.

Tasmanian hospitals use the lowest quantity of fish per bed.

3.1.2 Industrial Canteens (710 tonnes per annum)

Industrial canteens cater for an estimated 10% of all employees in private industry.

They use a large quantity of fish considering that fish is on the menu only once or twice a week for lunch, often on Friday. However individual serves are large - the average portion weighs 215 grams.

Nearly all the fish used is in filleted form, and most is purchased frozen, although a significant proportion (18%) is purchased as fresh fish. More Australian fish is used than imported fish.

The main species used is hake. Australian gemfish is also popular with this segment

3.1.3 Tertiary Educational Establishments (85 tonnes per annum)

This segment, which includes universities and colleges, is a very limited market for fish. Fish is usually on the lunchtime menu each weekday as 'fish and chips'.

Over half the amount of fish used by this segment is frozen imported hake fillets.

3.1.4 Government (500 tonnes per annum)

This segment is similar to industrial canteens. It includes the government canteens which serve lunch to public service employees and Armed Forces catering.

Fish is usually on the menu once or twice a week. Flounder and snapper are the most commonly used species, along with frozen imported fillets of hake.

3.1.5 Social Institutions (500 tonnes per annum)

This segment is a small part of the total institutional market for fish. It includes elderly peoples' homes, mental homes and prisons. Fish is served only once a week.

This segment purchases the lowest priced fish, which is nearly all imported. Only 13% of the quantity used is Australian.

They serve a narrow range of species, relying on hake, flounder, cod and fish fingers, as well as tinned tuna and salmon. Hake accounts for 40% of the fish used.

3.1.6 Hotels (3,600 tonnes per annum)

This segment includes all hotels from large tourist hotels to small local hotels. It has fish on the menu a dozen times a week and has reasonably flexible requirements.

Hotels purchase cheap fillets to serve as fried fish for the bar trade, as well as more expensive fish for the dining-room and bistro trade.

There is less emphasis on serving fish in hotels in New South Wales and Western Australia than in the other states. The following table shows the small share of fish used by New South Wales hotels compared to the population, which is 35% of the Australian total.

Table 3

Hotel Market - Tonnes Per Annum by State

NSW	Vic.	Q'ld	S.A.	W.A.	Tas.	Total
520	1,540	720	550	240	60	3,630
14.3%	42.4%	19.8%	15.2%	6.6%	1.7%	100%

3.1.7 Clubs (2,500 tonnes per annum)

New South Wales is unique in having a large number of licensed clubs, mainly because of its gaming regulations. These clubs are a prime source of entertainment in New South Wales, and have a reputation for providing good meals at reasonable prices. This is possible because the catering business is subsidised by poker machine takings. These clubs serve many meals and hence a large quantity of fish. The average club is much bigger than the average hotel, and clubs buy higher priced fish than do New South Wales hotels.

3.1.8 Restaurants (7,300 tonnes per annum)

This segment uses the largest quantity of fish and has the largest number of individual outlets. Restaurants can serve lunch and/or dinner up to seven days per week and at each meal they may have three or more sittings. The average portion size served was 210 grams.

The weight of fish consumed per restaurant seat in the survey ranged from 20 kg per annum to 150 kg per annum. Most seafood restaurants used at least 70 kg of fish per seat per annum. Non-specialty restaurants used at least 20 kg of fish per seat per annum.

To estimate market size, we have assumed the average consumption of fish in restaurants is 25 kg per seat per annum.

3.1.9 Mass Caterers

This segment probably purchases about 240 tonnes of fish per annum, however, this has been excluded from the total to avoid double counting. Mass caterers in fact service many of the institutions whose market size has been separately determined, as well as mining camps. They buy high priced fish.

3.1.10 Fast Food Chains

McDonald's dominates this segment and is a very influential customer.

Take-away food outlets are estimated to use 10,000 tonnes of fish per annum based on the domestic study of Fish and Seafood Consumption carried out by P.A. in 1976/1977. This volume estimate is not included in Table 2 - Estimated Market Size.

3.2 Portion Size

Factors which influence the amount of fish used by each segment include the portion size and frequency of using fish.

The quantity of fish served for a meal varies by segment. Restaurants and hotels serve larger portions than hospitals and social institutions. Two hotel meals would use more than the weight of fish in three hospital meals.

The average portion size served by each segment is:

Segment	Grams
Hotels	280
Industrial Canteens	215
Restaurants	210
Government	195
Education	176
Mass Caterers	161
Hospitals	150
Social Institutions	150
Fast-food	100
Average:	180

3.3 Frequency of Serving Fish

Whilst some segments served fish less often than once per week, others served fish a few times a day.

Social institutions, industrial canteens and mass caterers serve fish only once or twice a week, whereas hotels and restaurants have fish on the menu for 10 to 12 meals a week. They may also provide for up to 30 'sittings' per week. The frequency with which each segment serves fish is shown in the following table.

Table 4

Times Per Week Fish is Served in Each Segment

	Don't Know	< 1	1	2	3	4	5	≥ 6	Total	Mean Times Per Week
	%	%	%	%	%	%	%	%	%	
Hospitals	4.0	-	16.0	28.0	24.0	12.0	8.0	8.0	100.0	2.3
Industrial Canteens	-	-	61.5	38.5	-	-	-	-	100.0	1.4
Education	-	-	15.8	10.5	-	-	68.4	5.3	100.0	4.3
Government	10.0	-	45.0	20.0	5.0	-	15.0	5.0	100.0	2.5
Social Institutions	-	11.1	72.2	16.7	-	-	-	-	100.0	1.1
Hotels/Clubs	6.3	-	-	3.9	-	-	5.5	84.3		9.0
Restaurants	2.2	-	-	-	-	-	2.2	95.6	100.0	9.9
Mass Caterers	40.0	20.0	13.3	13.3	6.7	-	6.7	-	100.0	1.7
Fast Food	40.0	-	-	-	-	-	-	60.0	100.0	n.a.
Total	7.4	2.0	19.8	11.9	4.0	1.5	12.9	40.6	100.0	5.75

4. TYPE OF FISH USED

4.1 Introduction

Six species of fish account for two-thirds of the quantity of fish served by institutions (hospitals, government and educational establishments, prisons, homes).

These six species are:

- Flounder (10% of total quantity)
- Hake (12% of total quantity)
- Cod (22% of total quantity)
- Snapper (10% of total quantity)
- Whiting (5% of total quantity)
- Gemfish (8% of total quantity).

The majority of the quantity used of each of these species is imported, except for gemfish and whiting.

Nearly two-thirds of the fish used by institutions is filleted and about the same amount is frozen. Frozen imported fillets account for 42.8% of the quantity of fish served.

Frozen fillets are used more often by fast-food outlets and social institutions.

Table 5

Frozen Fillets of Fish Used by Each Segment as a Percentage of Total Weight of Fish Used

Segment	% Imported Frozen Fillets	% Australian Frozen Fillets	Other Forms
Restaurants	7%	26%	
Hotels	31%	29%	
Mass Caterers	49%	6%	
Government Establishments	49%	9%	
Educational Establishments	50%	21%	
Hospitals	51%	14%	
Social Institutions	58%	6%	
Fast Food Outlets	99%	-	
Total	45%	15%	

Australian fish is used most in:

- Restaurants
- Hotels
- Industrial Canteens.

A greater variety of Australian species is used than imported fish, 65% of all species identified were Australian while the quantity of Australian fish used was only 45% of total fish consumed.

In social institutions for example, 20% of the total number of species used is Australian, but only 13% of the quantity of fish used is Australian. In hotels, 58% of the species used is Australian. Australian species account for 50% of the quantity used.

4.2 Species Used by Segment

The main species used varies by segment. For example, flounder is used most in hospitals, hake is used most in social institutions, and restaurants claim to use barramundi most. Hotels serve snapper most often. The species used is dependent upon the key purchasing factors such as price, bonelessness, popularity, which are discussed in Section 6.

Tables showing the species of fish used by each segment follow. Table 6 shows the importance of each species in the total number of species used.

The percentage in Table 6 is the number of respondents who used that particular species, divided by the total number of species purchased.

$$\text{e.g.,} \quad \frac{\text{Number of people who bought flounder}}{\sum_{n=1}^{30} \text{Number of species bought by each respondent}} = \frac{20}{80} = 25\%$$

Where n = number of respondents.

The second table shows the proportion of each species used by weight in each segment, i.e., the quantity (kilograms) used of that species, divided by the total quantity of fish used by that segment.

Cod has an unusual significance because of the large quantity used by one fast-food chain.

4.3 Species Used by State

Some species are far more popular in certain states. This applies particularly to Australian fish, but also to imported fish. Whiting, both Australian and imported, is served most in South Australia where South Australian whiting is well-known. In Victoria and South Australia, hotels use whiting most often, whilst snapper is used most in New South Wales, barramundi in Queensland, and dhufish in Western Australia.

A significant amount of gemfish is used in New South Wales.

Tables showing the main species used by each state and segment follow. Table 9 shows the species as a proportion of total number of species used. Table 7 shows the significance of the species compared to the total quantity served.

Table 6

Species Used by Each Segment
(Percentage of Total Number of Species)

	Hospitals %	Industrial Canteens %	Education %	Government %	Social Institutions %	Hotels %	Restau- rants %	Mass Caterers %	NSW Clubs %	Total %
Flounder	14.0	6.1	6.5	11.0	15.4	9.5	6.8	15.1	12.1	10.1
Hake	11.4	14.3	17.7	5.2	18.5	6.1	2.1	9.4	5.7	6.7
Whiting	6.1	14.3	9.7	9.0	4.6	9.1	10.6	13.2	-	9.9
Snapper	3.5	2.0	8.1	11.6	0.0	13.1	11.0	7.5	16.3	9.2
Cod	7.9	2.0	1.6	7.1	7.7	1.1	3.4	7.5	0.7	4.8
Gem	5.3	14.3	9.7	4.5	4.6	3.8	2.1	7.5	2.8	4.9
Flathead	3.5	4.1	0.0	3.9	0.0	2.8	2.1	1.9	3.5	1.9
Bream	1.8	4.1	3.2	5.8	3.1	4.4	4.7	1.9	9.9	3.9
Trout	0.0	2.0	6.5	0.6	0.0	3.8	6.4	3.8	2.8	3.1
Flake	0.9	4.1	4.8	2.6	0.0	-	0.0	1.9	-	1.1
John Dory	0.0	0.0	0.0	0.0	0.0	3.0	3.4	1.9	6.4	1.7
Barramundi	0.9	2.0	3.2	3.2	0.0	11.0	12.7	5.7	7.8	7.5
Garfish	1.8	0.0	0.0	1.9	0.0	1.9	0.8	0.0	0.7	1.0
Reeffish	0.0	0.0	0.0	1.9	0.0	2.3	3.8	1.9	0.7	1.8
Sole	0.9	2.0	6.5	3.2	0.0	6.8	4.2	0.0	14.9	3.6
Dhufish	0.9	0.0	0.0	2.6	0.0	4.0	4.7	0.0	5.7	2.5
Salmon	12.3	4.1	4.8	5.8	10.8	1.3	2.1	3.8	-	5.9
Tuna	8.8	8.2	4.8	2.6	10.8	-	0.0	3.8	-	3.3
Fish Fingers	2.6	2.0	1.6	1.9	7.7	-	0.0	0.0	-	1.3
Other	11.4	10.2	9.7	10.3	13.8	16.0	11.9	11.3	10.0	11.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 7

Major Species by State - Percentage of Total Quantity of Fish Served

	Total	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania
	%	%	%	%	%	%	%
Cod	21.9	19.8	34.0	27.4	16.1	3.4	6.3
Hake	11.6	9.3	5.5	6.5	22.8	32.5	14.5
Flounder	9.9	8.2	14.3	10.6	1.3	13.1	20.1
Gemfish	7.9	13.6	3.8	3.2	5.1	0.3	0.7
Snapper	7.4	7.9	6.0	3.4	11.5	9.9	6.1
Barramundi	6.8	4.1	10.5	16.9	4.9	0.8	2.6
John Dory	5.2	11.1	0.9	-	-	-	-
Whiting	4.4	3.2	4.8	3.3	13.0	0.6	10.1
Other	24.9	22.8	20.2	28.7	25.3	39.4	39.6
Total %	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 8

Major Species by Segment - Percentage of Total Quantity of Fish Served by Each Segment

	Total	Hospitals	Industrial Canteens	Education	Government	Social Institut'ns	Hotels Clubs	Restaur-ants	Mass Caterers	Fast Food
Cod	21.7	4.6	0.4	0.8	5.2	1.4	1.0	2.1	3.6	95.7
Hake	11.7	27.5	22.2	52.5	18.3	39.1	4.0	4.2	22.4	1.1
Flounder	9.9	18.5	4.7	4.3	12.4	9.4	4.4	8.7	18.4	-
Gemfish	7.9	12.8	11.8	18.3	3.2	0.9	6.3	8.9	20.3	-
Snapper	7.5	3.1	1.5	1.4	10.7	-	15.5	11.4	2.7	-
Barramundi	6.8	-	2.0	0.4	1.4	-	21.6	15.8	2.3	-
John Dory	5.2	-	-	-	-	-	4.6	16.7	0.8	-
Whiting	4.4	1.8	9.7	4.1	7.4	1.7	12.7	8.2	1.3	-
Other	24.9	31.7	47.7	18.2	41.4	47.5	29.9	24.0	28.2	3.2
Total %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 9

Species Used by Each State

(Percentage of Number of Species)

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Total
Flounder	10.3	11.8	9.3	4.1	7.1	16.9	10.1
Hake	7.4	4.3	8.5	7.4	11.4	6.2	6.7
Whiting	4.8	10.9	11.0	18.2	7.1	12.3	9.9
Snapper	10.7	8.4	6.8	12.4	10.0	4.6	9.2
Cod	5.2	4.3	6.8	3.3	5.7	4.6	4.9
Gemfish	8.5	3.7	2.5	4.1	1.4	4.6	4.9
Flathead	2.6	2.2	1.7	0.0	0.0	3.1	1.9
Bream	5.9	3.7	4.2	0.8	0.0	6.2	3.9
Trout	1.8	4.0	1.7	6.6	0.0	3.1	3.1
Mullet	0.4	0.6	5.1	0.0	0.0	0.0	0.9
Flake	0.4	1.2	0.8	0.8	1.4	4.6	1.1
John Dory	3.7	1.9	0.0	0.0	0.0	0.0	1.7
Silver Dory	2.6	0.6	0.0	0.0	0.0	0.0	0.9
Barramundi	6.3	7.1	16.1	7.4	4.3	1.5	7.4
Garfish	0.0	0.6	0.0	6.6	0.0	0.0	1.0
Sweet Lip	0.0	0.0	3.4	0.0	0.0	0.0	0.4
Reeffish	0.7	0.6	11.0	0.0	0.0	0.0	1.8
Sole	6.3	3.1	0.8	2.5	5.7	0.0	3.6
Dhufish	4.1	0.9	0.8	0.8	11.4	0.0	2.5
Salmon	6.3	5.6	5.1	7.4	8.6	1.5	5.9
Tuna	2.6	3.7	0.8	4.1	8.6	1.5	3.3
Fish Fingers	1.8	1.9	0.8	0.8	0.0	0.0	1.3
Other	5.5	16.1	1.7	11.6	17.1	20.0	11.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

4.4 Condition of Fish Used by Segment

Two-thirds of the number of species used are purchased frozen, about 20% is fresh, and 10% tinned.

Government establishments, educational establishments and hospitals use predominantly frozen fish.

Hospitals and social institutions also use a large amount of tinned fish.

Fresh fish is most often purchased by restaurants and hotels. Of the species purchased by hotels, about a quarter are fresh.

Table 10, showing the condition of the fish purchased by each segment, is on the following page. This shows, for example, that 23.7% of the number of species served by hospitals is tinned fish.

4.5 Form of Fish Used

Filleted fish is used far more than whole fish, tinned fish or other forms. Over 60% of the species were bought in filleted form.

Approximately 20% of species were bought whole, mainly by restaurants. Hotels and educational establishments also bought some whole fish. Fish such as sole, flounder and snapper are often served whole by hotels. Universities used whole fish for functions - particularly whole snapper for centrepieces.

Table 11 shows the form of fish used by each segment.

Table 10

Condition of Fish Used by Each Segment (Percentage of Number of Species Used)

	Hospitals	Industrial Canteens	Education	Government	Social Institutions	Hotels	Restaurants	Mass Caterers	Total
Fresh	5.3	18.4	6.5	7.7	1.5	26.1	44.7	26.4	21.7
Frozen	70.2	67.3	74.2	76.8	64.6	64.6	46.4	64.2	60.1
Tinned	23.7	12.2	12.9	11.0	27.7	1.3	0.4	7.5	9.8
Other	0.9	0.0	4.8	3.2	6.2	0.2	1.7	0.0	2.8
Both Fresh & Frozen	0.0	2.0	1.6	1.3	0.0	6.1	6.8	1.9	5.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 11

Form of Fish Used by Each Segment (Percentage of Number of Species Used)

	Hospitals	Industrial Canteens	Education	Government	Social Institutions	Hotels	Restaurants	Mass Caterers	Total
Whole	2.6	0.0	27.4	9.7	0.0	27.0	47.3	5.7	21.1
Fillets	64.9	85.7	54.8	71.6	61.5	66.0	46.0	86.8	61.7
Other	31.6	12.2	16.1	16.8	38.5	3.0	1.7	7.5	14.0
Both	0.9	2.0	1.6	1.9	0.0	2.8	5.1	0.0	3.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

4.6 Trends in Species Used

Most people considered that there was no real change in types of fish used in the institutional market.

Whilst there was a slight hint that menus may be changed to include more fish if meat prices continue to escalate, the picture was one of following the same old patterns.

Fish is still often viewed as a Friday dish.

In New South Wales, gemfish appears to have made inroads into the market. A significant quantity of gemfish is used, some 8% of the total institutional market. It has been substituted for imported varieties, such as imported hake. However, there are still some problems in obtaining gemfish fillets which are absolutely bone free, and gemfish is still not very well known. A number of chefs and decision makers were not aware of it.

Frozen Australian trout has also been introduced over the past three to four years, increasing the amount of Australian fish used. In South Australia, some blue grenadier was used.

5. AUSTRALIAN AND IMPORTED FISH

5.1 Overview

The majority of fish used in the institutional trade is imported; of the total quantity used, 52% was said to be imported. The respondents were unsure of the origin of another 4%, which was probably imported.

Australian fish accounted for 42% of the quantity and 51% of the number of species used.

Table 12
Share of Australian and Imported Fish

Origin	Proportion of Quantity	Proportion of Number of Species
	%	%
Australian	42.5	51.0
Imported	52.4	35.3
Don't Know	)	11.5
	) 5.1	2.2
Both Australian and Imported	)	
Total	100.0	100.0

5.2 Segments

The segments which use the largest proportion of imported fish are:

- Hospitals
- Social Institutions
- Mass Caterers
- Government

Hospitals use the largest quantity of imported fish.

The main users of Australian fish in the sample were:

- Restaurants
- Hotels
- Industrial Canteens.

The origin of the fish used by each segment is shown in Table 13 on the basis of quantity, and Table 14 on the basis of mentions.

Table 13

Share of Australian and Imported Fish, by Segment

Based on Quantity Used

Segment \ Origin	Australian	Imported	Don't Know	Total
	%	%	%	%
Restaurants	77.8	21.8	0.4	100.0
Hotels	50.4	49.6	49.6	100.0
Industrial Canteens	56.3	36.3	7.4	100.0
Mass Caterers	42.3	49.6	8.1	100.0
Hospitals	28.0	61.2	10.8	100.0
Education	27.4	53.7	18.9	100.0
Government	25.2	59.6	15.2	100.0
Social Institutions	13.3	59.6	27.1	100.0
Fast Food Chain	-	98.8	1.2	100.0
Total	42.5	52.4	5.1	100.0

Table 14

Origin of Fish Used by Segment

(Percentage of Number of Species Used)

Segment \ Origin	Australian	Imported	Don't Know	Both Australian & Imported	Total
	%	%	%	%	%
Hospitals	28.1	50.9	18.4	2.6	100.0
Industrial Canteens	53.1	32.7	10.2	4.1	100.0
Education	30.6	41.9	25.8	1.6	100.0
Government	32.9	43.2	19.4	4.5	100.0
Social Institutions	20.3	46.9	32.8	0.0	100.0
Hotels	58.1	33.5	4.9	1.7	100.0
Restaurants	77.2	20.3	2.1	0.4	100.0
Mass Caterers	49.1	43.4	7.5	0.0	100.0
Total	51.0	35.3	11.5	2.2	100.0

5.3 Species

Some types of fish used are mainly Australian, and others usually imported. Virtually all flounder used (some 90%) is imported, mainly Japanese. Over 90% of the hake used is imported. Cod is also mainly imported. These three species are used in large quantities, comprising 33% of the total quantity of fish purchased.

About equal amounts of imported and Australian snapper and bream are used.

A large proportion of the whiting used is Australian.

5.4 Condition and Form of Fish

The majority of the fish imported for the institutional trade comes in as frozen fillets. Frozen imported fillets account for 43% of the quantity of fish used (see Table 15).

Frozen imported fillets, most often labelled hake or flounder, are very well suited to the needs of institutions such as hospitals, old peoples' homes, and to mass caterers because they are bone free and low-priced.

When asked why they did not buy more Australian fish, the respondents in these segments said it was because there was no Australian substitute for the cheap, bone free Japanese flounder (also known as halibut or turbot).

Hotels said they did not buy more Australian fish mainly because of the high price and restricted supply.

Table 15

Percentage of Each Species Bought as Frozen Imported Fillets

(Based on Quantity Used)

	Hospitals	Industrial Canteens	Education	Government	Social Institut'ns	Hotels	Restaur-ants	Mass Caterers	Fast Food	Total
Flounder	95.7	98.8	90.5	78.4	76.4	38.7	1.5	98.1	-	64.9
Hake	97.6	44.7	78.9	91.3	87.7	69.4	98.7	100.0	-	90.0
Whiting	21.4	27.4	42.5	43.2	71.8	52.9	-	59.7	-	14.6
Snapper	-	93.8	-	61.0	-		11.0	16.7	-	12.3
Cod	21.1	-	-	1.8	71.1	100.0	12.1	99.7	100.0	93.8
Gemfish	-	-	2.7	-	10.0	39.0	-	-	-	0.2
Flathead	78.4	-	-	28.0	-	-	-	-	-	47.5
Bream	-	-	-	-	-	95.0	-	-	-	34.1
Other	47.3	40.5	17.5	57.5	90.6	-	6.8	2.1	-	38.5
Total	51.4.	34.4	49.6	49.0	58.3	29.0	6.5	49.1	98.8	42.8

E.g., 95.7% of the weight of flounder used by hospitals is purchased as frozen imported fillets.

Note: Some Gemfish is imported from New Zealand.

5.5 Reasons for Not Buying Australian Fish

Respondents were asked why they did not buy more Australian fish.

The institutional segments stated that they do not buy more Australian fish compared to imported fish, because:

- It is more expensive.
- It is not readily available.
- The supply fluctuates.

In some cases there is no suitable Australian substitute for the imported fish purchased, e.g., smoked cod.

Other reasons given for not purchasing more Australian fish included:

- The choice is left to the wholesaler.
- Not easy to handle.
- Don't care whether Australian or imported.
- High bone content.
- Not as good quality.
- Not value for money.
- Size not consistent.
- None suitable for filleting.
- Not individually wrapped.
- Imported fish tastes better.
- The new fish is not acceptable (gemfish, grenadier).
- Australian fish is not offered on the contract.
- Price fluctuates.

6. KEY FACTORS INFLUENCING THE PURCHASING DECISION

6.1 Purchase Reasons

The institutional area is mainly influenced by price and "bonelessness" in its fish purchases. It asks for an "acceptable" level of quality.

The catering area is more influenced by customer demands and the need for good quality; within a higher price limit.

Main reasons given for purchasing a particular type of fish are:

Table 16

Purchase Factors

Reason	Ranking of Reason for Purchase	
	Institutional	Catering
Price	1	2
Fillets	2	
Bonelessness	3	
Availability	4	4
Flavour/Texture		3
Popularity		1
Acceptable quality	5	
Cooking versatility	6	
Packaging - individual pieces		
Habit		
Consistent size		
Fleshy		
Ease of preparation		
Most profit		
Value for money		

Habit played a large part in most respondents' purchasing decisions. The same types of fish are bought continuously, sometimes for many years, until there is a change of decision maker. This may be in spite of some minor problems with the product. Often an establishment had a constant order and no attempt had been made by them, or the wholesaler, to introduce new or different varieties.

The choice of fish also depended very much on the attitude of the decision maker. For example, in one large hospital, the chef was from New Zealand and so bought only New Zealand fish with which he was familiar. A canteen manageress who felt fresh fish was 'better', bought fish fresh from the market.

There appears to be a major opportunity to influence the decision making process and inform decision makers of the range of fish available.

6.2 Background to the Purchasing Decision

The factors influencing the purchasing decision depend on the part food has to play in each segment. The philosophies adopted in each segment are summarised in point form below:

Hospitals	:	Bland reliable food within a strict budget as part of patient care. People not drawn to hospital by the meals. Their whole diet is catered for.
Industrial Canteens	:	An 'extra' for employees - a 'perk'. Employees may become dissatisfied if meals not to standard. Usually meals are subsidised by company. Meals should attract custom and be within budget.
Government	:	As for Industrial Canteens. Usually a stricter budget and a larger number of employees than private companies.
Education	:	'Cheap' lunch meals provided to students as a convenience.
Social Institutions	:	Usually supply three meals a day to people who do not have a great deal of choice as to the institution they are in. Therefore unlikely to lose custom because of the meals. Under social welfare so a strict budget.

Restaurants : Exist mainly because of the quality of their meals. Must cater for what the customer demands.

Hotels/ Motels/Clubs : Custom may be drawn by other things, such as accommodation, entertainment or socialising but the meals also play a part in attracting custom.

6.3 Price

Price is the dominant decision factor in the institutions and accounts for their high usage of imported product.

The price paid per kilogram of fish varies greatly between segments, as does the type of fish used. Australian fish tends to cater for the higher price markets. Restaurants and hotels pay about double the price paid by hospitals and social institutions. The average price paid for Australian fish used is about 60% higher than that paid for imported fish. The following table shows the differences.

Table 17

Average Price Paid for Fish ($ per Kg)
Based on Phase I Results

Source / Segment	Overall		Australian	Imported
Hospitals	2.48		2.94	2.35
Industrial Canteens	2.84		3.50	2.46
Education	2.90	2.70	3.45	2.68
Government	2.98		3.42	2.58
Social Institutions	2.34		1.38	2.44
Hotels / Clubs	5.01		5.54	4.05
Restaurants	4.33	4.26	5.27	3.08
Mass Caterers	3.44		4.45	2.36
Overall	3.82		4.69	2.92

For institutions, such as hospitals or government bodies, the choice of supplier may be determined by the government tender or contract system. This is controlled by the Supply and Tender or Government Stores Departments. These bodies obtain a list of the seafood requirements of their "members" and invite tenders for the aggregate supply. Usually, the supplier submitting the lowest price gains the contract.

In this situation, the type of fish is specified, not the origin. For example, if flathead is specified, either New Zealand or Australian flathead may be supplied. Therefore, the cheapest, most readily available and, although the origin of the species is not specified, normally imported fish is supplied.

7. CHANNELS OF DISTRIBUTION

Fish was usually purchased as a part of the total food purchases. Frozen food wholesalers dominated as a source of supply, particularly for hospitals, educational and government establishments and social institutions.

Seafood wholesalers supplied many of the hotels and restaurants surveyed. Some restaurants also bought fish direct from the markets. Grocery wholesalers were the main suppliers of tinned fish.

8. PHASE II RESULTS - HOTELS AND CLUBS

8.1 Introduction

This section contains the detailed information obtained in Phase II, part of which has already been presented in previous sections of this report.

The results for hotels and clubs are combined, except where there are significant differences in the results for each segment.

8.2 Type of Fish Used

8.2.1 Species Used

A few species comprise most of the fish used. The top five species in each State accounted for over 50%, by volume, of fish bought by hotels and clubs.

"Barramundi" was the principal species purchased overall. It accounted for more than 10% of quantity in all States except South Australia, where whiting is most popular. Snapper is the species purchased by most outlets in all States. Whiting is the principal species bought in Victoria and South Australia, while most hotels in Western Australia purchase kingclip and dhufish.

Hotels and clubs in New South Wales use mainly snapper and in Queensland, 70% of the fish used is claimed to be barramundi.

These results are based on what respondents said they purchased. This was verified where possible by examining the pack, but in most cases it refers to what the respondents think they are purchasing. Some fish may be misnamed. Although "Barramundi" was purchased by fewer hotels, it accounted for 22% of the quantity of fish used.

Table 18

Species Purchased in each State by Hotels and Clubs

(Percentage of Quantity)

Species \ State	Total %	NSW %	Vic %	Qld %	SA %	WA %
Barrumundi	21.6	10.1	19.5	69.2	2.6	18.1
Snapper	15.5	26.1	3.9	0.4	3.6	17.7
Flounder	4.4	2.9	4.0	6.0	10.6	5.1
Whiting	12.7	-	45.6	-	56.9	-
Sole	7.6	13.5	-	3.6	-	-
Hake	4.0	3.5	11.7	-	1.1	4.4
Bream	9.6	18.4	-	-	-	-
Dhufish	1.0	-	-	-	-	19.1
Gemfish	6.3	9.2	-	-	16.9	-
Trout	0.2	0.3	-	-	-	-
John Dory	4.6	8.8	-	-	-	-
Flathead	0.1	0.2	-	-	-	-
Reef fish	1.5	-	-	8.8	-	-
Garfish	3.6	6.4	-	-	2.6	-
Kingclip	1.4	-	-	-	-	27.4
Perch	0.6	0.7	-	1.5	-	-
Salmon	-	-	-	-	-	-
Baby Snapper	1.2	-	4.3	-	5.7	-
Cod	1.0	-	-	5.7	-	-
Silver Dory	-	-	-	-	-	-
Trevally	-	-	-	-	-	-
Other	3.1	-	11.0	4.8	-	8.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Quantity used by Sample (kgs)	476920	248010	77500	83000	44390	24030

Table 19

Species Purchased in Each State by Hotels/Clubs

(Based on Frequency of Mentions)

Species \ State	Total %	NSW %	Vic %	Qld %	SA %	WA %
Snapper	13.1	15.3	14.3	1.9	13.3	13.5
Barramundi	11.0	6.6	11.6	25.0	10.7	13.5
Flounder	9.5	10.2	13.4	3.8	8.0	5.4
Whiting	9.1	0.5	17.9	11.5	21.3	-
Sole	6.8	13.3	1.8	1.9	4.0	-
Hake	6.1	7.1	1.8	7.7	5.3	13.5
Bream	4.4	9.2	0.9	1.9	1.3	-
Dhufish	4.0	5.1	-	-	-	24.3
Gemfish	3.8	3.6	2.7	1.9	9.3	-
Trout	3.8	3.1	7.1	-	5.3	-
John Dory	3.0	5.6	2.7	-	-	-
Flathead	2.8	5.1	1.8	1.9	-	-
Reeffish	2.3	-	-	19.2	-	-
Garfish	1.9	0.5	0.9	-	9.3	-
Kingclip	1.5	-	-	-	-	18.9
Perch	1.3	1.5	-	5.8	-	-
Salmon	1.3	0.5	2.7	-	2.7	-
Baby Snapper	1.3	-	2.7	-	2.7	2.7
Cod	1.1	0.5	-	7.7	-	-
Silver Dory	1.1	2.6	-	-	-	-
Trevally	0.8	-	3.6	-	-	-
Other	10.0	9.7	14.1	9.8	6.8	8.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

New South Wales clubs purchase expensive fish more than the hotels. While both use snapper and bream, the clubs place more emphasis on flounder and barramundi; hake and flathead are more predominant in hotels.

Table 20

Comparison of Major Species Used by Hotels and Clubs In New South Wales

(Percentage of all Species - Mentions)

New South Wales Clubs		New South Wales Hotels	
Snapper	16.3%	Snapper	12.7%
Sole	14.9%	Hake	10.9%
Flounder	12.1%	Flathead	9.1%
Bream	9.9%	Sole	9.1%
Barramundi	7.8%	Bream	7.3%
Hake	5.7%	Flounder	5.5%
Flathead	3.5%	Barramundi	3.6%

Table 21

Comparison of Importance of Species Used by Hotels/Clubs

(Mentions and Quantity)

Species	Mentions	Quantity
	% of Number	% of Tonnes
Snapper	13.1	15.5
Barramundi	11.0	21.6
Flounder	9.5	4.4
Whiting	9.1	12.7
Sole	6.8	7.6
Hake	6.1	4.0
Bream	4.4	9.6
Dhufish	4.0	1.0
Gemfish	3.8	6.3
Trout	3.8	0.2
John Dory	3.0	4.6
Flathead	2.8	0.1
Reeffish	2.3	1.5
Garfish	1.9	3.6
Kingclip	1.5	1.4
Perch	1.3	0.6
Salmon	1.3	-
Baby Snapper	1.3	1.2
Cod	1.1	1.0
Silver Dory	1.1	-
Trevally	0.8	-
Other	10.0	3.1
Total	100.0	100.0

8.2.2 Form and Condition of Fish Used by Hotels/Clubs

Frozen fish accounted for 65% of hotel purchases.

Victorian and New South Wales hotels bought more fresh fish (38% and 36% respectively) than the hotels in other states. Queensland's low proportion of fresh and whole fish is probably due to its reliance on frozen Barramundi fillets.

Australia-wide, 66% of fish purchased by hotels is filleted and 27% whole. The proportion of fish purchased whole by hotels is high compared with all other segments studied in this survey.

Table 22

Form and Condition by State
(By Mentions)

	Total %	NSW %	Vic %	Qld %	SA %	WA %
Condition						
Fresh	26.1	36.2	38.4	3.8	4.0	10.8
Frozen	64.6	53.1	51.8	96.2	88.0	73.0
Both Fresh & Frozen	6.1	6.1	6.3	-	6.7	13.5
Tinned	1.3	1.0	3.6	-	-	-
Other and Don't Know	1.9	3.6	-	-	1.3	2.7
Total	100%	100%	100%	100%	100%	100%
Form						
Whole	26.7	35.7	30.4	5.8	20.0	10.8
Fillets	66.1	57.7	58.9	94.2	69.3	86.5
Both Whole & Fillets	2.8	-	8.0	-	5.3	-
Other	4.4	6.6	2.7	-	5.4	2.7
Total	100%	100%	100%	100%	100%	100%

About one fifth of the quantity of fish used was purchased fresh. A few species accounted for most of the fresh fish; with fresh snapper comprising nearly half of it. In fact two-thirds of the snapper purchased (most in NSW) was fresh. In comparison, no hake was purchased in fresh condition.

New South Wales was the State where most fresh fish was used.

Table 23 shows the species which accounted for most of the fresh fish purchaes.

Table 23

Species as a Percentage of Fresh Fish Purchases by Hotels/Clubs (based on weight)

Species	Percent of Fresh Purchases	Main State User
John Dory	21.0	NSW
Snapper	47.3	NSW
Barramundi	13.0	NSW
Gemfish	7.2	S.A.
Baby Snapper	3.2	Vic.
Whiting	2.1	Vic.
Other	6.2	
Total	100.0%	

8.3 Australian and Imported Fish

8.3.1 Origin of Fish Used

A greater number of types of fish purchased by hotels is Australian, but equal quantities of Australian and imported fish are used. Fifty-eight percent of the species bought were said to be of Australian origin. The State with the highest proportion of Australian fish types was Queensland (67%) and the State with the lowest proportion was New South Wales (53%).

The Australian fish purchased was normally landed in that State. The country of origin of imported fish was not usually known by hotel managers/chefs.

Table 24

Origin of Fish Used by Hotels/Clubs

Percentage of Number of Types (Mentions)

Origin / State	Australian %	Imported %	Don't Know %	Both Aust'n and Import. %	Not Applicable %	Total %
N.S.W.	53.1	40.3	.5	2.0	4.1	100
Vic.	62.5	32.1	4.5	.9	-	100
Qld.	67.3	26.9	3.8	1.9	-	100
S.A.	58.7	20.0	18.7	2.7	-	100
W.A.	56.8	37.8	2.7	-	2.7	100
Total	58.1	33.5	4.9	1.7	1.9	100

8.3.2 Origin by Species

Flounder, sole and hake used in hotels were mainly imported; whiting, snapper and "Australian name" fish were mainly local.

A large quantity of the three mainly imported species: hake, sole and flounder were used, although a great number of the species mentioned were of Australian origin.

The percentage of the species used, which was Australian and imported, is shown overleaf.

Table 25

Origin of Species - Australian and Imported

(Base : Number of Mentions)

Species	Australian	Imported	Don't Know	Both Australian and Imported	Total
Flounder	17.8%	6.4.4%	13.3%	4.4%	100%
Sole	12.5%	84.4%	-	3.1%	100%
Hake	6.9%	86.2%	6.9%	-	100%
Whiting	55.8%	32.6%	7.0%	4.7%	100%
Snapper	56.5%	33.9%	6.5%	-	100%
Bream	66.7%	28.6%	4.8%	-	100%
Gemfish	88.9%	5.6%	5.6%	-	100%
Flathead	92.3%	7.7%	-	-	100%
Trout	66.7%	27.8%	5.6%	-	100%
John Dory	85.7%	7.1%	7.1%	-	100%
Barramundi	96.2%	1.9%	1.9%	-	100%
Kingclip	28.6%	71.4%	-	-	100%
Total	58.1%	33.5%	4.9%	1.7%	100%

A consistently small percentage (5%) of hotels/clubs did not know whether the fish was Australian or imported. Quite a number did not know where the flounder they bought was from. The "both" and "don't know" categories indicate that for these respondents the origin is not important. The Australian hake is most likely gemfish and the imported gemfish is probably imported hake.

8.3.3 Australian Species

Australian fish used by hotels and clubs surveyed includes:

Table 26

Purchases of Australian Fish by Hotels and Clubs by Volume (%)

Species	Volume	Main User State
Barramundi	48.4%	Qld.
Whiting	12.7%	S.A.
John Dory	10.2%	N.S.W.
Gemfish	8.7%	N.S.W.
Snapper	4.7%	N.S.W.
Reef fish	3.4%	Qld.
Jewfish	2.2%	W.A.
Other Aust. fish	9.7%	
Total	100.0%	

8.3.4 Imported Species

Imported fish used by the hotels and clubs surveyed include:

Table 27

Purchases of Imported Fish by Hotels and Clubs by Volume (%)

Species	Volume	Main User State
Bream	20.7	New South Wales
Sole	17.3	New South Wales
Whiting	15.9	Victoria
Snapper	7.7	New South Wales
Hake	7.3	New South Wales, Victoria
Flounder	7.2	All States
Garfish	7.5	New South Wales
Other imported fish	16.4	
Total	100.0%	

8.3.5 Form and Origin

A higher percentage of imported fish (35%) was bought as whole fish than Australian fish (23%). The quantity of imported whole sole and flounder used is the reason for this high imported whole percentage. Very little tinned fish was used in hotels and very few hotels used any different cuts, such as cutlets.

The frozen Australian fillets used included:

Table 28

Percentage of Volume of Frozen Australian Fillets

Species	% Used	Used Mainly in
Barramundi	59.2	Queensland
(S.A.) Whiting	16.2	South Australia
Snapper	5.9	New South Wales Victoria
Gemfish	5.6	New South Wales
Reeffish	5.3	Queensland
Other	7.8	
Total Aust. Frozen Fillets	100.0	

Frozen imported fillets used included:

Table 29

Percentage of Volume of Frozen Imported Fillets

Bream	29.5%
Whiting	21.8%
Garfish	10.8%
Hake	9.1%
Other	28.8%
Total Frozen Imported Fillets	100.0%

Queensland hotels import frozen fillets of code and flounder only, while Victoria accounts for the imported bream and perch.

8.4 Prices Paid

The average price paid for fish by hotels and clubs was $4.33 per kilo, the median price paid was $3.50.

The prices paid varied from $2.50 per kilogram average for Hake, to $7.60 for Barramundi and more for other local fish.

Higher prices (more than $6.00 per kilogram) were paid for local fish, including:

- Barramundi
- John Dory
- South Australian Whiting
- Reeffish
- Dhufish.

Cheaper species (under $3.00 per kilogram average) included:

- Hake
- Gemfish
- Sole
- Flounder.

Hotels purchase a combination of cheaper and more expensive fish for the bar and restaurant trade, respectively.

8.4.1 Price by State

Average prices paid for fish varied by state.

The South Australian hotels surveyed paid the highest prices with an average of $5.48 per kilogram. New South Wales hotels/clubs paid the least, an average of $3.69 per kilogram.

Table 30

Average Price Paid by Hotels and Clubs for Fish by State

State	Price Paid : $ Per Kilogram		
	All Fish	Australian	Imported
New South Wales	$3.69	$4.42	$2.90
Victoria	4.29	4.99	3.51
Western Australia	4.90	6.44	2.87
Queensland	5.21	6.36	2.32
South Australia	5.48	6.26	4.16
Total	$4.33	$5.27	$3.08

Much higher prices were paid for Australian fish (and therefore fresh fish) than for imported fish as shown above.

It would appear from the survey, and our knowledge of the industry, that the cheaper imported fish is used for the bar trade and the more expensive Australian fish, with prices 70% higher on average than imported fish, is used for the dining room/bistro trade.

The high price paid by Queensland hotels for local fish, compared to that paid in N.S.W., may be a function of the species used or the purchasing process.

Hotels in South Australia pay more per kilo for fish than the other States. This is the result of the high price paid for imported fish rather than the price paid for Australian fish.

8.5 Catering

8.5.1 Size of Catering Business

The size of the catering business of each establishment was measured by the number of meals served.

Table 31

Number of Meals Served Per Week - Hotels/Clubs by State

State / Meals/Week	NSW %	Vic. %	Qld. %	S.A. %	W.A. %	Total %
≤99	2	-	-	-	-	-
100 - 599	41	23	17	13	67	33
600 - 1099	20	27	25	60	26	28
1100 - 2099	16	36	38	7	-	21
2100 - 3099	4	5	13	13	7	7
3100 - 4099	6	9	8	-	-	6
≥4100	12	-	-	7	-	6
Total	100%	100%	100%	100%	100%	100%
Base Number	51	22	24	15	15	127

The meals/week result in New South Wales is polarised, as the hotels do not concentrate on meal trade, while the clubs serve a large number of meals.

Hotels purchased, on average, 12 kilograms of fish per week and within the weekly order, there will be two or three species accounting for most of it.

Fish purchased by these establishments usually came in five or 10 kilogram packs and often in a mixture of pack sizes. Only 1% of respondents purchased their fish in packs larger than 10 kilograms.

8.5.2 Frequency of Serving Fish

Most hotels in the sample served fish 11 to 12 times per week; for lunch and dinner, six days a week.

Most hotels interviewed served lunch and a 'long' dinner, from 6.00pm - 10.00pm. About one-quarter (26%) had counter lunches and teas. Only 7% served lunch only.

8.5.3 Importance of Catering to Hotels

About three-quarters of the sample said that meals were very important to their business. The rest said that meals were quite important or not very important and accounted for a very small proportion of their revenue.

Fish was served or put on the menu to cater for public demand. Fish is popular, particularly to provide a choice and a variety of "meats". It is seen as an option rather than a basic menu item.

8.6 Fish Supply Sources

8.6.1 Source of Supply

Almost all establishments interviewed bought their fish from wholesalers.

In Queensland, the main wholesaler used was Frozen Foods Pty. Ltd., in Western Australia it was Fremantle Fish (Sealanes).

In Victoria, a great number of small wholesalers were used to supply hotels, in South Australia, Mac Cocking was the key wholesaler. In New South Wales, a number of clubs buy direct from the fish market and from trawlers. In many cases, the hotels bought from "just a wholesaler".

8.6.2 Reason for Source of Supply

The wholesaler is chosen mainly on the basis of his prices.

However, there are quite a number of other factors influencing the choice of source of fish supply, including the service given, the availability and reliability of supply.

A number of establishments surveyed had no real reason for choosing their particular wholesaler, but purchased from one source because of habit or because it was "policy".

In some cases, purchasers would prefer to buy from the market, but due to time constraints and convenience, bought from a wholesaler, i.e., the second choice.

This was more prevalent in Melbourne and Sydney where hoteliers were aware of the fish market as an alternative source of supply.

So the selling features a wholesaler needs to offer to win hotel custom are:

- Competitive prices.
- Good service including frequent delivery.
- Consistent supply of fish available.
- Fish of consistently good quality, including fresh fish.

When asked 'why they bought fish from that particular source?':

- Western Australian hotels were most likely to have replied that it was on the basis of habit.
- The New South Wales hotels and clubs said it was because of supply and convenience.
- South Australian hotels were most concerned with service.

- Queensland hotels were very strongly influenced by the prices charged by the supplier, and chose the cheapest. This price consciousness is significant as Queensland hotels pay more for fish than other States.

About 10% had no particular reason for their choice of supplier.

8.6.3 Delivery Frequency

Nearly all establishments interviewed received deliveries of fish at least weekly.

Over 40% had deliveries more often than weekly, including 18% of hotels where fish was delivered daily.

Respondents seemed to be generally happy with the frequency with which they could get deliveries of fish.

Hotels in Western Australia had slightly less frequent deliveries of fish than hotels in the other states. This is consistent with Western Australia's lower use of fish in hotels.

8.6.4 Sales Representation

Few hotels surveyed had salesmen call on them to promote the consumption/purchase of fish.

The exception to this was Queensland where 75% of the hotels surveyed said that salesmen from their fish suppliers called on them.

In contrast, in Western Australia, no hotels surveyed had salesmen call. (Note this is the state where hotel consumption of fish is lowest).

A summary of the answers for all states shows:

- No, salesmen do not call	38%
- Sometimes salesmen call	17%
- Yes, salesmen do call	29%
- No answer	16%
	100%

8.6.5 Seasonality

In most cases, hotels said that the supply of fish was not seasonal. They could get a year-round supply of the fish species they used. They use species which are not seasonal.

About 13% of establishments said their supply was seasonal.

8.7 Factors Influencing the Purchasing Decision

8.7.1 Reasons for Choosing Particular Species

Familiarity with the name of the fish is very important in influencing hotels to purchase that type.

The main reason cited (by 44%) for choosing a particular type of fish was that 'people know the name' and so it is 'popular'. This reason did not apply to the cheaper varieties which are not sold by name, but as fried fish. This could imply that if other species' names were publicised so that the public became familiar with them, then hotels would purchase them.

Value for money was the main consideration, for 21% of respondents, when choosing to purchase a particular type of fish. These people looked for fish of a reasonable quality at a moderate price, which may then be re-named.

Establishments which purchase large quantities of fish are more likely to choose species which fulfil the "value for money" criterion than smaller places.

Other reasons, given by fewer respondents, for choosing a particular type of fish included, how it looked, how it cooked, and how it suited their establishment. For example:

- "Fits the meal price and menu structure". (7 replies)
- "Ease of preparation". (1 ")
- "Traditional to use that fish". (1 ")
- "Familiar with it". (4 ")
- "Have no (other) choice". (1 ")
- "Presents well". (6 ")
- "Has the quality and name". (3 ")
- "Choose the expensive ones because of demand and the cheap species for the bars" (4 ")
- "Good for fried fish". (2 ")
- "Availability". (1 ")
- "Cheap". (1 ")

8.7.2 Australian Fish

Price is the main reason (23%) why hotels do not buy more Australian fish instead of imported.

The cheaper types of fish available are usually imported and respondents claimed that there is no Australian alternative for the low-priced, reasonable quality, imported fillets such as Japanese flounder and South African hake.

(This is supported by the 70% price difference between Australian and imported fish shown in Table 30).

Other reasons for not using more Australian fish included:

- "There is not sufficient supply of the Australian product". (E.g., flounder). (3%)
- "There is no fish in Australia of the type". (E.g., sole). (2%)

Six per cent said that they did not care (or know) about the origin of the fish they used. Another 6% said either that they had no reason to change to more Australian fish, or that it was "policy" to use the fish they were currently using.

8.7.3 Improvements the Australian Fishing Industry Could Make

Respondents were asked what improvements they thought the Fishing Industry could make.

The most common responses were to reduce price (24%) and improve the availability and reliability of supply (16%).

Fourteen percent want to be able to buy more fresh fish at reasonable prices. The Fishing Industry should promote and sell itself and its products more, said 10% of respondents.

Respondents commented that they saw very little advertising for fish.

Other suggestions of significance included:

- Fresh fish to be made more readily available to hotels.

- The Australian Fishing Industry provide an alternative to the cheap, imported types of fish.

Those hotels which bought Australian fish and found that the supply was seasonal were most concerned that the Fishing Industry increase the availability of its product.

9. RESEARCH METHODOLOGY

9.1 Introduction and Segment Definition

To research the Australian institutional markets, interviews were conducted in nine segments in the six cities: Sydney, Melbourne, Brisbane, Adelaide, Perth, Hobart.

The segments were:

Hospitals	- Government and private; serving three meals a day.
Industrial Canteens	- Canteens, in large companies, serving hot meals to employees, mainly lunch.
Educational Establishments	- Tertiary institutions with cafeterias. These usually catered for students' lunches and for functions.
Government Establishments	- Canteens in Government offices catering for employees including the Armed Forces. This segment was separated from industrial canteens as the decision making and buying process differs. For example, Government establishments are able to buy through Government contracts.
Social Institutions	- Children's homes, old people's homes and prisons. These usually serve three meals a day.
Hotels, Motels, Clubs	- Hotels and motels which served meals were included. Clubs were also interviewed in New South Wales. Note that by law all hotels should provide meals of some kind.
Restaurants	- Licensed and BYO restaurants including seafood restaurants.
Mass Caterers	- Firms which cater for outside functions and/or for companies and institutions.
Fast Food	- McDonald's is the only large fast food chain which serves fish. King Chicken in Brisbane also serves fish.

The major respondents in each segment were interviewed personally and phone interviews were conducted with the others.

9.2 <u>Sample Selection - Phase I</u>

The respondents were selected to span the range of attitudes within the segment and to cover the major part of the segment. It was not a random sample. Only establishments which served hot meals, including fish, were included. About 30% personal interviews and 70% phone interviews were used.

After conducting a programme of in-depth interviews with the major establishments, a further representative sample of establishments in each market area was interviewed by phone to obtain supportive data and a broader perspective of the total market area.

In addition to interviewing personnel in specific establishments, P.A. also interviewed personnel associated with the Government Stores Department, central buying groups and wholesalers who were directly involved in or responsible for overall buying policies or procedures.

Interviews with 202 respondents were analysed by computer for Phase I. Metropolitan areas only were surveyed in Phase I.

The number of interviews which were analysed, by State and segment, is shown below.

Table 32

Number of Interviews Completed by State and Segment

Segment	Total	NSW	Vic	Qld	SA	WA	Tas
PHASE I							
Institutional							
Hospitals	25	6	5	3	3	3	5
Industrial Canteens	13	4	4	2	2	-	1
Educational Establishments	19	5	5	2	3	3	1
Government Establishments	20	4	4	3	4	3	2
Social Institutions	18	4	5	3	3	3	-
Catering Market							
Hotels/Motels/Clubs	42	10	11	10	5	4	2
Restaurants	45	12	10	10	7	3	3
Mass Caterers	15	2	4	2	2	4	1
Fast Food Chains	5	1	1	2	1	-	-
Total	202	48	49	37	30	23	15
PHASE II							
Hotels	101	22	22	24	16	17	-
Clubs	29	29	-	-	-	-	-
Total	130	51	22	24	16	17	-
Grand Total	332	99	71	61	46	40	15

9.3 Interview Content

The interviews followed a set outline, a copy of which is attached as Appendix II. Questions were asked on:

- Trends in type and quantity of fish served
- Each species on:
  - Quantities
  - Form (whole, fillets, etc)
  - Condition (fresh, frozen, etc)
  - Origin (Australian, imported, etc)
  - Price
  - Source of supply

- Reasons for buying each species.
- Reasons for buying from that source.
- Frequency of serving fish.
- Portion size.
- Reason for not buying more Australian fish.
- General comments.

The survey does not cover crustaceans or molluscs.

9.4 Grossing Up- Phase I

To compare across segments and states it was necessary to gross up the quantities of fish served by the sample to an estimate of that served by each segment.

The statistic used as the unit of measurement, was that which was used to measure the population as a whole. For example, for hospitals the unit is number of beds, and consumption of fish "per bed" was calculated.

To gross up the sample, the consumption per unit for the sample was calculated and then applied to the total number of units in that state and segment:

$$\text{i.e.} \left(\frac{\text{Kilograms Consumed Per Annum by Sample of Segment a, in State B}}{\text{Units in Sample of Segment a, in State B}} \right)$$

$$\times \text{ Total units in segment a, state B}$$

For example if 15kg of fish were consumed per annum for each bed in New South Wales hospitals sampled and there were a total of 1,000 beds in New South Wales, 15,000kg of fish would be the estimate of the size of the New South Wales market.

The base figures used for grossing up are shown in the Table below, by segment and by state. (Beware of equating the consumption per unit with consumption per head. For example, in the case of hospitals, the number of staff per bed must also be considered.

Table 33

Consumption of Fish Per Unit Per Annum By Segment

Source: Sample

		Total	NSW	Vic	Qld	SA	WA	Tas
		Kg.	Kg.	Kg.	Kg.	Kg.	Kg.	Kg.
Hospitals	Bed	19.5	25.6	15.0	15.3	12.1	16.6	9.2
Industrial Canteens	Employee		1.6	2.8	2.2	4.1	-	0.5
Education	Student		0.4	0.2	0.2	0.7	0.1	0.3
Government	Employee		2.2	1.5	2.1	1.1	5.2	0.8
Social Institutions	Inmate		3.7	10.2	6.3	6.7	17.8	-
Hotels	Room		28.1	20.8	42.8	42.0	27.4	16.7
Clubs	Member		1.0	1.0	-	-	-	-
Restaurants	Seat	60.4	67.5	77.0	70.3	40.3	26.5	29.5
Mass Caterers	Meal		-	-	-	-	4.6	0.1

The weight of fish consumed per restaurant seat in the survey ranged from 20 kg per annum to 150 kg per annum. Most seafood restaurants used at least 70 kg of fish per seat per annum.

Most non-specialty restaurants used at least 20 kg of fish per seat per annum.

To estimate market size we have assumed the average consumption of fish in restaurants is 25 kg per seat per annum.

The proportion of the population sampled varied by segment, hence some estimates are more accurate than others. A significant proportion of total hospital beds was sampled as a few hospitals have a very large number of beds. By contrast a lower proportion of restaurant seats was sampled as there is a large number of restaurants each with a relatively small number of seats.

Our sample size, in base statistics and the proportion of the State total is shown on the following page.

Table 34

Sample Size and Proportion of State Total
Phase I

Segment	Aust	NSW	Vic	Qld	SA	WA	Tas
Hospitals - sample beds	17873	4849	2176	2624	4534	1320	2370
%	19.5%	14.3%	10.5%	17.0%	52.6%*	15.5%	81.6%
Industrial- Canteens sample employees	17420	4400	3450	2070	1400	5000	1100
%	5.3%	6%	3.7%	4.9%	4.9%	18.7%	12.2%
Education - sample students	155895	60845	41850	22160	16200	13840	1000
%	50.3%	63%	44.4%	56.4%	56.1%	45.3%	15.5%
Government- sample employees		34320	33000	4600		1700	1850
%						10.6%	
Social Inst. sample people	6421	1584	1267	390	490	2690	
%	9.7%	7.8%	6.8%	9.8%	6.8%	38.4%	
Hotels - sample rooms	5646	1511	1977	654	435	910	159
%	7.4%	6%	13.3%	4.7%	7.2%	12.3%	1.7%
Clubs		132500 6.6%					
Restaurants- sample seats	8774	3960	1704	841	826	1030	413
%	2.5%	3.4%	2.0%	2.1%	3.5%	5.8%	4.9%

A high proportion of South Australian hospital beds were sampled as the Frozen Food Operations Ltd. was interviewed.

9.5 Grossing Up - Phase II

9.5.1 Analysis of Market Size - Hotels and NSW Clubs Surveyed in Part Two of Study

The sample characteristics are tabled below.

Table 35

Sample Characteristics - Hotels - Phase II

Characteristics	W.A. Hotels	S.A. Hotels	Vic. Hotels	Q'ld Hotels	NSW Hotels	NSW Clubs	Total
Number Outlets Surveyed	15	16	22	24	22	29	128
Total Outlets	558	603	1,432	1,080	1,984	1,542	7,199
Sample Percent	2.7%	2.7%	1.5%	2.2%	1.1%	1.9%	1.8%
Licence Fee - Outlets Surveyed ($'000)	496	592	859	2,149	1,588	1,280	6,964
Licence Fee - Total Outlets ($'000)	4,919	8,002	17,676	17,572	26,737	14,497	89,403
Sample Percent of Total Licence $	10.1%	7.4%	4.9%	12.2%	599%	8.8%	7.8%
Average Licence Fee for Sample ($)	33,083	36,969	39,000	89,542	72,182	44,138	54,400
Average Licence Fee - All Outlets ($)	8,815	13,270	12,344	16,271	13,491	9,400	12,400

Note:

1. The outlets surveyed were in metropolitan areas only, plus Mackay in Northern Queensland as behaviour was expected to be significantly different.

2. Emphasis was placed on larger outlets as shown by the average licence fee for the sample compared to the average for all outlets, a ratio of 4.4 to 1.

3. The survey covered 7.8% of outlets by licence fee (market volume) and 1.8% of outlets by number.

9.5.2 Survey Findings - Volume Variables - Sample Data

The analysis of the variables relating to fish volume are tabled below.

Table 36

Variables Relating to Fish Volume - Hotels/Clubs Phase II

Characteristics	W.A. Hotels	S.A. Hotels	Vic. Hotels	Q'ld Hotels	NSW Hotels	NSW Clubs
Total Meals Served Per Week	8,395	16,470	31,150	34,900	14,875	85,690
Fish Used Per Annum (Kilos) by Sample	24,024	40,615	86,750	88,050	31,065	220,880
Average Meals Per Week Per Outlet	560	1,029	1,416	1,454	676	2,955
Average Fish Usage Per Annum Per Outlet (Kilos)	1,602	2,538	3,943	3,669	1,412	7,617
INDEX: Fish Used Per Annum (Kilos)/Total Meals Served Per Week						
Mean	2.86	2.47	2.78	2.50	2.09	2.58
Median	3.31	2.45	2.41	2.20	1.56	2.70

9.5.3 Method of Grossing Sample Volume to National Volume

In Part One of the study, hotels, clubs and motels were grouped together and the method used to gross up the sample consumption was the ratio of beds to fish used.

A more appropriate method in Part Two of the study was established using the licence fee as the base unit to measure hotel size.

In order to establish the accuracy of this method, correlations were carried out between:

- Kilograms of fish used per annum and meals served per week.
- Licence fee and kilograms of fish used per annum.
- Licence fee and meals served per week.

for all outlets surveyed within each state.

These correlations showed values of r^2 as:

Table 37

Correlation Analysis - Hotels/Clubs - Phase II

Segment	Kilos of Fish p.a. : Meals Per Week	Licence Fee Kilos of Fish p.a.	Licence Fee Meals Per Week
WA Hotels	.75 High Correlation	.59 Medium Correlation	.85 High Correlation
SA Hotels	.56 Medium Correlation	No Correlation	No Correlation
Vic Hotels	.60 Good Correlation	No Correlation	.48 Low Correlation
Qld Hotels	No Correlation	No Correlation	.53 Medium Correlation
NSW Hotels	.31 Low Correlation	No Correlation	No Correlation
NSW Clubs	.83 High Correlation	.75 High Correlation	.77 High Correlation

9.5.4 Market Size

Based on the data collected from the survey and presented in the Section together with the grossing up methodology, the total market estimates are as tabled below:

$$\text{Average Annual Kilos} = \text{Fish Used Per Annum by Sample} \times \left(\frac{\text{Total Licence Fee}}{\text{Licence Fee of Sample}}\right)$$

$$\text{Median Annual Kilos} = \left(\frac{\text{Fish Used Per Annum}}{\text{Meals Served Per Week}}\right) \text{Median} \times \text{Meals Served Per Week} \times \left(\frac{\text{Total Licence Fee}}{\text{Licence Fee Sample}}\right)$$

Table 38

Total Market Estimate : (Tonnes of Edible Fish)

Hotels/Clubs Phase II

	W.A. Hotels	S.A. Hotels	Vic. Hotels	Q'ld Hotels	NSW Hotels	NSW Clubs	Total
Tonnes Per Annum Average	238.1	549.4	1784.5	720.0	523.0	2501.6	6317
Tonnes Per Annum Median	275.4	550.3	1541.0	627.8	390.7	2620.4	6005.5
Best Estimate	238.1	549.4	1541.0	720.0	523.0	2501.6	6073

Note:

1. The "best estimate" is based on the judgement that the average index of fish used per annum as a proportion of meals served per week in Victoria of 2.78, was high in comparison to the other states, and therefore the median index of 2.41 has been used.

2. The estimated market size of 6,073 tonnes per annum is considered to be the maximum, since the sample was directed at larger hotels and clubs. Small outlets may not mirror the larger outlets in their consumption of fish.

9.5.5 Segment Bases

In grossing up the sample figures within each segment some assumptions were made. These were:

Government: Armed forces were grossed up separately and then added back into the government sector. The reason being that the armed forces usually have three meals a day catered for whereas other government employees have only lunch catered for. Hence there would be a different consumption per employee for armed forces compared to other government employees.

Hotels/
Motels/Clubs: In Phase I the club sector was treated separately and then added back in, as the base statistic was number of members. The base statistic for hotels and motels was number of rooms. In Phase II license fee was used as the base statistic.

Mass
Caterers: The total fish purchases of mass caterers were not included in total institutional consumption as they cater for segments already discussed:

- Hospitals.
- Industrial Canteens.
- Educational Establishments.
- Government Establishments.
- Social Institutions.

However, they are key influencers and were interviewed to determine the types of fish purchased and reasons for doing so.

9.5.6 Significance of Fish in Hotel/Club Outlets

Based on an "average" usage of 2.5 kilograms of fish used per annum as a projection of total meals served per week, then the weight of fish per meal is .048 kilograms, that is, 48 grams.

Since the average weight of a meal is 250 grams then fish represents 19 percent of meals served in hotels and clubs, that is, one meal in five is fish.

35

APPENDIX I

LIST OF RESPONDENTS

LIST OF RESPONDENTS

Phase I

NEW SOUTH WALES

HOSPITALS	Manly Hospital Lidcombe Hospital Repatriation Hospital Prince of Wales Hospital (incl. Prince Henry and Eastern Suburbs) Royal Alexandra (Children's) Royal Prince Alfred
INDUSTRIAL CANTEENS	Roche A.A.E.C. A.M.P. Society General Motors Holden
EDUCATION	University of New South Wales University of Sydney Macquarie University Ku Ring Gai College of Advanced Education NSW Institute of Technology
GOVT. ESTABLISHMENTS	Commonwealth Govt. Centre GPO (Australia Post) Australian Navy Commonwealth Accommodation & Catering Service
SOCIAL INSTITUTIONS	Queen Elizabeth II Rehabilitation Centre North Rocks Deaf and Blind Children's Centre Waldock Nursing Home for The Aged Malabar Prison Complex
HOTELS/MOTELS/CLUBS	Noah's North Side Gardens North Sydney Travelodge Hilton Hotel Glenview Motel Menzies Hotel Mandarin Club Eastern Suburbs Leagues Club Balmain Leagues Club St. Georges Leagues Club Revesby Workers Club

RESTAURANTS	Flanagan's Restaurants Doyles Restaurants Bennelong Restaurant La Causerie The Stunned Mullet Cahills Restaurants La Salle Cassim's Chelsea Ming Court Summit
MASS CATERERS	Nationwide Food Services Sutcliffe Catering Co
FAST FOOD CHAINS	McDonald's

VICTORIA

HOSPITALS	Queen Victoria Memorial Royal Children's Hospital Royal Melbourne Hospital Royal Park Psychiatric Hospital Mercy Maternity Hospital
INDUSTRIAL CANTEENS	Shell Co of Australia Krafts Foods Ltd Beecham Australia Pty Ltd Heinz H J Co The Sutcliffe Catering Co (14 canteens)
EDUCATION	Melbourne University Swinburne College of Technology La Trobe University Preston Institute of Technology Caulfield Institute of Technology
GOVT. ESTABLISHMENTS	Commonwealth Accommodation & Catering Service Public Works Dept Army (3rd Supply Group) RAAF (HQ Support Command)

SOCIAL INSTITUTIONS	Pentridge Prison Winlaton Youth Training Centre Allambie Reception Centre Turana-Baltara Youth Training Centre Fairlea Female Prison
HOTELS/MOTELS/CLUB	Old Melbourne Hotel The Victoria Hotel Palm Lake Motel Sheraton Motor Motel Rising Sun Hotel St Kilda Travelodge Hotel Australia Hilton Hotel Cheltenham Golf Club South Melbourne Cricket Club Green Room Club
RESTAURANTS	La Bouillabaisse Fish's Seafood Restaurant Basils Seafood Restaurant La Pescatora Robs Carousel Restaurant St James Tavern Room at the Top Restaurant Lotus Palace Blades BYO Restaurant Barbecue-Inn Charcoal Grill
MASS CATERERS	Aerojet Caterers Moore Catering Service Dennis House Pty Ltd
FAST FOOD CHAINS	McDonald's
PETFOOD MFGS.	Quaker Products Robert Harper
OTHER FISH USERS	Frozen Foods Industries Heinz H.J. & Co

QUEENSLAND

HOSPITALS	Royal Brisbane Hospital Mater Misericordiae Wesley
INDUSTRIAL CANTEENS	A.N.Z. Bank General Motors Holden
EDUCATION	University of Queensland Queensland Institute of Technology
GOVT. ESTABLISHMENTS	S.G.I.O. R.A.A.F. Amberley Commonwealth Centre
SOCIAL INSTITUTIONS	Church of England Hostel Taringa Rehabilitation Centre Wilson Youth Hospital
HOTELS/MOTELS/CLUBS	Jindalee Hotel Queensland Cricket Club Crest International Hotel Park Royal Breakfast Creek Hotel Metropolitan Motel Ansett Gateway National Hotel Hacienda Hotel Tattersall's Club
RESTAURANTS	Muddies Seafood Restaurant Antico Fish Restaurant Gambaros (Seafood) Baxters (Seafood) Agency Ardrossan Hall Allegro Melbourne Milano Cathay
MASS CATERERS	Nationwide Queensland Catering
FAST FOOD CHAINS	McDonald's King Chicken

SOUTH AUSTRALIA

HOSPITALS	Queen Elizabeth Hospital Adelaide Children's Hospital Frozen Food Operations Pty Ltd (6 Hospitals)
INDUSTRIAL CANTEENS	Chrysler Australia Ltd Hills Industries
EDUCATION	Torrens College of Advanced Education Flinders University University of Adelaide
GOVT. ESTABLISHMENTS	Commonwealth Hostels Ltd Army Office Air Force Naval H.Q.
SOCIAL INSTITUTIONS	Adelaide Gaol Commonwealth Rehabilitation Centre
HOTELS/MOTELS/CLUBS	South Terrace Travelodge Old Lion Hotel Lee's Hotels Pty Ltd (3 hotels) Pierces Service Hotels (2 hotels) Gateway Inn
RESTAURANTS	Gray's Fish Manse Adelaide Oyster Bar Swains Restaurant Pty Ltd Festival Theatre Restaurant The Stable Restaurant Dirty Dick's Fisherman's Basket
MASS CATERERS	Maynards Catering Service Ansett Airlines

WESTERN AUSTRALIA

HOSPITALS	Royal Perth Hospital R.P.G.H. Hollywood Princess Margaret Hospital for Children
EDUCATION	Murdoch University University of W.A. W.A. Institute of Technology
GOVT. ESTABLISHMENTS	H.M.A.S. Leeuwin (Navy) Westrail Army
SOCIAL INSTITUTIONS	Dept. of Corrections Mental Health Services Sunset Hospital
HOTELS/MOTELS/CLUBS	Sheraton Freeway Parmelia Town House Hotel
RESTAURANTS	Miss Mauds Gardis Boans
MASS CATERERS	The White House Dorchester Lodge Poon Bros S.H.R.M.

TASMANIA

HOSPITALS	Royal Derwent Royal Hobart North Western General Mersey General Launceston General
INDUSTRIAL CANTEENS	Cadbury
EDUCATION	University of Tasmania
GOVT. ESTABLISHMENTS	State Offices, Murray Street Commonwealth Govt. Centre
SOCIAL INSTITUTIONS	Ashley Boys Home Police Academy, Rokeby Hayes Gaol Farm Wybra Hall, Mangalore (Boys' Home)
HOTELS/MOTELS/CLUBS	Lenna Motor Inn Four Seasons Town House
RESTAURANTS	Mona Lisa Ball and Chain Medallion Seafood
MASS CATERERS	Nationwide

LIST OF RESPONDENTS

Phase II

NSW HOTELS

Sydney Summary - Hotels

Newport
Cronulla
Chatswood Charles
Caringbah Inn
Peakhurst Inn
Sheridan Hotel
Royal Hotel
Family Village
Brighton Hotel
Strathfield Hotel
Cabramatta Inn
Chester Hill
Brown Jug Inn
Maroubra Junction
Blacktown Inn
Greenacres Hotel
Golden Sheaf
Revesby Pacific
Guildford
Sans Souci
Pagewood
Coogee Bay

NSW CLUBS

Sydney Summary - Clubs

South Sydney Juniors
Parramatta Leagues
Willoughby Legions
St Georges SC
Cronulla Leagues
Manly-Warringbah Leagues
Bankstown RSL
St George Motor Boat
Petersham RSL
Cronulla RSL

Balmain RSL
North Sydney Leagues
APIA Club
Georges River SC
Sutherland Dist. TU
North Sydney ANZAC
Pittwater RSL
Five Dock RSL
Dee Why RSL
Mououbra Junction RSL
Sutherland United SC
Crows Nest
Gladesville RSL
Mosman RSL
Concordia
Drummoyne SC
North Sydney Rugby
Mououbra RSL
Bankstown Sports

VICTORIAN HOTELS

Melbourne Summary - Hotels

Noah's
Bleak House
Royal
Bell's
Brickmaker's Arms
Croxton Park
Monash
Whitehorse Inn
Dorset Gardens
Burvale
Clifton
Middle Park
Imperial
Nottinghill
Golden Gate
Town Hall
Railway Club
Lemon Tree
Carlton Inn
Post Office Tavern
Sovereign
Tok H

QUEENSLAND HOTELS

Brisbane Summary - Hotels

Whitsunday, Mackay
Oriental, Mackay
Colmslie, Brisbane
Majestic
Treasury Tavern
Woodridge Tavern
Belfast Tavern
St Pauls Town Inn
City Plaza Tavern
Chardons
Waterloo
Salisbury
Acacia Ridge
Sunnybank
Bartletts Barn
Ferny Grove Tavern
Alliance
Springwood
Weeroona
Holland Park
Broadbeach
Mansfield Tavern
Moreton Bay
Newnham

SOUTH AUSTRALIAN HOTELS

Adelaide Summary - Hotels

Crafers
Eagle on the Hill
Kensington
Buckingham Arms
Stag
Botanic
Feathers
Finsbury
Leg Trap
Norwood
Castle Motor
Pier
Flagstaff
St Leonards Inn
Rex

WESTERN AUSTRALIA HOTELS

Perth Summary - Hotels

Malthouse Tavern
Morley Park
White Sands Motor
Karrinyup Tavern
Cloverdale
Willagee
Belmont
Boomerang
Thornlie
Booragoon Hotel Motel
Hotel Charles
Raffles
Morris
Balga Inn
John Barleycorn
Osborne Park

Job No: 311150
State:
Date:

FIRTA PHASE 1

INTERVIEW OUTLINE

Segment: ____________________

Name of Establishment: ____________________

Phone No: ____________________

Address: ____________________

Size of Business (beds/meals/seats): ____________________

Name of Respondent: ____________________

Position of Respondent: ____________________

PA is conducting a study on the consumption of fish and fish products in Australia for the Fishing Industry (and we would appreciate your opinions and some data)

1. Do you buy/serve fish

Yes ☐

No ☐

If NO, what are the reasons?

____

____

3. Why do you choose to buy

a) This type of fish

____

____

____

b) From this source

____

____

____

4. How many fish meals do you serve per week/month/year? (where applicable)

Type of fish	Frequency of Serving	Total No. of Meals Per	Average Serve Size

5. What trends do you see in type of fish served and how has it changed over the past 2 years?
(+ increasing; 0 static; - decreasing; DK don't know)

	Trends	Past 2 Years
Species		
Fresh		
Frozen		
Australian		
Imported		
Quantity		

6. What opportunities/gaps do you see in the market for fish?

____

____

____

____

7. Do you have any problems obtaining supplies of the fish you want?

____

____

____

8. Why do you not buy more Australian fish?

____

____

____

9. What is the potential for Australian fish? ______________

____

Could you replace all your imported fish with Australian fish?

____

If the price were right? ______________________

If the supply were there? ______________________

10. What improvements could the fishing industry/suppliers make?

____

____

____

____

Q2. What type of fish do you purchase?
and from where do you obtain it?
(for each 'species')

Questions:	Species Names			
Condition:				
Fresh				
Frozen				
(write in) Other				
Form:				
Whole				
Fillets				
(write in) Other				
Origin:				
Australia				
Imported				
Quantity:				
$				
kg				
Pack Size:				
< 1 kg				
1 - 5 kg				
> 5 kg				
Source of Supplier:				
(write in name) Wholesaler				
Market				
Direct				
Other				
Freq. of Ordering				
Freq. of Delivery				

PA

Job No: 311150

State: ____________

Date: ____________

FIRTA PHASE II

INTERVIEW OUTLINE

PA is conducting a study on the consumption of fish and fish products in Australia for the Fishing Industry (and we would appreciate your opinions and some data).

First of all could you tell me a little about your company/business/activities.

Segment: ____________

Name of Establishment: ____________

If member of a chain, number of locations: ____________

Phone No: ____________

Address: ____________

Size of Business: Beds: ______ Rooms: ______ Seats: ______ Meals: ______

Name of Respondent: ____________

Position of Respondent: ____________

1. Do you buy/serve fish Yes ☐ No ☐

What are the reasons?

____

____

____

2. What trends do you see in type and quantity of fish served and how has it changed over the past 2 years?

(+ increasing; 0 static; - decreasing; DK don't know)
(If possible, indicate size of increase/decrease)

	Future Trends	Past 2 Years
Quantity		
Fresh		
Frozen		
Australian		
Imported		
Species		

Q3. What type of fish do you purchase and from where do you obtain it (For each "species" get proportion of volume) over the year? Which ones are seasonal?

Questions:	1.	2.	3.	4.
(a) Condition: % Fresh				
Frozen				
Tinned				
(write in) Other				
(b) Form: % Whole				
Fillets				
(write in) Other				
(c) Origin: % Australia				
Imported				
D.K.				
(d) Quantity: per annum Total: purchase $ value				
kg				
) Pack Size: % 5 kg				
5 - 10 kg				
10 kg				
(f) Source of Supplier: (write in name) Wholesaler				
Market				
Direct				
Other				
(g) Price per kg.				
(h) Freq. of delivery				
(i) Seasonality				

Q3. What type of fish do you purchase and from where do you obtain it (For each "species" get proportion of volume) over the year? Which ones are seasonal?

Questions:	1.	2.	3.	4.
(a) Condition: % Fresh				
Frozen				
Tinned				
write in) Other				
(b) Form: % Whole				
Fillets				
(write in) Other				
(c) Origin: % Australia				
Imported				
D.K.				
(d) Quantity: per annum Total: purchase value $				
kg				
(e) Pack Size: % 5 kg				
5 - 10 kg				
10 kg				
(f) Source of Supplier: (write in name) Wholesaler				
Market				
Direct				
Other				
(g) Price per kg.				
(h) Freq. of delivery				
(i) Seasonality				

4. Why do you choose to buy

a) This type of fish

____

____

____

b) From this source

____

____

____

Do salesmen call on you? ______________________

5. How many fish meals do you serve per week (or per annum if easier).

	Type of Fish	Frequency of Serving this Species	Total No. of Meals Per Week of this Species	Average Serve Size (grams)
I				
II				
III				

If Imported fish purchased:

6. Why don't you buy more Australian fish?

____

____

____

7. Could you replace all your purchases of imported fish with Australian fish?
(Prompts: If not, why not? What if the price were OK and the supply there?)

____

____

____

8. Do you have any problems in obtaining supplies of the fish you want?

9. What type of fish is available to you (from the wholesaler)?

10. What improvements could the fishing industry/suppliers make?

11. What is the one key thing the Australian fishing industry should do to get more of your business?

FOR HOTELS

1. What is your annual licence fee? ______________________

2. Type of catering

   (a) Counter meals
       Restaurant
       Both

   (b) Serve lunch
             dinner

   (c) Hours of meal serving (e.g. 12 - 2; 6 - 8 pm)

       ____

3. How important are meals to your business? ______________

   ____

   ____

FOR MASS CATERERS

How many canteen managers do you employ? ____________________

____

What type of customer do you have and how many of each?

	Number
Hospitals	________
Industrial Canteens	________
Government Canteens	________
Functions	(______ per annum)
Sporting events	________

What market share do you have? ______________________

How big is this market? ______________________

83

APPENDIX III

CODE FRAMES - PHASE II

CODE FRAMES

FIRTA - PHASE TWO

Question Number	Title	Code	Responses
01	Questionnaire Number	001—	
02	State	2	New South Wales
		3	Victoria
		4	Queensland
		5	South Australia
		6	Western Australia
		7	Tasmania
03	Segment	1	Hospitals
		2	Industrial Canteens
		3	Educational Establishments
		4	Government Establishments
		5	Social Institutions
		6	Hotels
		7	Restaurants
		8	Mass Caterers
		9	Fast Food Chains
04	Business Size	-9999 - 0	Don't know
		1 - 100	Number of units
		101 - 200	Number of units
		.	
		.	
		> 4000	Number of units
05	Annual Fish Quantity	-9999 - 0	Don't know
		1 -1000	Number of kilograms used per annum
		1001 -2000	Number of kilograms used per annum
		.	
		.	
		9001 -10,000	
		> 10,000	Number of kilograms used per annum

Question Number	Title	Code	Responses
06	Times Per Week Served	LE - 1	Don't know
		EQ 0	Less than once a week
		EQ 1	Once per week
		EQ 2	Twice per week
		EQ 3	Three times per week
		EQ 4	Four times per week
		EQ 5	Five times per week
		EQ 6	Six times per week
		.	
		.	
		EQ 15	Fifteen or more times per week
07	Portion Size	-1	Don't know
		0 - 99	0 - 99 grams per portion
		100 - 149	100 - 149 grams per portion
		.	
		.	
		300 -99,999	300 or more grams per portion
08	Number of Species Used	LE 0	Don't know
		EQ 1	One species
		EQ 2	Two species
		.	.
		.	.
		EQ 10	Ten species
		GE 11	11 or more species
	Sequence Number		
10	Species Name		See attached list for Codes 01 - 36
11	Condition	EQ 1	Fresh
		2	Frozen
		3	Tinned
		4	Other
		5	Both fresh and frozen
12	Form	EQ 1	Whole
		2	Fillets
		3	Other
		4	Both whole and fillets
		5	Tinned
		6	Cutlets

Question Number	Title	Code	Responses
13	Origin	EQ 1 2 3 4	Australian Imported Don't know Both Australian and Imported
14	Quantity Per Annum	200 200 - 399 400 - 599 600 - 799 800 - 999 1000 - 1199 . . > 2000	200 kilograms 200 - 399 kilograms 400 - 599 kilograms 600 - 799 kilograms 800 - 999 kilograms 1000 - 1199 kilograms 2000 kilograms
15	Price Per Kilogram	150 150 - 199 200 - 249 250 - 299 300 - 349 350 - 399 400 - 449 450 - 499 500 - 549 550 - 599 600 - 649 > 650 - 9999	Less than $1.50 per kilogram $1.50 - $1.99 per kilogram $2.00 - $2.49 per kilogram $2.50 - $2.99 per kilogram $3.00 - $3.49 per kilogram $3.50 - $3.99 per kilogram $4.00 - $4.49 per kilogram $4.50 - $4.99 per kilogram $5.00 - $5.49 per kilogram $5.50 - $5.99 per kilogram $6.00 - $6.49 per kilogram More than $6.50 per kilogram
16	Licence Fee (Actual)	-1 0 - 9,999 10 - 19,999 20,000 - 29,999 30,000 - 39,999 40,000 - 49,999 . . > 100,000	Don't know Less than $10,000 per annum $10,000 - $19,999 per annum $20,000 - $29,999 per annum $30,000 - $39,999 per annum $40,000 - $49,999 per annum More than $100,000 per annum

Question Number	Title	Code	Responses
19	Dining Facilities	1 2 3 4 5 6 9	Counter meals Restaurant Bistro . Counter Meals and Restaurant Counter Meals, Restaurant and Functions Barbeque No answer
20	Meals Catered	1 2 3 4 5 6 9	Lunch 12 - 2 pm and Tea 6-8pm Lunch only Lunch and Dinner 6-10pm Dinner only Continuous Other No answer
21	Importance of Meals	0 1 2 3 4 5 6 7 8 9	No answer/Don't know Not very/negligible Less than 5% of revenue 5% - 9% of revenue 10% - 19% of revenue 20% - 29% of revenue Greater than 30% of revenue Quite important A legal requisite Very important
22	Why Serve Fish?	1 2 3 4 5 6 9	Demand An economical meal (whereas shellfish are not) I like fish Popular and easy to serve Variety Light lunch for businessmen No answer
23	Pack Size	1 2 3 4 5 6 9	Less than five kilograms Five kilograms 6 - 9 kilograms 10 kilograms More than 10 kilograms A mixture No answer

Question Number	Title	Code	Responses
24	Source of Supply	99	No answer
		Queensland	
		1	Frozen foods
		2	Wes & Meg, Mackay
		3	Burleigh Marr
		4	Various
		5	Other named - Tickles, Deep Sea Fisheries, NZ Fish Distributors
		6	'Other' (unnamed)
		West. Aust.	
		7	Fremantle Fish (Sealanes)
		8	International Fisheries
		9	Western Seafood
		10	Various
		11	Other
		Victoria	
		12	Ash Bros.
		13	Richmond Oysters
		14	Other Wholesalers (named)
		All States	
		15	Wholesalers (unnamed)
		16	Market
		South Aust.	
		17	Mac Cocking
		18	Safcol
		19	Tom Andonus
		20	International Oyster Bar
		21	S.A. Wholeslaers (named)
		N.S.W.	
		22	Market
		23	Trawler/Direct
		24	Wholesalers (named)
		25	Retailer

Question Number	Title	Code	Responses
25	Delivery Frequency	1	Anytime/As required/On demand
		2	Daily
		3	More often than weekly
		4	Weekly
		5	Less often than weekly
		6	No answer
26	Seasonality	9	No answer/Don't know
		1	Yes, seasonal
		2	No
		3	Very little seasonality
		4	Australian fish seasonal.
27	Why That Fish?	99	No answer
		01	Popular/People know name
		02	Cooking characteristics
		03	Quality for price/Value for money
		04	Easy preparation
		05	Traditional
		06	Presents well
		07	Good for fried fish
		08	Fits meal price structure and menu
		09	Familiar with it
		10	Quality and name (snob appeal)
		11	Expensive ones - because of demand
			Other - good and cheap for bars
		12	No choice
		13	Availability
		14	Cheap
28	Why That Source?	99	No answer/Don't know
		01	Price/Cheaper/Competitive
		02	Quality
		03	Supply
		04	Service
		05	Service and price
		06	Tradition/Always have/Habit
		07	Price and availability
		08	Told to/Company policy/Chef's choice
		09	Like to shop around
		10	"Best"
		11	No time for market
		12	Convenient

Question Number	Title	Code	Responses
29	Do Salesmen Call?	9 1 2 3 4	No answer Yes No Sometimes Once
30	Why Not More Australian Fish?	-1 1 2 3 4 5 6 7	No answer/Not applicable No suitable alternative (at quality and low price) Policy to use existing type No reason to change Don't care/Not aware of origin Price No Australian equivalent Not available
31	Improvements Fishing Industry could make	-1 01 02 03 04 05 06 07	No answer Provide alternative to cheap imported fish Greater availability of FRESH fish Reduce price Provide fresh fish at a reasonable price Improve availability/ Consistent supply Improve packaging Sell/Promote.

SPECIES CODES

1. Flounder
2. Hake
3. Whiting
4. Snapper
5. Cod
6. Gemfish
7. Flathead
8. Bream
9. Trout
10. Mullet
11. Whiptail
12. Perch
13. Barracouta
14. Flake
15. John Dory
16. Silver Dory
17. Barramundi
18. Garfish
19. Morway
20. Mulloway
21. Sweetlip
22 Blue Eye
23. Reef
24. Sole
25. Jewfish
26. Salmon
27. Tuna
28. Fish Portions
29. Fish Fingers
30. Fish Cakes
31 Other:
   Butter, Sardines, Tailor, Yellowtail, Kingfish, Plaice, Hapuka, Bluefin, Rockling, Pike
32. Trevally
33. Trevalla
34. Baby Snapper
35 Kingclip
36. Haddock

No 1977/10

☐ NEW PROPOSAL
☐ CONTINUING PROJECT
☒ FINAL REPORT
☐ PROGRESS REPORT

OUT-OF-SESSION

FISHING INDUSTRY RESEARCH TRUST ACCOUNT

TITLE OF PROPOSAL/PROJECT: Premanagement Study of Barramundi

ORGANISATION: Queensland Fisheries Service

PERSON(S) RESPONSIBLE:

FUNDS SOUGHT/GRANTED

YEAR	SOUGHT	GRANTED
78/79		28,870
79/80		29,950
80/81		19,090

RELATED APPLICATIONS:

RECEIVED ....../....../19....

DISTRIBUTED Oct./1982

Judith Lawson
Secretary
Fishing Industry Research Council

F139-12/81