



Seafish and Technology

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A Business Study of the Northern Ireland Sea Fish Industry

Preface

This revised report supercedes an earlier version dated June 1983. The earlier version was based on field work carried out by the Sea Fish Industry Authority during the latter part of 1982 and early 1983. This report was discussed with Fishing Industry representatives and officials from the Department of Agriculture for Northern Ireland at a meeting in Downpatrick on the 3rd November 1983. At this meeting additional information was made available to the SFIA from DANI which included complete statistics for Northern Ireland for the year 1982. Other relevant information was provided by the trade representatives and as a consequence, a number of amendments have been made to the report.

Notwithstanding the foregoing, the basic conclusions of the report remain unchanged in points of principle. In writing this report, the SFIA wish to stress that it is not a blue print for the development of Northern Ireland Fisheries, but a document providing the SFIA with an understanding of the Fishery. Through this the SFIA will be able to assist with development and training work where it is needed, and through new marketing initiatives create better opportunities for Ulster caught fish.

Summary:

The Fishing Industry of Northern Ireland is at a crucial stage of its development and must come to terms with the limited catch opportunities in the Irish Sea. There must be collective management of the Fishery to make best use of the resources available, both in the Irish Sea and elsewhere, and to develop new market opportunities where necessary.

The various sections within the Fish Industry as a whole, from catcher to retailer, must try to develop a strong unified organisational framework, so that they can work together in order to overcome the difficulties now facing the industry. In Section 10 of this report, the detailed findings and recommendations are discussed. These are summarised below:

The Catching Sector

1. The existing Producer Organisations should be strengthened by taking a more active role in finding new markets for their members, regulating landings and representing the Northern Ireland catchers in negotiations with Government and EEC. The aim should be for 100% membership and there are merits and economies, to be made by amalgamation of the two POs into a single body.
2. The probable Northern Ireland allocation of EEC quotas for the UK in the Irish Sea for demersal fish are less than landed in the years 1981 and 1982 and the fleet is now too large for the opportunities available to it in this one area. This will inevitably mean a decline of earning capacity which would be exacerbated by a decline or restriction on prawn fishing or a restriction on the summer Isle of Man Fishery. Whilst there is still opportunity, the Fish Industry, with Government help, should take a cool look at these problems and try to find new opportunities for the fleet, including fishing in ICES Area VIa.
3. All resources of the Irish Sea, and any other areas accessible to the fleet, should be carefully managed by taking as broad a view as possible to ensure maximum benefit is obtained. Regularity of supply is important to maintaining the viability of existing processors and encouraging the establishment of new processors. This is particularly true of the species of whiting and cod, as well as prawns, and excessive landings elsewhere in the UK of these species can adversely affect the price structure and stability of the Northern Ireland market.

Overfishing of smaller whiting in the Irish Sea, especially as a by-catch of the prawn fishery, should be avoided and research into selective trawl gear initiated to see how this practice can be prevented.

4. There is a need for better treatment of fish on board to improve quality on landing. This includes better standards of gutting, more rapid handling and stowing the catch and wider use of ice. The latter problem is mainly due to

a shortage of ice production in Northern Ireland and Government help should be sought to increase ice production, not only for the catchers, but for the distribution trade as well. The same attitude to quality and treatment must be reflected through the distribution chain.

5. Finding and developing new market opportunities and regulating supply with demand should be an essential part of the POs work. This may involve buying and selling fish and functioning as a co-operative organisation within the interpretation of the EEC Council Resolution No. 3796/31.

The Processing Sector

6. The processing sector must also achieve unified representation through a strengthening of the Northern Ireland Fish Processors and Exporters Association and strive for a 100% membership. Mobile Traders should be encouraged to form an association and develop uniform standards of quality and service.
7. Processing of fish in domestic premises at Portavogie should be discouraged by offering traders proper facilities within the harbour area, but ultimately, by enforcement of the health regulations relating to food preparation, should this be necessary.
8. Northern Ireland processors should develop the production of added value products such as frozen whiting fillets, breaded fillets and combination recipe products. These could be marketed both in Ulster and the UK mainland.
9. Increased fishing activity off the north coast in Area VIa and VIb will necessitate provision of a harbour of refuge on the North Coast. This requirement is compatible with the need for increased onshore processing for pelagic fish on the west coasts of the British Isles. The SFIA are studying the requirement for pelagic processing plant as a separate exercise in association with the Ulster Polytechnic. A computer model has been developed which examines the profitability of several types of processing plant. This model can be used by DANI, the LEDU, the IDB and processors to decide on the most appropriate plant for the area.

Organisational Structures and General Comments

10. The powers of the Northern Ireland Fish Harbour Authority (NIFHA) should be widened to control the first sale of fish and ensure that all fish is sold openly whether through auction or contract sales. The timing of the auctions at the main ports should be in the interests of all concerned and independent fishsalesmen should be employed.
11. NIFHA should take all necessary steps to ensure the completion of the market auction hall at Portavogie before the summer of 1984.

12. The consumer and catering markets in Ulster and the Republic of Ireland, together with the production of new products for export, offer a better long term opportunity for the Fish Industry's development rather than relying on existing links with the English and Scottish coastal markets.

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1. Introduction

The Northern Ireland Study is one of a series carried out by the Sea Fish Industry Authority which attempt to bring the regional problems of the UK fisheries into perspective. The study is carried out under the 1983-84 MAFF Commission.

This particular study examines the catching sector of the Northern Ireland fleet which has increased rapidly in recent years in terms of numbers of vessels and total landings and is now facing severe economic difficulties. It also deals with the infrastructure and the means by which fish caught by Northern Ireland fishing vessels is sold and disposed of. An important part of the report deals with the organisational framework at both Government and Association levels.

There are two companion studies which are to be taken into account. A retail and catering consumer survey for Northern Ireland was commissioned by the SFIA and is summarised in this report. Another report in the course of preparation, describes a computer model of a processing factory located on the North Coast of Ulster, which could create new opportunities for the fishery.

The field work was carried out between November 1982 and January 1983 and included interviews conducted with a wide cross section of the Industry representing catching, marketing, processing, distribution and retailing. Invaluable assistance was given by the Department of Agriculture for Northern Ireland, both during the study and in a review of the draft report.

The report makes several recommendations but also provides as accurate picture of the Fishery as possible at the present time, and as such, will assist the SFIA and others to discuss the regional problems of Ulster with respect to fleet development, training and marketing of fish more effectively.

2. The Catching Industry in 1983

2.1 The Fleet

In early 1983, the fleet consisted of 158 vessels in excess of 12m (40ft) in length:

5 purse seiners

123 trawlers mainly engaged in nephrop fishing typically of 150-250hp

30 large trawlers engaged in either pair or single boat trawling typically of 450-550hp.

In addition there is a unique fleet of 60 skiffs engaged for part of the year in the Mourne herring fishery and an unspecified number of small boats (less than 12m) engaged in small scale fisheries along the Antrim coast.

The fleet is substantially centred at three ports along the County Down coast south of Belfast Lough, namely Portavogie, Ardglass and Kilkeel. Relatively insignificant quantities of fish and shellfish are landed north and west of Belfast along the Antrim coast. The five large purse seine vessels registered in Northern Ireland do not normally land there. There have been quite recent exceptions, however, when in late 1982, over 9,000 tonnes of mackerel were landed at Londonderry for onward transportation to the Republic of Ireland, and more recently several pursers engaged in trawling for white fish, landing their catches at Kilkeel.

It is estimated 80% of the fleet work daily trips into the North Irish Sea from the County Down ports. An industrial fishery for sprats and herring was built up in the 1960s to provide raw material for a fishmeal factory at Mornington, County Louth, (near Newry), but this establishment has since shut down.

In 1982 the value of landings in the three main ports were estimated at:

Ardglass	£1.0 million
Kilkeel	£4.5 million
Portavogie	£3.0 million

2.2 The Prawn Trawlers

The 123 prawn trawlers operate, in the main, a daily fishery and land the prawns* and whiting by-catch each weekday evening.

In February and March many of these boats change over to the North Irish Sea spawning cod and whiting fishery and in June and August some of the vessels engage in pair trawling for herring during the Manx season.

When prawn fishing, the fishing grounds may be as close as 30 minutes from harbour but normally not more than three hours away. If the prawn fishery is off St. Bees Head, in Cumbria, landings may be made at English or

S.W.Scottish ports. There are peaks and troughs in the availability of prawns throughout the year, these are presumably due to the movement of the prawns into deep water or due to unusually deep burrowing at certain times of the year.

Catches of prawns from January to September 1982 exceeded the similar period in 1981 by about 6% and catch rates increased from 8kg/hour to 9kg/hour, but this is mainly due to landing a smaller size of prawn than in previous years. By the end of 1982, the total landings of prawns were 4,488 tonnes valued at £3.49 million. Kilkeel is the main prawn port on the Co. Down Coast.

The prawn trawlers have relatively low operating costs due to a combination of small engines of less than 250hp, low towing speeds and short steaming distances to and from the fishing grounds.

Prawns are the common name applied to *Nephrops norvegicus*.

Prawns have always provided high value products and, at least until 1979-80, commanded an attractive price to the catcher compared to operating costs. Demersal fish were relegated to a by-catch status and as such were not given proper care and attention. A collapse of the market for prawns in 1979-80 somewhat altered the picture and subsequently, demersal fish has become relatively much more important to the catchers. A study of typical costs and earnings shown in Table 5 indicates that the prawn catch alone barely covers operating costs. The by-catch of demersal fish is essential if the vessels are to make a profit.

Justifiable criticism of handling practices and the poor quality of landed whiting, is undoubtedly due to the attitude by some crews to the, by-catch. Prices have always been near minimum for whiting and, unfortunately but understandably, crews have felt that the use of ice, particularly in winter, and careful handling of these fish, was not justified. It is, of course, a fact that small whiting taken with a prawn catch will suffer some damage due to abrasion with prawns and other debris within the codend. Prawn trawling does result in considerable amounts of mud and seabed debris being accumulated in the codend and tows are often of three or four hours duration with the footrope digging into the mud. Due mainly to the low towing speed of 2 knots and lack of trawl headline height, the majority of whiting taken are in the smallest EEC size grade 4 category, especially during the peak prawn catching season in summer. Significant quantities of large whiting in better condition are taken as a by-catch with lower winter prawn catches. In the by-catch perhaps 20% of size 3 are taken but it is local practice to sell both 3 and 4 as size 4.

The reason given is that local processors prefer to mix the grades to simplify bonus payments to filleters. In these circumstances there is no incentive to the fishermen to grade to EEC standards.

Another practice is to land 'rounders' or ungutted whiting. These are preferred by hand filleters as they give a better yield than badly gutted whiting. Nevertheless, this can cause accelerated bacteriological spoilage with time, but is probably not a real problem if filleting takes place on the same day as capture. It is unfortunate that this practice can cause discoloured fillets. The main reason why landing of 'rounders' should be discouraged, is that in times of glut landings, fish, which are roughly tipped into boxes and not handled on board properly, are likely to be inadequately iced. Gutting small fish at sea is time consuming, especially if the prawn catch has to be sorted and headed. There is also a practical problem in that a prawn trawler usually only carries a crew of four. Consequently, any improvements in gutting and grading will only be brought about by the buyers and processors demanding higher standards from the prawn trawlers and matching these demands with financial incentives for improved standards.

Observations of fish on the quayside indicated variations in the standards of gutting of white fish with some fish badly cut and retaining viscera. It is obvious from recent trends in the marketing of whiting within Ulster, however, that this fish must be presented in the most advantageous manner on the quayside to compete with fish now being landed by pelagic trawlers. The availability of good whiting has apparently changed attitudes to the marketing of this species in Northern Ireland. The time is ripe for a new appraisal of the advantages in price to be gained from quality improvement, particularly if fish are to be frozen down for further processing.

2.3 Pelagic Trawlers

Pelagic trawlers normally land daily or every two days and sometimes may land midweek at a S.W. Scottish port and return at the end of the week to Northern Ireland. These vessels normally fish within a fairly restricted area of the North Channel between the Mull of Galloway and Rathlin Island. This is an area of deep gullies and strong tidal streams. For these reasons it is not generally suitable for bottom trawling, especially by low powered vessels.

In the Clyde the use of the pelagic trawl for catching of white fish was pioneered for the taking of small saithe and it was seen that hake and cod could also be taken in significant quantities. Initially, one or two hour tows were yielding 2250kg (50 boxes) of cod or hake. The 1982 fishery was considerably less lucrative and recent fishing in 1983 has yielded catches of only 30 boxes of cod for a 12 hour tow and significantly lower hake catches.

These catch rates have to be considered along with the expensive towing costs involved since these vessels may often tow for 12 hours against a strong tidal stream. For engines in the 500 to 800hp range, fuel costs may be between £200 to £300 for each day's fishing. The trawlers have engaged in other fisheries, including pelagic trawling in the Minches and off Cornwall as well as cod fishing within the southern Irish Sea. The indications are that the concentrated effort within the North Channel is depleting the stock of white fish at an alarming rate.

In addition to the seasonal fishery for cod and hake, a considerable quantity of whiting of grades 2 and 3 are caught. Whiting caught by these vessels are clean inasmuch as they are not affected by debris, sand or prawns. Despite the fact that these vessels tow for 12 hours at a time, they command premium prices for all fish. The cod and hake is nearly all consigned to Ayr or Humberside but the good quality whiting has created new opportunities in the local market. Unfortunately, the whiting by-catch from the prawn trawlers is seen as poorer quality and does not seem to be benefiting from these opportunities.

Quality of the iced catch is generally good but the study team observed one or two exceptions. Part of the problem, at least, is the use of shallow 7 in. deep boxes. Not only were large fish crushed by the box above but these boxes did not appear to have been really clean when put aboard. Whilst the shallow box is ideal for prawns, the use of plastic boxes of adequate depth must be recommended for large fish stowage, and cleaning of plastic boxes must be more effective. Boats consigning fish to markets where separate containers are used for display, tend to use deeper and more expensive plastic boxes because they can rely upon receiving their boxes back by return. This type of box is used universally by buyers shipping fish off the market where adequate icing is required for road transportation.

The harbours in the East Antrim, North Down area are attractive to the pelagic trawlers to reduce steaming time to the fishing grounds, and when it is required to lay up for a weekend. Several boats use Bangor and Carnlough Bay for convenience, although there are no ice supplies or other facilities in these places.

2.4 The Drift Net Fleet

The Mourne herring stock, which is a separate group from the Isle of Man stock, is fished by a fleet of small drifters known locally as skiffs. Trawl fishing is presently banned on this stock. There are about 15 of these skiffs in Annalong and another 15 or so between Kilkeel and Newcastle. Following the complete closure of the fishery between 1979 and 1981, this fleet was allocated a quota of 400 tonnes for 1982, which is taken from the beginning of September into October.

These fish are caught close inshore by boats of between 9m and 12m in length (30-40ft) each fishing 6 or 7 herring nets. Each boat is crewed by six men. One particular market for this herring is that of silver smoked marinated herring for Italy. A firm in Annalong processes, packs and ships, under the label of an old established Yarmouth firm.

3. The Fish Resources

3.1 Fish Landings

Demersal fish supplies landed by the Northern Ireland fleet accounted for 8082 tonnes in 1980. In 1981 this volume increased by 86% to 15,240 tonnes, and a further 13% increase in 1982 to 17,270 tonnes (Fig. 1 and Table 1).

From Fig. 2 it can be seen that the increase in demersal landings since 1980 of over 100% is due to an increase in whiting landings. The total volume of whiting landed in 1980 amounted to 4,000 tonnes, increasing to 9,000 tonnes in 1981 and 9,934 tonnes in 1982.

It is significant that this increase on whiting co-incided with the introduction of pelagic trawling by the Northern Ireland fleet.

Herring landings, Table 1, declined in the period 1980 to 1981 by 26% to 1,816 tonnes. During 1982 they improved slightly to 2,263 tonnes. Following an increase in fishing effort, landings of prawns increased by 47% between 1980 and 1981 to a total tonnage of 3,752 tonnes. This volume increase helped to offset the 6% decline in market prices. During 1982, landings of prawns have increased by a further 20% which, coupled with a 17% increase in average market prices, has made prawn fishing in 1982 a much more profitable operation. The majority of the increase, however, is attributable to a smaller size of prawn being landed and inevitably some degree of management of the stocks must be exercised if the resource is to remain healthy.

Cod is the other main species landed by the Northern Ireland fleet and these landings have shown a steady increase through the period 1980 to 1982. Landings in 1982 were 3,885 tonnes. However, the prospects for 1983-84 are that there is likely to be less cod available due to poor recruitment to the stock in 1981-82.

3.2 Prospects for Demersal Fish

In the prospects for 1983 (Ref.3) the following Total Allowable Catch (TAC) and EEC quotas for the UK in Area VIIa (Irish Sea) are given. To date these have not been applied.

	TAC	UK Quota
Cod	10,000 tonnes	6,400 tonnes
Plaice	3,500 tonnes	2,300 tonnes
Whiting	12,000 tonnes	9,600 tonnes
Hake	-	3,800 tonnes

The cod quota has been subjected to discussion and at one stage a quota of 3,200 tonnes was suggested.

In 1981 the UK catch and Northern Ireland's share in tonnes were as follows:

	1981 International Catch	1981 UK Catch	1981 N. Ireland Catch	N. Ireland Catch as % of UK Catch
Cod	14,900	6,600	3,360	51
Plaice	3,917	2,355	132	0.5
Sole	1,640	400	41	10
Whiting	17,029	10,316	9,049	88
Hake	1,492	n/a	563	n/a

If the same percentages were applied to the UK national quotas, the total catch of these species by NI vessels would be about 12,000 tonnes compared to 13,145 tonnes in 1981 and 14,399 tonnes in 1982. The main loss would be the whiting catch which would require to be reduced to 8,500 tonnes. What is clear from the foregoing has been the dependence of the Northern Ireland fleet upon whiting in recent years, a situation which cannot continue.

One feature of the 1982 figures is the lower catch per unit effort (cpue) of cod. The catch rates of cod by a typical prawn trawler was down by 50% to 60% in 1982. Similarly, the hake catch rates were down in 1982. This catch was heavily exploited by a small fleet of pelagic trawlers from 1981 Northern Irish into 1982 within ICES area VIIa, Irish Sea. A certain amount be within the south eastern extremity of Area VIa, the North Channel between the Mull of Kintyre and the Antrim Coast. It seems probable, however, that this effort is recorded as VIIa as the there are no records of Northern Ireland vessels catching cod or hake within VIa according to statistics produced by the International Council for the Exploration of the Sea (ICES).

Traditionally the fleet has concentrated on herring and latterly on the prawn fishery off County Down. Nevertheless, bearing in mind the limited quota and the declining catch rates indicated by the latest catch statistics, there would seem to be every reason to shift some fishing effort on to North and North West Coast grounds, ICES Area VIa. It is true that a combination of strong tidal streams and bad trawling grounds and the absence of a suitable harbour with fishing industry facilities on this coast make this area unattractive in comparison with the good trawling areas within easy reach of the Down Coast ports.

It is, of course, recognised that boats cannot be expected to move their base without having servicing facilities, and without a better knowledge of the fishing conditions in the area. To correct this situation would undoubtedly require some assistance from Government funds in order to carry out exploratory fishing.

The MAFF Fishing Prospects for 1983 (Ref. 3) indicate the following situation as regards Area VIa stocks (see Fig. 3).

Cod	a reduction of 10% in catch was recommended by ICES for 1982 with possible subsequent reductions.
Haddock	similar recommended TAC reduction and unlikely to change substantially thereafter. as for haddock.
Whiting	as for haddock
Hake	no change for 1982 over 1981 but minimum mesh size of 80mm recommended for the whole of Area VI.
Herring	no change 1981 to 1982, prospects for improved TACs recommendations thereafter. The current 1983 TAC for the Minch Herring Fishery is 60,000 tonnes of which the UK share is 40,000 tonnes. The UK does not have a quota for the West of Ireland stock (i.e. west of Lough Foyle).

It must be borne in mind that Area VIa covers a huge geographical spread and it is believed that the overfishing indicated for cod, haddock and whiting is generally concentrated on the northern sector. This includes the NW Scottish effort around the Minches and the banks west of Orkney, also by Grimsby and French trawlers. Nevertheless, the quota for the whole area is affected.

The grounds lying between Broadhaven, Tory Island and Rathlin Island have in the past been worked by NI vessels as well as vessels from Fleetwood. In this area there is fishery by a fleet of some 40 boats from the Republic of Ireland, working in the vicinity of Greencastle, County Donegal. This harbour is situated just five miles inside Lough Foyle from Inishowen Head, almost directly opposite Portrush in Antrim. The resources fished by this fleet consist of a variety of marketable species including codling, haddock, skate and dogfish, in contrast to the more limited variety of species available off County Down.

The Greencastle boats leave the North Coast briefly at the beginning of February to engage in a short cod fishery out of Killibegs in Donegal Bay. The statistics for Irish landings of white fish from Area VIa, which is effectively from Broadhaven to Lough Foyle, reveal the following catches for 1981.

Cod	2,725 tonnes
Hake	27 tonnes
Haddock	1,891 tonnes
Plaice	464 tonnes
Saithe	250 tonnes
Whiting	8,148 tonnes
Total	13,505

3.3 Prawn Prospects

Prawns are not subjected to a Total Allowable Catch (TAC) or a quota. During 1983, ICES are to have a stock assessment programme initiated. This work will eventually produce scientific recommendations for the management of the prawn stock and could conceivably recommend quotas or minimum mesh size regulations. In these circumstances, a minimum mesh size may be preferred as it is less likely to result in damage to the immature fish and reduce the landings of small prawns. For the present the available statistics on catch rates over the year show seasonal variations in the average size of prawns and in catch rates but an increasing tendency to land more of the smaller in average sizes. There is very little overall change in the total abundance of the species, see Fig. 2 and Table 7.

3.4 Herring Prospects

The North Irish Sea herring stocks are strictly controlled and offer no opportunities for immediate expansion.

The Mourne stock off the Down coast is presently closed to trawling and is the subject of a 400 tonne quota for the local drift net boats or skiffs. However, an estimated additional 1,440 tonnes of this herring was taken as a by-catch in 1981 by boats fishing the Manx herring stock. The fishery takes place over a short period between the beginning of September and October.

The Mourne stock, has recovered as a result of the restrictions on fishing effort and particularly from the decision to limit access to drifters only.

The Manx stock is fished mainly by pair trawlers. The former fleet include boats from Ireland and Scotland as well as local trawlers. The fishery is now strictly licensed and is open for a limited period during mid-summer from July. The timing of the fishery is a continued dispute with the Manx Fisheries Authorities. The Northern Ireland fishermen would prefer a later start to the season as there is a belief that the herring are in better condition for the market.

In 1981 UK vessels operated a quota system up to a limit of 3,800 tonnes for the season and the size of the spawning components off the Mourne and Manx stocks has, as a result, recently increased. This should eventually allow an increased quota but in the meantime, the present combined quota of 3,800 tonnes remains applicable.

Within Area VIa and eastward of 7°W, the UK quota for herring is 40,000 tonnes in 1983. Although of a small size, which is not preferred by UK processors, there is expected to be some improvement by 1985 provided the current measures of stock conservation are effective.

4. The Market

4.1 Trends in Supplies

Market supplies of fish are dominated by prawns, cod and whiting. Since 1980 there have been rapid increases in landings of all these species. The reasons are simple. The improvement of world prices for prawns during 1981 and 1982 has encouraged expansion of this fishery whilst the growth of pelagic trawling, especially from Kilkeel, in recent years has resulted in increased landings of white fish.

Through 1981 the revenue associated with demersal landings did not maintain the same growth as the volume. The £1.4 million (59%) increase in earnings during 1981 (Table 1) corresponded to an 88% increase in weight landed. Due to the hardening of fish prices in 1982, this trend has been reversed with a 29% increase in revenue corresponding to a more modest 13% increase in landings during the same period (Table 1). Landings of whiting were particularly heavy during 1981 and 1982.

During the first nine months of 1982, of the three main Down Coast ports, Kilkeel emerged as the more important for demersal landings with a 64% increase in 1982 to 6,000 tonnes. This is about 1,000 tonnes more than that landed at Portavogie, but during the same period in 1981, Portavogie had the highest landings by some 1,400 tonnes.

With its large processing industry, Kilkeel is the major port for prawns and accounts for 61% of all prawn landings in Northern Ireland.

Ardglass has shown a decline in volume landed during 1982 of approximately 11% in both demersal and prawn landings, which are partly due to the inconvenience of port improvements being undertaken there and the decline of the herring fisheries. The restrictions on the herring fisheries since 1977 have caused a drastic reduction in herring supplies.

4.2 Species Mix

Analysing the total weight landed, the species mix for demersal fish landed showed the following percentage breakdown for the period 1980 to 1982.

	1980	1981	1982
	%	%	%
Cod	32	22	23
Dogfish	4	4	6
Hake	1	4	2
Monk	3	2	3
Plaice	2	1	1
Whiting	49	59	57
Saithe	4	4	5
Other	5	4	3
	100	100	100

On an individual port basis the breakdown highlighted the following:

% of Total Landings in Each Case						
	Kilkeel		Ardglass		Portavogie	
	1981	1982	1981	1982	1981	1982
Cod	66	70	13	8	21	22
Dogfish	7	16	17	23	76	61
Hake	8	18	11	11	81	71
Monk	33	37	23	16	44	47
Plaice	57	69	14	10	29	21
Whiting	29	44	22	14	49	42
Saithe	25	29	20	8	55	63

The increased percentage of landings of all species on Kilkeel market has been quite marked in 1982 with cod, plaice and whiting dominant but this growth has been mainly at the expense of Ardglass.

4.3 Auction Price Structure

The auction price structure at the three fishing ports depends on the ability to distribute given species to market outlets both within Northern Ireland and to the mainland markets in the UK. With a limited demand in Ulster often supplemented by supplies from Scotland, the local prices have been very much at the mercy of the mainland supply situation. Heavy landings of whiting or prawns on the East Coast of Scotland or England can depress prices in Ulster irrespective of quality.

Unfortunately, in addition to the mainland supply position, the mobile trader, with lower overheads than processors, is undercutting the whole of the industry's market price structure in order to compete with the established trade suppliers.

The mobile trader has the advantage of substantially low overhead costs in filleting and distribution. He is able to combine these advantages with the ability to buy fish at Portavogie quayside fish auction in direct competition with the coastal merchant. The fleet, who depend on the ability of the coastal merchant to periodically absorb large quantities of fish, particularly whiting, are forced to accept lower quayside prices from the coastal merchant, who in turn has to compete with the mobile trader in the retail market.

Portavogie is normally the first fish auction on the coast, so any quayside price levels established at Portavogie set the price structure, especially of the main species whiting, common to all three ports.

Kilkeel, with its later start at the auction, is the port most likely to suffer from unsold whiting. It is estimated that the domestic demand for whiting in Ulster is a total of 1,500 boxes of whiting before the price structure is undermined. This level obviously varies depending upon the availability of whiting imported from Scotland. Consequently, during periods of heavy landings, the downward price spiral started at Portavogie completely undermines the whiting price structure at

Kilkeel, resulting in lower prices and unsold fish failing to reach the minimum withdrawal price.

The predominance on the Kilkeel market of cod, and the increasing importance for dogfish, plaice, monk and saithe, results from Kilkeel's growing distribution links with markets on the mainland, particularly in the NE of Scotland and Humberside.

The improved quality of white fish catches from the pelagic trawlers, compared with that from the prawn trawlers, has been a major factor in attracting the white fish buyers to maintain a more continued presence on the fish market at Kilkeel. This is reflected in the following price trends.

Ports/ Prices	Kilkeel		Portavogie		Ardglass	
	1981	1982	1981	1982	1981	1982
	£/tonne	£/tonne	£/tonne	£/tonne	£/tonne	£/tonne
Cod	348	458	320	427	419	422
Dogfish	100	141	124	110	89	116
Hake	550	886	972	1053	674	922
Monk	323	282	437	326	300	346
Plaice	295	368	446	348	407	427
Whiting	158	187	170	219	184	197
Saithe	222	251	132	170	288	213

Portavogie is the main port for hake through links with Messrs. Hogg of Ayr and their connections with the Spanish market. Portavogie has also developed links with the Northern market through Belfast wholesalers and, in particular, mobile trader outlets. These fish traders are selling from vans direct to the public, friers and wholesalers, and have increased in number quite dramatically over the last twelve months or so, 38 mobile operatives were known to DANI at the end of 1981. The figure is now estimated as 64 and the numbers are still increasing.

The inability to impose a minimum price scheme on all fish landed in Northern Ireland is due to a large number of boats not operating through Producer Organisations. Consequently, during periods of heavy landings, quayside prices can fall below the EEC official withdrawal prices. The associated inability of the fleet to operate any self control to regulate supply to demand stems largely from the freelance attitudes of many skippers, particularly at Portavogie. The refusal of at least 50% of this fleet to be members of either of the two Ulster POs prevents either PO from bringing any stability to the first-hand auction price structure.

The introduction of a large national fish merchandising company at Portavogie undoubtedly has established a major link with mainland markets. However, there is a need for the fish selling practices to more directly reflect the fishermen's interests by separating the buying and selling roles. The SFIA suggest licensed salesmen employed by the NIFHA would best serve the Industry's needs and create greater confidence in future development.

The inability of the fleet to present correctly graded, gutted white fish on to the market does result in a lowering of the auction price level, particularly for whiting. This is mainly a problem of the prawn fleet who treat the demersal catch as a by-catch of secondary importance to the prawn tails. The catching method with the prawn net generally produces a lower quality fish. This problem is particularly serious during summer months when prawn catches are at their maximum and whiting are generally all within the minimum EEC size 4 marketable range.

The EEC Regulations for the Minimum Withdrawal Price Scheme (Ref 5) are administered by the PO's with the support of DANI. The scheme is safeguarded by the practice of withdrawing all remaining fish of a species size grade from sale once there is fish from that category unsold. The DANI inspector can intervene if the unsold fish is of poor quality and allow the sale to resume for the better quality fish of the same species. However, this rule should be reconsidered since there is evidence that the system depresses the price structure and good fish by-passes the auction to be sold below minimum price simply to guarantee the boat immediate cash payments for its fish.

4.4 Market Developments

The period since 1980 has seen a dramatic change in the pattern of fishing in Northern Ireland; the addition of new vessels and modernisation of the fleet with grant-aided investment has resulted in an increase in the catching ability of vessels and also an increase in the overall fleet size.

Unfortunately, the stocks available to the fleet were severely reduced with the imposition of restrictive quotas for the herring stock. Consequently the pelagic trawl vessels were forced to look seriously at demersal stocks as their main income source. The recent reopening of the Minch herring fishery in 1982 could create new opportunities. However there is an evident lack of UK markets for fresh herring of the size available and a shortage of processing capacity to make best use of this herring.

The introduction of pelagic trawling for white fish during the period 1980-82 provided the means to increase catch rates on existing grounds. It also enabled the fleet to exploit fishing grounds that previously were beyond its capabilities using the old fishing methods and brought particular benefits from hake catches.

The economics of operating the newer, larger vessels meant that these vessels, in order to meet increased operating costs, were forced to seek a much higher income base. With the seasonality of the more profitable species of cod and hake, and the limitation of the Irish Sea in terms of variety of species other than whiting, the latter has become the major target for the pelagic trawl fleet. Due to the low value of whiting compared with cod, etc., the fleet had to achieve its required income by increased volume of landings in order to produce an adequate profit return. Consequently, whiting landings have increased from 4,000 tonnes in 1980 to nearly 10,000 tonnes in 1982.

The fact that the pelagic trawl fleet were landing a quality whiting, properly iced, and giving continuity to the market, has enabled the fleet to establish a growing

demand from the Northern Ireland consumer market, particularly with the fish friers. Whereas this market has previously been mainly reliant upon supplies from Aberdeen, with local vessels supplementing supplies, the reverse situation is now the case. This development now provides the home fleet with a potentially strong home market and the possibility of a more secure financial base in the future.

A buoyant home market has also been developed by the mobile trader mainly operating from Portabogie. The extent to which the mobile trader has made inroads into the home market is outlined in Fig. 8 where it is estimated that 24% of the market share is supplied through this service (see also section 4.3). The wholesalers in Belfast, both within and outside the Belfast wholesale fish market, appear to enjoy a 47% share of the market and coastal processors/merchants have the balance of 29%.

The role of the Belfast wholesaler is very different to that of a mainland wholesaler, in as much, as his trade is mainly conducted via the telephone with retail/frozen/catering outlets. Orders are transmitted back to suppliers in Aberdeen or processors in Northern Ireland. On receipt of the prepacked fish, the wholesaler basically acts as a depot by providing the distribution to the ultimate customer. Consequently, the main fish distribution networks serving the consumer outlets in Northern Ireland revolve around the Belfast wholesaler.

The benefit of recent market developments is that the fleet has now a more reliable income base, less subject to the whims of alternative supply sources upsetting the price structure, as is experienced, for example, on Humberside markets. It is a foundation which having been established should be encouraged and developed, not only by the pelagic trawl fleet, but also by the prawn fleet, by improving the quality of demersal fish landed by better handling to meet the standard required by the home market.

The coastal processor should be encouraged to develop a greater degree of processing ability to attract a greater variety of whole fish from home resources and from the mainland into the market system so that they can become the major suppliers into the wholesale market. The wholesaler in turn should be encouraged to develop the distribution system onwards into all possible consumer outlets.

The mobile trader, though he has undoubtedly broadened the sales area for fresh fish, has also unfortunately undermined the auction price structure through his ability to sell 'cheap' fish. This situation which, if not controlled, will become economically disastrous to all sections of the industry including the mobiles.

5. Processing

The prawn stocks within the Irish Sea support a major processing industry. Capital investment, valued on current day costs, is in the region of E5 million, and there have been major developments on the Down Coast to process added-value prawn products to satisfy demands from both the home and international shellfish markets.

Plants are located at Kilkeel and Annalong with five large processing factories compared to two in Portavogie. These processors, employing approx. 400 staff, require a minimum throughput of approx. 20 tonnes of prawn tails per week to remain economically viable, which when equated to 3,000 tonnes of whole liveweight prawn catch, is 67% of the 1982 prawn landings in Northern Ireland.

The maximum output of the prawn processing industry in Northern Ireland, including overtime production capacity, is estimated to be in the region of 5,500 tonnes (whole liveweight) or 28% of the total UK prawn landings in 1982. During 1982 it is estimated that 1,200 tonnes of scampi products were produced with a market value of about E5 million, 80% of which are breaded.

The continuation of the NI prawn industry is not only of major importance to both the social and economic development of Northern Ireland but also as a major contributor to the market development of the UK prawn industry. Consequently, every safeguard should be made to preserve and manage the stocks available to the NI industry and so ensure the future growth of the industry.

The processing of demersal fish is centred on Ardglass, whilst pelagic fish is processed in Ardglass, Annalong and Kilkeel. Kilkeel has now developed its bulk freezing facilities to such an extent that when combined with the facilities available at Ardglass and Annalong, the overall processing ability is quite capable of handling all the current landings of pelagic stocks of herring and mackerel from NI vessels.

The seasonality of demersal stock supplies, particularly cod, with the season only lasting two months during February and March when daily landings can vary between 300 to 700 boxes, presents market problems. Similarly, whiting landings are typically 1,200 boxes to 3,000 boxes daily during the February/March and October/November periods and yet, during the July/August period, the same stock may only yield a total landing of say 200 boxes per day (Table 3). These peaks and troughs present the coastal merchant with tremendous problems when operating a factory.

In order to provide continuity of work for a white fish processing line, the processor has to have sufficient raw material supply to minimise overhead production costs. There are two alternative approaches. The processor can either purchase whole fish from the mainland and transport this to an Ulster factory, or alternatively take advantage of peak local landings to freeze down whole fish to supplement processing during periods of poor raw material supply. Defrosted fish would require to be utilised for added value products rather than for the fresh market, as it is unlikely that it would be acceptable to the retailer as a fresh fish fillet.

In the first case the cost of buying in from say Aberdeen, with its higher price structure over Ulster ports, together with the transport cost of say £700/lorry load, does mean that product costs are going to be substantially higher than when utilising locally caught fish. Against this must be weighed the cost of having a factory standing idle contributing nothing to overhead costs because of a lack of local supplies.

The problem with freezing down excess landings during glut periods are threefold:-

- a. All whiting are landed 'in the round', i.e. not gutted. To freeze, hold and subsequently defrost ungutted whiting, would undoubtedly produce a very poor quality fillet; a product for which there will be no demand for wet fish sales, and of dubious value for value added production.
- b. The problem of high energy costs in Northern Ireland, particularly with the expensive winter electricity tariff, does present a tremendous problem to the fishing industry. The winter tariff coincides with the period when the whiting stock is at its most prolific. Consequently high energy costs make the added value process of freezing an expensive operation. Unfortunately, this cost cannot be compensated for by freezing down during the lower cost summer tariff_ period, as the whiting stock is almost non-existent during this part of the year.
- c. Cold storage holding capacity in Ulster is limited and is mainly located in the Belfast area. These are general stores for various products. Coastal cold storage for fish is inadequate if a major move into the holding over of fish for value added production is contemplated.

The existing daily prime processing capacity for demersal fish fluctuates widely between the larger processors situated at Ardglass, who are capable of handling 240 boxes of whiting, to the small scale processing of a mobile trader who is able to process between 6 - 10 boxes a day.¹

A broad estimation of the capacity to fillet demersal stocks, particularly whiting, is analysed as follows:

No. Persons Employed	No. Units in Ulster	Tonnes/Day per Unit	Tonnes per Annum
1 – 5	38	.35	3,125
11 – 30	3	1.28	902
31 – 100	2	9.60	4,512
Total			8,539

¹ Boxes are of 44kg, 98 lb or 7 stones capacity

The number of filleters required to accommodate the variations in landings of demersal stocks can, as is shown in Table 4, range from 80 to 180 on any given day. If some form of continuity of supply, through utilising frozen stocks of gutted whole fish can be introduced, this would enable the Industry to maximise the added value potential of the whiting stock. For example, production of a frozen breaded fillet could be contemplated. This would require processors to face up to the problem of obtaining trained skilled staff, a problem which can only be solved in the long term by introducing, on an industry basis, a correctly monitored training programme.

6. The Organisational Infrastructure

6.1 The Catching Sector

Overall governmental responsibility for Northern Ireland's fisheries rests with the Department of Agriculture (DANI). The administrative and technical work is centred on Stormont, Belfast, and biological work at the Coleraine laboratory (see Fig. 9).

The Ulster Sea Fishermens' Association (USFA) was set up in 1943. The title is, of course, self explanatory and, until the formation of the Producer Organisations, was the only organisation representing the interests of fishermen in the Province.

In line with the Agricultural policies of the Common Market, Ulster fishermen availed themselves of the opportunity of setting up Producer Organisations. Initially the Northern Ireland Fish Producers Organisation (NIFPO), was formed from the USFA with a registered office in Bangor. This body attracted membership from all three major ports and a majority of fishermen joined, subscribing a joining fee and agreeing to a subsequent levy on earnings.

A similar organisation was subsequently formed with its registered office in Whitehaven, Cumberland, but representing the main body of herring trawlers based in Kilkeel, it is known as the North Irish Sea Fish Producers Organisation (NISFPO).

The present membership of the two POs is 101 and 57 respectively. The main attraction of membership to fishermen is, of course, the access to EEC funds, for the Minimum Withdrawal Price Scheme which is administered by DANI. Less immediately apparent, however, is the PO's role in the national and EEC political scene in lobbying in London and Brussels. The latest EEC decisions regarding 'withdrawn' catches include a so called degressive payment system whereby support payments to a boat are graduated with reference to quantities of unsold fish landed over a period. In other words, as the total of unsold as a percentage of total landings increases, so the payment per tonne decreases. This is introduced as a deterrent to indiscriminate fishing and flooding of the market.

The other arrangement introduced is a system whereby financial support is given where catchers failing to obtain a minimum price may choose to freeze and hold fish for later sale in lieu of accepting a withdrawal price for fish. These schemes, (see Ref 5) operative from January 1983, will substantially increase the responsibilities of PO management.

The other role undertaken by one of the Northern Ireland POs is that of operating a chandlery business. Involvement in buying and/or selling fish has been discussed from time to time but so far the PO boards have not made a final decision (see also Recommendations, Section 10).

6.2 The Marketing and Processing Sector Associations

The main merchandising firms in Ardglass, Kilkeel and Portavogie are all nominally members of the Fish Processors and Exporters Association. The Secretary, however, states that up until now there has been a general lack of interest in the proceedings of the organisation by members and this is, unfortunately, a familiar theme throughout the Industry.

Since the preparation of this report there have been encouraging signs of a better dialogue within the Industry.

The Retailers Association

This is a branch organisation of the National Federation of Fishmongers representing the mongers whose secretary indicates the same general apathy in his organisation as appears to be the case with the Merchants Association.

6.3 Fishery Harbours

The Northern Ireland Fishery Harbour Authority (NIFHA) is responsible to DANI and is a body unique within the UK in that its function is solely to operate fishery harbours in the interests of the Industry. As such, its Board contains a representative membership from all sectors. As a statutory body, the Authority restricts its activities to the operation and maintenance of the docks' facilities and is not presently involved in the commercial side of the Industry. It was established in 1973 and it has overseen major public works at all three ports, including E4m spent at Portavogie, financed jointly by grants and loans from both the Department of Agriculture and the European Regional Development Fund. The headquarters of this organisation are in Downpatrick.

6.4 Comments on the Organisational Infrastructure

The trade organisation infrastructure of the fishing industry in Northern Ireland is largely ineffective. The only bodies which have any real influence or control over the Industry through their statutory powers are DANI, Department of Trade (DoT) and NIFHA through DANI.

The trade associations have a framework as outlined in Figure 9 which on paper would appear to allow the Industry to express itself at all levels. In practice it is found that each association lacks support from its members, very few meetings are called due to the indifference of members and consequently cooperation between the catching, processing, wholesaling and retailing sections is practically non-existent. The result is that though individual development is taking place, the fishing industry is not working together to promote a unified advancement of the Industry. There is a general lack of knowledge by each side of the Industry of the other side's problems. The distribution chain is confused and it is difficult to define any clear role between coastal merchant and wholesaler or, indeed in some cases, retailer. These conditions make any unified marketing effort to promote fish or fish products extremely difficult.

On the catching side, the existence of two Producer Organisations, the NIFPO, whose members are mainly derived from the demersal fleet, and the NISFPO, consisting of members from a large proportion of the pelagic trawl fleet, still cannot between them attract 100% membership of catching vessels. Indeed 50% of the Portavogie fleet are

still not members of either PO. Whilst a great deal of co-operation is undertaken by the two POs through the mutual goodwill of the two secretaries, neither organisation has been allowed sufficient funds to install an administration that is sufficiently staffed to cope with all demands. On the one hand, the EEC and National Government regulations create demands on staff time, and on the other hand there is the demand from members to solve day to day problems. The former include the administration of the aid fund of the intervention scheme, and the development of future policy vis-a-vis quotas, etc. In the case of the NIFPO an additional requirement is to manage a chandlery business operated by that organisation. The NISFPO operating mainly within Kilkeel, benefits financially from the traditional trade link between Kilkeel and the mainland through Whitehaven. The POs as a whole would benefit by taking a more active role in marketing their own fish. This could take the form of finding new opportunities or operating an autonomous price scheme in which the fish is withdrawn at an agreed price and then re-sold by the PO elsewhere.

In view of the limited size of the fleet and the common interest to regulate fishing effort, the existence of two POs when neither are adequately funded, is questionable. An amalgamation into one body effectively funded and managed would be more than beneficial to the future needs of the fleet in Northern Ireland (see also Section 10.4.1). However this is a question for the membership to decide.

7. Fishery Harbours

7.1 Kilkeel

Extensive works were carried out at Kilkeel within the period 1971-73, whilst the harbour was still under the jurisdiction of Down County Council. The basin was enlarged and a fish market and slipway constructed. Kilkeel harbour, as distinct from the other fishing harbours, is built across the mouth of a river. There is a considerable tidal range and continuous dredging of the basin is required. An old dredger has been recently acquired by the NIFHA to carry out work previously undertaken by a contractor. There are complaints, however, that this vessel is proving inadequate.

Since 1973, the slipway has been increased in capacity to take 3 carriages and plans are in hand to increase the capability of one slip to 350 tonnes. There is a 20 tonne/day ice plant, but the needs of the harbour are very much nearer 50 tonne/day. There is an urgent need to review ice production capacity for not only vessels but for the onward distribution of fish.

The fleet has meanwhile continued to increase in size and 87 vessels were recorded as regular users in 1981-1982. The harbour becomes congested when the majority of the fleet are in port causing inconvenience when vessels are shifting berth and in servicing and repairing vessels. In addition only four boats can lie alongside the market at one time, though another four with small catches may land at the same time by double berthing. There is congestion near the entrance when boats are queuing to unload catches. The ice plant is situated near the entrance which is a poor site for the above reasons.

The provision of extra berthage and an extension of the covered market have been considered by NIFHA, but the massive redevelopment at Portavogie has taken all available funds and there are no immediate plans for work to start. Nevertheless, a study has been commissioned by NIFHA to examine the port's problem. An area of land at the inner end of the harbour owned by the Authority has been suggested as the possible site of a basin extension.

A feature of Kilkeel is the considerable recent development in fishing related industry within the ports area including fish and prawns freezing, and processing and fishing gear manufacture and supply.

7.2 Portavogie

In contrast to the other two harbours, Portavogie has been developed from a beach landing site, firstly by building a breakwater, and latterly by a substantial harbour. Major works were recommended by a study presented in 1975 and at the time were estimated to cost £4m. These included the construction of a new deepwater basin, slipway facilities and a fishmarket and ice plant. These works partly financed by UK Government (DANI) funds but also supported by a 30% EDF grant, are now nearing completion although the basin construction is still incomplete and work has yet to commence on the covered fishmarket. The fleet is still experiencing inconvenience due to congestion, however, with a regular fleet of 56 boats recorded in 1981/1982. Portavogie of course, geographically

better situated for boats working within the North Channel and for this reason is now principally a white fish port and, as such, is in desperate need of proper market facilities.

The lack of proper facilities, in particular a market hall, allows a random selling operation to take place with the sale taking place once a number of boats have arrived and moving from boat to boat in a fairly haphazard manner. There is no logical progression along the quay and boats are still landing as boxes are being taken away after a sale. The resultant situation, with as many as 50 buyers and only one salesman and many vehicles in the vicinity, can only be described as chaotic. In addition, due to this system, buyers are unable to see the whole day's catch in advance of the sale, and therefore, have limited knowledge of potentially available supplies. This chaotic situation has resulted in the growth of mobile traders who negotiate directly with boats. Although this provides a short term solution, in the long term it will only undermine the price structure.

The 10 tonne/day ice plant is now, however, in operation and also the slipway with covered building shed. There is severe criticism of the siting of the ice plant which is designed to feed vehicles rather than to supply directly to boats. As a result fishermen have to resort to using their own trailers to transport ice to various berths throughout the harbour. As with all ports on the Down Coast, ice production is inadequate. The situation of the ice plant is not unique though, and other ports have developed a delivery service in some cases utilising cement mixer lorries. A study currently underway by NIFHA will hopefully resolve the situation in Portavogie. Fuel oil/storage tanks are located within the harbour precincts and there is considerable room for the development of fishing related industry within a reclaimed area immediately north of the slipway which runs parallel with the north quay of the harbour.

7.3 Ardglass

In contrast to the other two harbours, Ardglass is a much older port with records going back to the 12th Century.

Despite the history there have never been more than a few local boats. Construction of a fish market did not take place until 1975 after the harbour had been taken over by NIFHA from the Department of Commerce. However, the fish processing industry has been built up in the town and there are frequent landings by boats from the other ports. These boats prefer to return to their home ports, for lying over a period, where there are considerably more quay walls available and more sheltered conditions. Ardglass was, of course, a major herring port for the Scottish drifter fleet working the Irish Sea before the development of the Kilkeel/Whitehaven herring trawl fishery. Major works are in hand to improve the existing breakwater and mooring quays and to deepen the harbour and extend the covered market. A 10 tonne/day ice plant is located within the harbour works. This too falls short of the needs of the port. The lack of shelter has undoubtedly prevented a growth of the fleet.

7.4 Other Harbours

Donaghadee at the mouth of Belfast Lough and Annalong near Kilkeel, are still used by local boats for landing catches for overlanding to Portavogie or Ardglass.

Donaghadee, which has substantial quays and a breakwater, is, however, exposed to easterly winds and is not a good place to lie during bad weather unless a mooring buoy is used. Annalong is a tidal harbour where a fleet of about 15 small herring drifters, known locally as skiffs, are based. It has also been used, as has Newcastle harbour, for laying up local trawlers. Newcastle is presently closed for repairs (summer 1983). There is a substantial commercial wharf at Dundrum where the berth, although sheltered, dries out across low water.

There are also harbours at Bangor, on the south side of Belfast Lough at Carrickfergus on the north shore and at Larne, Cushendall and Carnlough on the Antrim coast north of Belfast. All these ports are used as sheltering havens by both Northern Ireland and Scottish boats fishing the North Channel.

Boats from Rathlin Island and a few local small line boats use Ballycastle harbour which is, of course, the ferry harbour for the Rathlin community. A quay breakwater is presently being constructed at Ballycastle. The only major harbour between Ballycastle and Londonderry is Portrush which is used occasionally by trawlers to shelter or berth over the weekend. Londonderry, like Belfast, is, of course, a major deep water commercial port with riverside cargo wharves but no real history of fish landings. A restraint upon the development of fish landings in both places is the need for security measures due to the local political situation.

8. Economic State of the Fleet

For purposes of analysis, it is convenient to examine the major elements of the fleet independently. A major element of the fleet is the prawn/demersal fleet consisting of vessels in the 40ft-60ft class numbering some 123 vessels. The second major element is the more modern 60ft-80ft class comprising of 30 vessels which fishes mainly the white fish and herring stocks using pelagic trawls.

8.1 Prawn Vessel Financial Analysis

In Table 5, an example of a 47ft prawn vessel's earning capacity and operational costs are analysed for 1981 and for the period January to August 1982. The analysis is based on a typical vessel of the class and verified by comparison with a 10% sample of the remaining vessels in the class. The actual figures have been further verified by an accountant. The operating costs, excluding crews' remuneration, are approximately £78 per day to cover the direct vessel operating costs of fuel, ice, landing and berthing dues and sales commission, and a further £54 per day to cover the more fixed vessel costs of equipment hire, insurance, vessel repairs and gear costs. In addition to that total of £132 per day for vessel operating costs, the skipper/owner has to generate sufficient income to employ a crew of 3, who are paid on a share basis. This is calculated on a percentage base of gross income less direct operating costs. On average the share allocated to the crew is approximately £106 per day at sea which, over a year's fishing, equates to approximately £6,042 per man.

The operating costs per day facing a skipper/owner of this type of vessel, before any remuneration for himself, any capital interest charges or boat replacement costs are, therefore, £238 per day at sea.

An analysis of the boat's income during 1981 in Table 6, illustrates that this type of vessel generated 61% of its income from prawns, 10% from cod and 22% from whiting.

In 1982 there has been a visible swing to a situation where these vessels rely proportionately more on the prawn income, with this stock now supplying 72% of the vessels income. Cod (5%) and whiting (15%) still supply the major demersal support. The decline in demersal income is mainly attributable to the disturbing decline in catch rates which are highlighted in Table 7. This compares the various catch rates per hour experienced during the January-August period for 1981 and 1982 respectively. It can be seen that the catch rate on cod has declined by 55% from 6.9kg/hr to 3.1kg/hr. Over the peak cod season the decline is 60%. Similarly whiting, the mainstay of the demersal catch, has declined by 43% from 35.3kg/hr to 20.1kg/hr. Over the peak whiting season the decline is also 60%. Fortunately the prawn stock has increased its yield by 6% to 9.0kg/hr. for the 8 month period but the final outcome for 1982 indicates about a 19% increase in catch rates. The sizes landed however are predominantly of the smaller grades.

On analysis the current cost of catching, landing and selling demersal fish is estimated in Table 8 at 28p/kg or £12.58 for a 7 stone box. On the current

species mix the average selling price per box is estimated at 26.1p/kg or £11.61 for a 7 stone box. Unless the prawn fleet operators make more determined efforts to improve the market value of demersal fish by carrying out shorter tows, proper icing, grading and care of the catch, then this loss situation is going to continue.

Due to the sales of demersal fish absorbing some of the vessel's operational costs, the prawn landings show an estimated profit of 61.2p per kg (Table 8). If, however, prawns were to provide the only source of income, then it is estimated that the vessel would only break even. Although prawns generate a high market return per stone landed, the volume of the catch is not sufficient to give a working profit to the vessel.

To summarise the economics, this section of the fleet relies heavily on the prawn stock for, its basic income and the demersal stocks for additional profit. However, unless some effort is made by the prawn fishermen to provide better quality and grading of demersal fish, similar to that of the pelagic trawler, then the future for this sector of the fleet will be in doubt as regards its continuing financial viability.

8.2 Pelagic Vessel Analysis

In a similar manner to the prawn trawl vessel operator, the pelagic trawler owner is dependent upon deriving his income from various fish resources. In the absence of a substantial herring fishery, this class of vessel is very dependent upon the white fish stock to achieve viability. Income is derived from a mixture of species, the higher priced species of hake and cod, though not providing a high volume, supplement the lower priced, high volume whiting stock. In addition, the diversification during the summer period on to the limited herring fishery, provides a welcome income source during a period of very low demersal catches. The exploitation of both demersal and pelagic resources is vital to the economic survival of these vessels.

The direct operating costs of this vessel in 1981, with its higher fuel consumption, is approximately £238 per day at sea, Table 9. Fixed costs, repair and gear costs add a further £197 per day at sea, producing an operating cost, before any crew remuneration, of approximately £435 per day at sea. These figures are based on an analysis of 10% of vessels operating in 1982.

Due to the size and catching power of this class, the crew is double that of a prawn trawler, i.e. six crew members, excluding the skipper. The same share basis is adopted for payment which can average at £237 per man day, which equates to approximately £6,700 per man year: an increase of 11% on the estimated earning of a prawn boat's crew member.

The total operational cost, including crew wages, which a skipper is faced with before any income to himself or shareholders or, indeed, allowing for repayment of capital interest on borrowings, is estimated at £672 per day at sea. In other words pelagic trawler operating costs are three times those of a prawn trawler. In view of the limited demersal stock available in the Irish Sea, consisting of mainly low valued whiting, the pelagic trawler operator has no alternative but to go for a high volume catch rate in order to survive economically.

8.3 Fishing Prospects

The disturbing factor of both the pelagic trawler and the prawn trawler operations is that both fleets are heavily the whiting stock for their economic survival. The high volume catch rate of the pelagic trawler on the more mature whiting, allied to the prawn fleet by-catch of young summer whiting, produces a combination which cannot auger very well for the long term survival of this stock.

With the introduction of quotas in the Irish Sea, both classes of vessel will experience some restriction on earnings. In the case of the prawn trawler, as long as the prawn stocks can be maintained without over-exploitation, this class of vessel will be less badly affected than the larger pelagic trawlers, depend heavily on species which will be subjected to quotas, cod, whiting, hake, etc.

The whiting quota for the whole UK in the Irish Sea is recommended to be about 9,600 tonnes. The catch of the Northern Ireland fleet alone accounted for 9,934 tonnes in 1982. The cod quotas have not yet been finally agreed, but it is likely to be about 6,400 tonnes for the UK. Based on the Northern Ireland fleet's share of 51% in 1981, this would give about 3,264 tonnes compared to the actual 3,885 tonnes in 1982. The possibility does exist of a lower cod quota to 3,200 tonnes for the UK as a whole and this would be clearly disastrous for the pelagic fleet. The potential loss of revenue for the fleet as a result of quotas is shown in Tables 10a and 10b.

9. Consumer Survey Findings

To complete the study of the Northern Ireland fishing industry a detailed appraisal of the retail market potential for fish products in Northern Ireland, together with an assessment of the overall value of the market, was carried out by Ulster Marketing Surveys Ltd. under a contract from SFIA.

The survey consisted of a two stage programme of research: firstly, a quantitative consumer survey involving a representative sample of housewives throughout the regions of Northern Ireland (Fig. 10), and secondly, a trade survey, interviewing a representative sample of managers or proprietors of catering outlets.

Detailed results of the trade survey and the consumer survey are provided in a separate report, the principle findings are summarised.

9.1 Consumer Survey

9.1.1

Of the four main forms of fish available to consumers, the most likely to have been purchased by the housewife was fresh fish, 4 housewives in 10 stating that they had made such a purchase. In comparison, 3 in 10 had purchased frozen, with just over 1 in 10 having purchased canned and smoked fish respectively. As comparative yardsticks, 8 housewives in 10 had purchased beef, 4 in 10 pork and 2 in 10 lamb (Fig. 11).

9.1.2

Fresh fish was rather more likely to have been purchased by housewives aged over 35 than those below this age, whereas the reverse was true for frozen fish. No clear pattern in relation to age emerged for the purchasing of canned fish, but smoked fish appeared to be distinctly more popular with older housewives, with those in the youngest age group (15 - 24) being particularly unlikely to have purchased any. Amongst households with children, frozen fish was the most likely form of fish to have been purchased, while fresh fish was most likely to have been purchased by those households without children (Table 11).

9.1.3

The purchasing behaviour of housewives with regard to fish was obtained more definitely by asking how often they tended to purchase fresh, frozen and smoked varieties. The most frequently purchased was fresh, with 57% of housewives overall claiming to buy the product at least once a month. In comparison, 49% purchased frozen: fish monthly and 33% smoked (Fig. 12).

9.1.4

On the last purchasing occasion, the average expenditure was highest for fresh fish, at £1.35, compared to £1.28 for smoked and £1.25 for frozen (Fig. 13).

9.1.5

Estimates of the value of the consumer market for fish were obtained by appropriate weighting procedures, based on enumerated households obtained from the 1981 census, and allowing for frequency of purchase:

FRESH:	£12.3 Million
Cod	£ 6.3 million
Whiting	£ 2.9 million
Haddock	£ 1.3 million
Herring	£ 0.2 million
Mackerel	£ 0.1 million
Others	£ 1.5 million
FROZEN	£ 8.4 Million
SMOKED	£ 5.5 Million

NOTE: Based on Retail Prices

9.1.6

The most likely source of the last purchase of fresh fish (Fig. 14) was the local fishmonger, 47% having made their last purchase at such an outlet, and these were followed by supermarkets (17%), open markets (15%) and door-to-door (13%). Usage of fishmongers tended to decline from Belfast across to the West of the Province and it was of particular interest to note that purchasing through open markets or through door-to-door distribution was most prevalent in the South (mainly Co. Down), presumably a result of the fact that the main fishing ports are located in this region.

9.1.7

There are indications of a high degree of stability in this market (Fig. 15) with just under 6 housewives in 10 stating that as far as they were concerned, there had been no change over recent years in their fish purchasing habits, Against this however, those stating that they now purchased more fish (17%), were slightly outweighed by those purchasing less (24%). older housewives, and those from unskilled working-class households were marginally less likely to have increased their buying of this product than were younger housewives, or those from more middle-class households.

9.1.8

Amongst those whose purchasing had increased, the reason most frequently put forward related to dietary considerations, fish being regarded as a 'healthy' food, with 37% expressing a view along these lines. Children having acquired the taste was referred to by 33%, and that fish represented good value was mentioned by 25%. (Fig. 16).

9.1.9

Amongst those claiming to buy less fish nowadays, taste and product characteristics were appreciably more likely to be expressed as reasons (especially as far as the family were concerned rather than themselves), than

was expense. Changed family circumstances were also mentioned in a number of cases, and a small number also referred to perceived difficulties and inconvenience in cooking fish (Fig. 16).

9.2 Catering Survey

9.2.1

Preliminary desk research provided the following estimates for the total numbers of catering outlets in Northern Ireland:

Hotels	142
Licensed Restaurants	192
Unlicensed Restaurants	163
Cafes	292
TOTAL RESTAURANTS	789
Carry-Outs (Fish & Chips)	400

These estimates were provided mainly by the Northern Ireland Tourist Board, who derive records as part of their outlet inspection 'Seal of Approval' role, and Area Health Boards, who administrate the maintenance of hygiene standards.

9.2.2

Of a range of five primary food categories, fish was most likely to be served on a regular basis, with 95% of outlets including it on their menu, followed closely by poultry at 92% (Fig. 17).

9.2.3

Of eleven fish types, whiting was the most likely to be served, with 62% overall offering it, this was followed by plaice and cod with 42% of outlets (Fig. 18). Whiting was markedly more popular amongst carry-outs, virtually all of which served it, and cod similarly was more likely to be offered by these establishments as opposed to restaurants. As far as restaurants were concerned, plaice and prawns were the most likely types of fish to appear on menus.

9.2.4

All establishments were asked to state their normal weekly expenditure for each type of food served on a regular basis. In addition, those serving fish were asked for similar information in respect of each type of fish normally served. These average weekly expenditures were subsequently weighed up to the total numbers of these outlets in Northern Ireland, and then annualised by multiplying by 50 weeks. The catering market for fish in Northern Ireland is estimated (at wholesale prices) at £6.1 million, placing it in second place. In comparison, the equivalent market for four other food types were:

Beef	£7.2 million
Poultry	£4.9 million
Pork	£1.6 million
Lamb	£1.1 million

The division of the catering market between the two outlets of restaurants and carry-outs is analysed as follows (Figs. 19/20).

	Restaurant	Carry-out	Total
	£(Million)	£(Million)	£(Million)
Beef	6.4	.8	7.2
Fish	3.4	2.7	6.1
Poultry	3.4	1.5	4.9
Pork	1.4	.2	1.6
Lamb	1.1	-	1.1

9.2.5

The catering market for fish in the restaurants (Fig. 21) illustrates the consumer preference for prawns (scampi) (35%) and plaice (24%). These two species provide 59% of all fish dishes served.

Whiting (15%) and sole (9%) provide the main alternatives for consumer preference.

The 'carry-out' trade, mainly fish and chip shops, shows a completely different consumer preference with whiting (70%) dominating sales (Fig. 22).

Cod (15%) and haddock (4%) are the other main alternatives with plaice commanding less than 2% of the fish market share in carry-outs.

Estimated Northern Ireland Catering Market for 'Prepared' Fish (Wholesale Prices)

TOTAL:	£6.1 m
BY TYPE:	
Whiting	£2.4 m
Prawns	£1.2 m
Plaice	£0.85m
Cod	£0.6 m
Sole	£0.3 m
Clams/Shellfish	£0.2 m
Haddock	£0.15m
Lobster	£0.1 m
Mackerel	£0.05m
Herring	£0.04m
Others	£0.2 m

9.2.6

70% of those outlets serving fish stated that they obtained their supplies from a fish wholesaler. Just over 20% were supplied by a local fishmonger, followed by direct quayside purchasing, 10%. Regional variations occurred in these respects, with fishmongers being substantially more important to outlets within the Belfast vicinity, while wholesalers and direct purchasing were more popular in other areas (Fig. 23).

9.2.7

Assessment of customer throughflow revealed that, on average, carry-outs served just over 1,500 customers per week, and restaurants 875. Overall, 38% of the customers of these outlets would order fish, and this proportion was higher at carry-outs (47%) and lower at restaurants (22%).

9.2.8

While just under half of the catering proprietors or managers thought that there had been little change in the popularity of fish over recent years, over twice as many took the view that fish had increased in popularity than took the view that it had decreased. Restaurateurs in particular were inclined to the view that fish was more popular (Fig. 24).

9.2.9

Dietary reasons, with fish considered to be a healthy food, was the most frequent reason expressed for the increased popularity of fish, although effectively equivalent proportions also took the view that fish represented good value and was inexpensive. Other important reasons were the increasing variety of fish, mentioned by 17%, with a further 9% stating that availability of fresh fish was better nowadays (Fig. 25).

The increasing availability of other fast foods such as hamburgers and hot dogs, and the popularity of these with young people, was the most frequently expressed reason for the decreasing popularity of fish. A smaller proportion of outlets also pointed out that fish, especially as a carry-out, was less convenient to eat (See also Table 11).

10. Discussion and Recommendations

10.1 The Catching Sector

10.1.1 Fishing within the Quota

The likely EEC quotas for Irish Sea catches for U.K. vessels highlight the problem facing the Northern Ireland fleet as far as white fish are concerned.

The UK quota of whiting for 1983 was to be 9,600 tonnes, this is in fact equivalent to the catch of the Northern Ireland fleet alone for 1982. This quota is likely to be enforced in 1984. Whiting is, of course, by far the greatest white fish catch by the County Down fleet. Recent indications are that the cpue on cod has decreased to the extent that the EEC quota of 6,400 tonnes is unlikely to present problems of overfishing by the local fleet. However the overall UK catch will probably exceed the EEC TAC and this could be reflected in the future share of the quota for Northern Ireland and if a lower quota than 6,400 tonnes is adopted this could be disastrous for the pelagic fleet.

There is no easy solution to the cod and whiting problem. However various drastic alternatives -are possible. These involve either a reduction in effort per boat, clearly not attractive from an economic point of view, or an overall reduction in total effort.

More attractive is the possibility for an increased shift of effort by some of the more powerful units of the fleet to fish for white fish off the NW Coast and if satisfactory outlets can be established, to fish mackerel and herring around the North and West coasts. The latter possibility is the subject of a separate study currently being completed. This is of course of particular interest to the purse seiners whose opportunities elsewhere are being steadily diminished.

The larger trawlers have undoubtedly established increased interest in locally caught whiting by virtue of landing a better product.

Nevertheless the prawn trawlers are equally reliant upon these stocks to provide the profit over and above the 'bread and butter' prawn operation and these vessels are more limited in their options because of their smaller size and power.

It is, therefore, recommended that every effort should be made to encourage the pelagic trawlers to extend their operations for white fish into ICES area Via i.e., north and north west of Ireland to the Southern Hebrides.

It is recognised that Government assistance will be required in order to allow Skippers to gain knowledge of this fishery whilst remaining financially solvent. Commercial trips will have to be subsidised over a sufficiently long period, probably several months, to account for short term variations in the availability of fish which can so easily mask the real potential of a fishery if a trial is carried out over a period of a few weeks only.

Secondly, every effort should be made to exploit the stocks of herring and mackerel by these larger trawlers within ICES areas VIIa and VIIb. West of Scotland and Ireland. Currently these stocks are fished mainly by purse seiners for the unpredictable African market through transshipment on to klonkyers. A preliminary feasibility study has been commissioned by SFIA to examine the economic viability of developing a processing complex within Northern Ireland which could provide freezing and cold storage facilities for white fish catches held over and more significantly by the introduction of the production of either canned or frozen, value added products from pelagic stocks. These could exploit other more lucrative World markets, particularly within Western Europe.

Ideally these shifts of effort by the larger trawlers would more or less bring effort on North Irish Sea stocks back within quota limits. However, it may well be necessary to consider limiting the by-catch of the prawn boats. One way of achieving this would require the use of a separator trawl as designed for shrimp fisheries. The mesh size within the fish bag section would have to be sufficiently large to allow the escape of small whiting but to retain larger sizes. Some development work would undoubtedly have to be carried out. It is suggested that the Marine Laboratory of the Department of Agriculture and Fisheries for Scotland (DAFS) and the Flume Tank staff of the SFIA should consider a joint project to investigate reducing fish by-catch by this method. DAFS have been working on trawls designed to separate species into different codends for some time.

10.1.2 Fish Handling

Fish handling particularly on the prawn boats must be improved. An educational programme run by the training services section of SFIA with both onshore and at sea instruction is regarded as of high priority. Both the aspects of grading and proper gutting and icing of the catch should be tackled. The Northern Ireland agricultural industry have already been able to set very high standards to increase their market opportunities and the same attitude must be engendered in the fish industry.

The question of the use of suitable boxes for cod and hake must be addressed. It is inconsistent that deep, stack nest boxes are used for onward transport where proper icing is carried out, whereas shallow boxes suitable for small fish or nephrops are utilised on board resulting in large fish being crushed and inadequately iced.

The problem is that few boats own their boxes and, therefore, most are dependent upon obtaining boxes from a central pool.

A re-arrangement of responsibilities for fish sales and hence market boxes would provide an opportunity for the introduction of improved boxes. Clearly considerable sums of money would be involved. Nevertheless, this would seem to be a worthwhile case for grant aid to the industry. Another aspect of the box situation is that owing to the system whereby boxes are tipped on the market and placed directly back onto boats, little or at least inadequate cleaning is commonplace. Ideally a new approach to boxing should allow for adequate daily

pressurised cleaning of boxes whilst a duplicate outfit of boxes are placed on board.

It is understood that box leasing arrangements, as opposed to outright purchase, can be made with at least one large manufacturer of plastic boxes.

10.2 The Markets

10.2.1 The Market Hall

Particular problems occur at Portavogie owing to the present lack of a proper covered market hall and the resultant random method of selling fish. Most of these problems will undoubtedly disappear when fish can be laid out in a relatively secure market hall. The completion of this facility must be given top priority. All fish must pass openly through this market whether or not it is sold by contract or for auction. The market should be securely closed outside of sale periods and the landing of fish without special permission outwith the market building should be prohibited. These latter remarks should of course apply to all three port market halls.

10.2.2 The Role of NIFHA

It is further recommended that the statutory powers of NIFHA be extended by DANI to control the selling of fish within their markets. This move would enable NIFHA not only to provide a truly independent sales service but would also enable that body to enforce better general discipline on the market and, of course, security.

NIFHA could, of course, also take responsibility for the supply of boxes and for box cleaning operations. Alternatively Producer Organisations could handle these operations on behalf of their members.

Additional revenue accruing to the NIFHA would strengthen that body's finances and allow further reinvestment into the industry.

Equally it is felt that boat owners would benefit by lower costs than are presently paid as a commission on fish sales. Buying at first hand sales should be restricted to fish trading organisations, direct sales to the public should not be allowed. Such sales could of course be carried out on a second sale basis. See also 10.3.1.

10.2.3 Market Times

The possibility of morning markets should be studied. There are attractions in allowing additional time for the packing and transport of fish to the following day's mainland or indeed Ulster market and it would be to the best advantage of the auction system if a standard time for sales were agreed by all three ports. The proposal to set up a proper box collection, cleaning and supply system would benefit by the extra time available between the landings and distant market sales.

10.2.4 Review of the Rule Governing the Withdrawal of Fish

The application of the regulation stipulating that; all fish of a particular species remaining on the market after that point in the auction sequence when fish of that species are unsold, should be reviewed to remove any doubts and anomalies.

The variation in quality standards at the time of landing in Northern Ireland means that a buyer may be unable to buy quality fish if in fact the sale stops prior to the fish he is looking for being offered for sale. The Council Resolution covering the sale of fish and compensation for the Withdrawal Scheme is resulting in the practice that quality fish could be withdrawn simply because poorer grade fish, but not necessarily unsaleable fish, from an earlier landing could not be sold.

10.3 Processing and Retailing

10.3.1 Mobile Van Salesmen (Portavogie)

Individual mobiles or small van salesmen should be encouraged to form a trading organisation on similar lines to that existing at Grimsby, setting common standards of service and quality. These small traders should be offered premises or areas within a properly built facility which should be constructed on reclaimed land North of Portavogie harbour. The present situation where fish and particularly nephrops are processed in private dwellings or even outhouses does not meet the food hygiene regulations set out in the Food and Drug Act. Subsequent to the provision of a proper small trader processing hall, the Public Health Authority should be urged to prohibit any possible unlicensed operation.

Mobile van salesmen undoubtedly provide an invaluable service in extending sales throughout the countryside in particular but they should be subject to exactly the same health and licensing regulations as in other parts of the UK.

10.3.2 Coastal Merchants

Coastal merchants should be encouraged to develop the production of value added products, for example whiting blocks or breaded whiting products, or combination recipe products for the supermarket trade.

This will require the institution of training programmes for staff which could be provided by the SFIA as long as Government Finance can be made available.

These merchants should address themselves to the problem of providing graduated bonus payments to filleters to allow properly graded whiting to be sold on the market.

The provision of adequate freezing and cold storage facilities at the fishing ports, provided by processing firms, is an allied requirement as fish should be purchased and held over at times of glut for further processing into value added products to maximise processing efficiency during slack periods of raw material supply.

10.4 Organisational Infrastructure

10.4.1 The Producer Organisations

Perhaps the most important and widely acknowledged requirement is for a strengthening of the organisations within the industry. On the catching side, the two existing Producer Organisations would benefit by merging as a single body to enable it to represent the industry at all levels from quayside to national Government and the European Community.

The control of landings, can only be effective if staff are available on a daily basis at market times and there is adequate information available to them. Equally, management of the withdrawal compensation schemes must be carried out taking account of the national supply position. An adequately financed PO, can offer incentives to members for example, by providing supplementary withdrawal payments for properly graded quality fish. Within the EEC regulations, the PO should take a more active part in finding new market opportunities for fish caught by its members.

It is acknowledged that the present situation of low membership particularly at Portavogie is not in the long term interests of anyone, although to non-members it may appear to be in their short term interest.

10.4.2 Fishermens' Co-operatives

It is proposed that fishermens' co-operatives at port level should be established to expand the catchers interests into the marketing of their, products. It is undoubtedly true that cooperative involvement, supported by the PO or as an ancillary activity to the PO, would greatly enhance the short term attractiveness of membership. Accordingly it is recommended that the P.O. should take up an active role in promoting cooperatives. An alternative buying force would thus be present on the markets with the mutual interest of the fishermen in the forefront. The success of the co-operative at Greencastle, Co. Donegal, which overlands its fish directly on to the Grimsby market is a good example though a Co. Down co-operative should also enjoy a large local market. The existing chandlery business of the NIFPO should be transferred to cooperative management and the resultant integration through catching, selling and chandlery including the supply of oil and fish boxes should benefit the fishermen without detriment to other sections of the industry.

10.4.3 The Processors

The Northern Ireland Fish Processors and Exporters Association should be revitalised and should include membership by an association of fish processors at Portavogie including the proposed mobile traders association. The involvement of the Northern Ireland Fishery Harbour Authority in the selling of fish is discussed under Section, 10.2.

10.5 Port Facilities

The main immediate requirement is of course the completion of the work on the basins and on the market at Portavogie. The latter cannot be overstressed. Extension of the market at Kilkeel is desirable especially to reduce the current level of congestion caused on the market owing to the practice of transferring of fish into transport containers from fish boxes. Space will also be required for the provision of the recommended box washing facilities. Additional quayside

berthage is of course desirable to ease the problems of storing and repairing vessels within a congested harbour, but if there is a reduced level of activity at Kilkeel following a shift of effort to Area VIa such an extension may be reviewed later.

The possibility of an increased usage of Portrush by vessels fishing the North Coast must be considered. The requirements in terms of facilities and access should be studied by the local harbour authority in consultation with NIFHA.

The latter recommendation must be considered in the light of the findings of the SFIA study into processing facilities on the North Coast of Ulster.

10.6 Ulster Market Outlets

The consumer and catering research surveys have indicated the strength and stability of the Ulster market. These two factors if correctly developed by improved service and marketing techniques could provide the industry with a sounder base on which to build its future business strategy rather than its present reliance: upon markets in Great Britain.

WEIGHT AND VALUE NORTHERN IRELAND LANDINGS 1980, 1981 AND 1982.

SPECIES	1980		1981		1982	
	TONNES	£	TONNES	£	TONNES	£('000)
PELAGIC:						
Herring	2,450.26	607,561	1,816.14	306,054	2,263	399.4
Mackerel	59.04	4,647	55.24	4,712	9,580	954.7
Sprats	0.61	36	-	-	-	-
TOTAL PELAGIC	2,509.91	612,244	1,871.38	310,766	11,843	1,354.1
DEMERSAL:						
Brill	11.67	9,889	6.32	5,968	7	7.3
Cod	2,593.50	908,416	3,368.74	1,034,011	3,885	1,501.0
Conger Eel	0.05	5	15.38	5,237	15	4.2
Dabs	0.71	99	0.69	54	1	.3
Dogfish	287.48	30,271	682.50	73,613	1,100	160.9
Flounders	0.13	11	-	-	-	-
Gurnard	1.24	41	-	-	-	-
Haddock	51.82	12,445	58.30	16,461	30	11.5
Hake	68.13	38,097	567.56	518,672	385	386.1
Ling	27.00	6,897	44.26	8,706	33	6.9
Megrim	4.52	730	6.24	1,516	5	1.2
Monk/Angler	227.11	61,324	288.62	101,179	409	129.3
Plaice	140.25	43,146	136.28	48,128	161	54.4
Pout	0.56	29	-	-	-	-
Ray or Skate	124.45	30,364	112.00	26,893	106	25.7
Roe	61.20	10,381	76.61	12,297	80	16.2
Saithe or Coalfish	310.45	62,975	587.05	105,434	379	148.7
Soles	43.90	50,178	40.96	64,771	34	56.5
Turbot	3.85	2,650	0.37	525	2	4.0
Whiting	3,953.55	724,384	9,050.09	1,383,923	9,934	1,885.9
Witches	1.65	358	3.28	814	5	1.3
Other Demersal Fish	168.88	37,767	194.56	43,088	199	59.0
TOTAL DEMERSAL	8,082.10	2,030,457	15,239.81	3,451,290	17,271	4,460.4
TOTAL FISH	10,592.01	2,642,701	17,111.19	3,762,056	29,114	5,814.5
SHELLFISH:						
Crabs	5.77	1,470	3.90	885	2	0.9
Escallops	41.22	13,714	32.87	60,757	15	35.8
Lobsters	16.25	52,693	19.75	74,813	15	70.4
Nephrops	2,543.95	1,831,067	3,752.28	2,480,649	4,488	3,491.0
Periwinkles	392.51	55,198	102.18	23,350	276	58.4
Queen Escallops	21.42	7,822	0.07	12	-	-
Squids	23.42	17,387	111.82	107,879	165	154.6
Crayfish	-	-	0.01	3	-	-
TOTAL SHELLFISH	3,044.54	1,979,351	4,022.88	2,748,348	4,961	3,811.1
TOTAL WEIGHT AND VALUE OF ALL FISH	13,636.55	4,622,052	21,134.07	6,510,404	34,074	9,625.5

NO. OF LAUNCHES	KILKEL				ARDCLEASH				PORTA VOEGIE				TOTAL			
	1981		1982		1981		1982		1981		1982		1981		1982	
	TONNES	E	TONNES	E	TONNES	E	TONNES	E	TONNES	E	TONNES	E	TONNES	E	TONNES	E
	4423	6246			1645	5366	6104	11775								
Coal	1687	586.9	2134	978.0	323	135.2	243	102.6	526	188.5	674	288.0	2536	890.6	3051	1360.6
Boat Lids	30	3.0	99	14.0	67	6.0	139	16.1	309	38.3	376	41.2	406	47.3	614	71.3
Blacklock	11	3.8	7	4.0	11	4.3	3	1.4	21	6.0	9	3.5	43	14.1	19	8.9
Bakin	32	17.6	44	39.0	43	29.0	27	24.9	321	312.1	179	188.4	396	358.7	250	252.1
Block	68	22.0	117	33.0	47	14.1	50	17.3	39	38.9	147	47.9	204	75.0	314	98.2
Flacon	55	16.2	76	20.0	14	5.7	11	4.7	28	12.5	23	8.0	97	34.4	110	40.7
Saltkin	78	17.3	171	43.0	60	17.3	40	10.2	169	22.3	366	62.1	307	56.9	505	315.3
Skate	12	3.4	13	4.0	6	1.9	7	2.2	63	14.7	60	12.9	81	20.0	80	19.1
Solen	4	7.8	6	12.0	5	7.1	3	5.5	23	36.8	17	30.3	32	51.7	26	47.8
Walt Ing	1540	242.7	3186	597.0	1165	214.1	1051	207.0	2541	433.2	3072	673.3	5246	890.0	7109	1477.1
Other	121	28.0	133	35.8	52	15.9	11	-	227	47.8	97	67.4	350	91.7	241	102.4
TOTAL BERMAL	3638	948.7	5986	1787.0	1793	450.6	1593	391.9	4267	1131.1	5020	1423.0	9698	2530.4	12599	3681.9
Boat Ing	361	64.3	276	47.0	469	84.4	463	82.7	577	105.6	1035	188.6	1407	254.3	1774	318.3
Botheropie	442	860.4	791	1063.0	246	436.7	157	347.0	374	750.9	348	794.0	1062	2048.0	1296	3084.0
Other	3	-	4	-	44	50.0	-	-	16	-	21	-	83	50.0	25	-
TOTAL LAHED	4444	1873.4	7057	3697.0	2552	1021.7	2211	821.6	5234	1987.6	6424	2405.6	12230	4882.7	15694	6974.2

ANALYSIS OF LANDINGS 1981 AND 1982

1) WHITING LANDINGS 1982

1.1 PELAGIC TRAWLER:

Variation in No. Boxes Landed/Day 18 - 41 Ave. 24

1.2 PRAWN VESSEL:

Variation in No. Boxes Landed/Day 6 - 11 Ave. 7

1.3 DAILY LANDING - WHITING

Type/ Boat	KILKEEL		ARDGLASS		PORTAVOGI	
	No. Vessels	Boxes Range	No. Vessels	Boxes Range	No. Vessels	Box Ran
----	-----	-----	-----	-----	-----	---
Pelagic	(20)	360-820		-	(10)	180-4
Prawn	(67)	402-737	(13)	78-143	(46)	276-5
		---		---		---
		761 1557		78 143		456 9

DAILY TOTAL MARKET SUPPLY 1296 - 2616 BOXES

DAILY TOTAL MARKET DEMAND 1500 BOXES

EXCESS LIKELY - FEBRUARY-MARCH AND OCTOBER-NOVEMBER

2) COD LANDINGS FEBRUARY/APRIL ONLY

	KILKEEL		ARDGLASS		PORTAVOGIE	
	No. Fleet	Boxes Range	No. Fleet	Boxes Range	No. Fleet	Boxes Range
-----	-----	-----	-----	-----	-----	-----
Pelagic	(20)	100-220			(10)	50-110
Prawn	(67)	67-201	(13)	13-39	(46)	46-138
		-----		-----		-----
		167 421		13 39		96 248

DAILY VARIATION IN MARKET SUPPLY 276 - 708 BOXES

PROJECTION OF PRIME PROCESSING REQUIREMENT IN NORTHERN IRELAND

1. Estimated Annual Fresh Whiting Market (Whole Fish Equivalent) in Northern Ireland	Tonnr
	9000
2. A filleter's productivity on average - Whiting	= 15 Boxes/Hr
	=1.875 Boxes/Hr
3. Box capacity (44.46 kg) whole fish - a filleter processes	=83.36 Kg/Wf/Hr
4. Total No. Man-Hours required to process annual whiting consumption	107,965 Man/Hr
5. No. Prime Processing staff required for daily variations in landings	

Landings	Pelagic Fleet				Prawn Fleet			
	No.	No.	No.	No.	No.	No.	No.	No.
	Boxes	Filleters	Boxes	Filleters	Boxes	Filleters	Boxes	Fillet
Kilkeel	360	24	820	55	402	27	737	49
Portavogie	180	12	410	27	276	18	506	34
Ardglass					78	5	143	10
	540	36	1230	82	478	50	880	93

FINANCIAL ANALYSIS - TYPICAL PRAWN TRAWLER 1981-1982

Reg. Length	-	47.1 Ft.		
Horse Power	-	150 H.P.		
No. Crew	-	Skipper + 3 Crew		
	1981	8 Months- Aug. 1982	Cost Per Day At Sea	
No. Days at Sea	171	25	1981	1982
Weight Landed	<u>Tonnes</u>	<u>Tonnes</u>		
Demersal Fish	109.99	45.67		
Nephrops	17.26	14.60		
	127.25	60.27		
Grossing	£56703	£43792	£331.60	£350.34
Subsidy	£ 400	-	2.33	-
	£57103	£43792	£333.93	£350.34
Expenses Direct Costs:-				
Food	1791	1377	10.48	11.02
Fuel	6236	5227	36.47	41.81
Ice	36	30	.21	.24
Landing Dues	1155	889	6.75	7.11
Sales Commission	3332	2180	19.48	17.44
	12550	9703	73.39	77.62
Fixed Costs				
Hire of Equipment	1606	1333	9.39	10.66
Insurance	1555	1326	9.10	10.61
NHI Stamp	862	759	5.04	6.07
Managerial Expenses	522	483	3.05	3.87
	4545	3901	26.58	31.21
<u>TOTAL OPERATING EXPENSES</u>	<u>17095</u>	<u>13604</u>	<u>99.97</u>	<u>108.83</u>
<u>OPERATING SURPLUS</u>	<u>40008</u>	<u>30188</u>	<u>233.96</u>	<u>241.51</u>
Share - Allocation:-				
Crew	16755	13221	97.98	105.77
Skipper	7263	5953	42.47	47.62
	24018	19174	140.45	153.39
Boat Expenses:-				
Repairs	2292	1750	13.40	14.00
Gear	1530	1125	8.95	9.00
	3822	2875	22.35	23.00
<u>Net Operating Profit</u> <u>(Before Interest & Depreciation)</u>	<u>12168</u>	<u>8139</u>	<u>71.16</u>	<u>65.12</u>

ANALYSIS OF PRAWN TRAWLER GROSSINGS AND LANDINGS - JANUARY - AUGUST 1981

i) VESSEL GROSS INCOME

Month	Jan	Feb	Mar	April	May	June	July	Aug	Jan-Aug	Division
No. Days Fishing	21	11	19	13	17	16	7	13	117	of Income
£	£	£	£	£	£	£	£	£	£	£
Cod	763	1109	1467	445	253	65	24	49	4175	10.0
Dogfish	13	19	4	4	9	9		24	82	.2
Haddock	72	49	50		23				194	.5
Hake	226	37	164	230	200	33	85	66	1041	2.5
Monks	66	57	138	70	124	57	24	46	582	1.4
Plaice	123		25	9	17		3	28	205	.5
Saithe	106	134	169	43	4	4			460	1.1
Skate	21	4	3	3					31	.1
Whiting	1729	3207	2639	682	506	68	52	345	9228	22.0
Sole			54				16		70	.2
Mixed	45	75	111	61	15	55	6	26	394	.9
	3164	4691	4824	1547	1151	291	210	584	16462	39.3
Prawn	2253	344	2232	2965	4749	4901	3615	4342	25401	60.7
Squid	5								5	
	5422	5035	7056	4512	5900	5192	3825	4926	41868	100.0

TONNES

ii) VESSEL LANDINGS - 1981

	Jan	Feb	Mar	April	May	June	July	Aug	Total	Division
	T	T	T	T	T	T	T	T	T	of Catch
Cod	1.50	2.79	4.25	1.10	.47	.16	.06	.11	10.44	12.1
Dogfish	.09	.09	.01	.05	.13	.08		.45	.90	1.0
Haddock	.24	.22	.10		.03				.59	.7
Hake	.55	.07	.16	.36	.25	.04	.08	.07	1.58	1.8
Monk	.21	.25	.51	.21	.34	.16	.07	.26	2.01	2.3
Plaice	.45	.02	.05	.02	.03		.01	.15	.71	.8
Saithe	.30	.39	.73	.06	.01	.02			1.51	1.8
Skate	.08	.01	.01	.03					.13	.2
Whiting	8.03	21.86	16.84	2.73	1.98	.21	.23	1.76	53.64	62.2
Sole			.05				.01	.06	.06	.1
Mixed	.20	.20	.54	.32	.03	.20	.03	.15	1.67	1.9
	11.65	25.88	23.25	4.88	3.27	.87	.49	2.95	73.24	85.0
Prawn	1.26	.16	1.07	1.52	2.46	2.56	1.80	2.09	12.92	15.0
Squid	.02								.02	
	12.93	26.04	24.32	6.40	5.73	3.43	2.29	5.04	86.18	100.0

111) VESSEL GROSS INCOME ANALYSIS OF PRAWN TRAWLER GROSSINGS AND LANDINGS JANUARY-AUGUST 1982

Month	Jan	Feb	March	April	May	June	July	Aug	Jan-Aug	Divisio
No. Days Fishing	16	17	19	15	13	15	13	17	125	of Incom
	E	E	E	E	E	E	E	E	E	%
Cod	217	444	776	624	70	100	5	-	2236	5.2
Dogfish	43	32	37	47	57	4	38	2	213	.5
Haddock		3							50	.1
Flake	14	54	34	133	143	183	99	11	671	1.6
Monk	215	197	279	206	59	74	53	51	1134	2.6
Plaice	109	92	70	10	12	29	4	1	327	.8
Saithe		36	40	79	3		8	3	169	.4
Skate	60	26	33	34		1			154	.4
Whiting	889	1428	1907	1223	475	282	181	208	6593	15.3
Sole	11	7	17	27			9		71	.2
Mixed	39	53	82	12	13	53	26	42	320	.7
Prawn	1597	2372	3275	2395	832	726	423	318	11938	27.7
Squid	2447	2481	3398	3439	3650	6548	4775	4345	31083	72.2
	25								25	.1
	4069	4853	6673	5834	4482	7274	5198	4663	43046	100.0

TONNES

iv) VESSEL LANDINGS

	Jan	Feb	March	April	May	June	July	Aug	Total	Divisio
	T	T	T	T	T	T	T	T	T	of Catch
Cod	.39	.99	1.79	1.46	.15	.15	.02	.01	4.95	8.2
Dogfish	.29	.14	.07		.18	.11	.57		1.37	2.3
Haddock		.01							.05	.1
Flake	.03	.04	.03	.13	.18	.18	.08	.01	.68	1.1
Monk	.58	.45	.60	.44	.24	.22	.20	.23	2.96	4.9
Plaice	.30	.16	.09	.02	.02	.05	.01	.01	.66	1.1
Saithe	.03	.12	.16	.41	.01	.03	.01	.01	.78	1.3
Skate	.16	.05	.11	.09					.41	.7
Whiting	4.73	6.19	11.09	6.76	1.37	.91	.73	.89	32.67	54.2
Sole	.01	.01	.02	.02			.01		.07	.1
Mixed	.10	.16	.25	.10	.03	.19	.09	.15	1.07	1.8
Prawn	6.62	8.32	14.21	9.47	2.18	1.84	1.72	1.31	45.67	75.8
Squid	1.17	1.29	1.54	1.41	1.73	2.92	2.22	2.29	14.57	24.2
	.03								.03	
	7.82	9.61	15.75	10.38	3.91	4.76	3.94	3.60	60.27	100.0

CATCH RATES 1981, 1982 - PRAWN TRAWLER
(DAILY AVERAGE - 13 HRS/DAY AT SEA)
8 MONTHS TO AUGUST

	1981	1982	VARIANCE
NO HOURS FISHING	1521	1625	% + (-)
Cod	6.86 kg/hr	3.05 kg/hr*	(55.5)
Dogfish	.59 "	.84 "	42.4
Haddock	.39 "	.03 "	(92.3)
Hake	1.03 "	.42 "	(59.2)
Monk	1.32 "	1.82 "	37.9
Plaice	.47 "	.41 "	(12.8)
Saithe	.99 "	.48 "	(51.5)
Skate	.09 "	.25 "	177.8
Whiting	35.27 "	20.10 " **	(43.0)
Sole	.04 "	.04 "	-
Mixed	1.10 "	.66 "	(40.0)
Prawn	8.49 "	8.97 " ***	5.7
Squid	.01 "	.02 "	100.0

NOTES * and ** When the 1981 and 1982 data relating to the first two months of the demersal season is examined the dramatic drop in catch rates is even more apparent for this class of vessel, i.e. 60% in each case.

NOTE *** Over the 8 months the data for the prawn catch shows only a small increase in catch rates from 1981 to 1982. For 1982 as a whole, the evidence is a significant increase of about 19%

COST OF CATCHING, LANDING AND SELLING AT QUAYSIDE

DEMERSAL AND SHELLFISH

	1981		Jan-Aug 1982		Cost Es
	Demersal	Shell Fish	Demersal	Shell Fish	Shellfi Catch O 1982
TONNES LANDED	109.99	17.26	45.67	14.60	14.6
	p/Kg	p/Kg	p/Kg	p/Kg	p/Kg
QUAYSIDE SELLING PRICE	22.0	193.2	26.1	213.0	213.0
OPERATING COSTS:-					
CATCHING	12.9	12.9	22.2	22.2	91.8
LANDING	.4	3.9	.5	4.3	4.3
SHARE MONEY	6.9	101.7	4.3	114.6	80.0
SELLING	1.1	9.7	1.3	10.7	10.7
	21.3	128.2	28.3	151.8	186.8
PROFIT - BEFORE DEP'N & INT	.7	65.0	(2.2)	61.2	26.2

FINANCIAL ANALYSIS PELAGIC TRAWLER

Reg. Length - 74.5' Horse Power - 500 H.P.

No. Crew - Skipper + 6 Crew

	1981		1982	
No. Days at Sea	170		170	
	£	£	£	£
	Cost/Day	At Sea	Cost/Day	At Sea
Grossing	122,000	718	141,000	829
	122,000	718	141,000	829
	Annual Cost		Annual Cost	
EXPENSES				
DIRECT COSTS:-				
Food	2,225	13	2,341	14
Fuel	24,030	141	27,538	162
Ice				
Sundries	67	-	100	1
Sales Commission	6,422	38	7,332	43
Landing/Wharfage	2,702	16	3,102	18
	35,446	208	40,413	238
FIXED COSTS:-				
Equipment Hire	2,360	14	2,903	17
Insurance	7,579	45	8,792	52
Admin Cost Etc.	2,037	12	2,100	12
TOTAL FIXED COSTS	11,976	71	13,795	81
OPERATING COSTS	47,422	279	54,208	319
OPERATING SURPLUS	74,578	439	86,792	510
SHARE ALLOCATION	34,621	204	40,235	237
TOTAL OPERATING SURPLUS	39,957	235	46,557	273
Repairs	11,612	68	12,800	75
Gear	6,341	37	7,000	41
NET PROFIT BEFORE INT & DEP'N	22,004	130	26,757	157

EFFECT ON LANDINGS AND INCOME FOR THE N.I. FLEET BY THE
INTRODUCTION OF EEC QUOTAS TO THE MAIN DEMERSAL SPECIES

A) QUOTA ALLOCATION BASED ON 1982 SHARE

Species	1982		Probable Quota U.K.	Probable N.I. Share of U.K. Quota %	N.I. - Quota		Variance	
	Tonnes	£'000			Tonnes	£'000	Tonnes	£'000
Cod	3885	1501.0	6400	51.0	3264	1261.0	- 621	-240.0
Plaice	161	54.4	2300	.5	12	4.1	- 149	- 50.3
Sole	34	56.5		10.0	34	56.5	-	-
Whiting	9934	1885.9	9600	88.0	8448	1603.8	- 1486	-282.1
Hake	385	386.1	3800	12.0	456	457.3	+ (71)	+(71.2)
	14399	3883.9			12214	3382.7	-2185	-501.2

VARIANCE ANALYSIS ON 1982 LANDINGS

DEMERSAL ONLY ALL PELAGIC PRAWN & DEMERSAL LANDINGS

1. Volume Reduction	15.2%	6.5%
2. Income Reduction	12.9%	5.4%

SHOULD UK COD QUOTA BE REDUCED TO 3200 TONNES (SEE B)

1. Volume Reduction	26.5%	11.4%
2. Income Reduction	29.1%	12.2%

B) EFFECT ON LANDINGS & INCOME BY INTRODUCTION OF QUOTA CONTROL IN NORTHERN IRELAND - COD QUOTA AT 3200 TONNES

Species	1982		Quota U.K. Tonnes	N.I. Share U.K. Quota %	N.I. Landings Quota Tonnes	£'000	Variance	
	Tonnes	£'000					Tonnes	£'000
Cod	3885	1501.0	3200	57.0	1632	630.5	2253	870.5
Plaice	161	54.4	2300	0.5	12	4.1	149	50.3
Sole	34	56.5		10.0	34	56.5	-	-
Whiting	9934	1885.9	9600	88.0	8448	1603.8	1486	282.1
Hake	385	386.1	3800	12.0	456	457.3	(71)	(71.2)
	14399	3883.9			10582	2752.2	3817	1131.7

VARIANCE

- A) Volume: Reduction/Demersal Only
Tonnes 3817 = 26.5% Reduction on 1982 Landings - Demersal
- B) Value (£'000) £1132 = 29.1% Reduction on 1982 Income - Demersal
- C) Volume Reduction Related to Pelagic, Demersal and Prawn Landings = 11.4%
- D) Revenue Reduction Related to Pelagic Demersal and Prawn Income = 12.2%

NORTHERN IRELAND LANDINGS 1980 - 1982

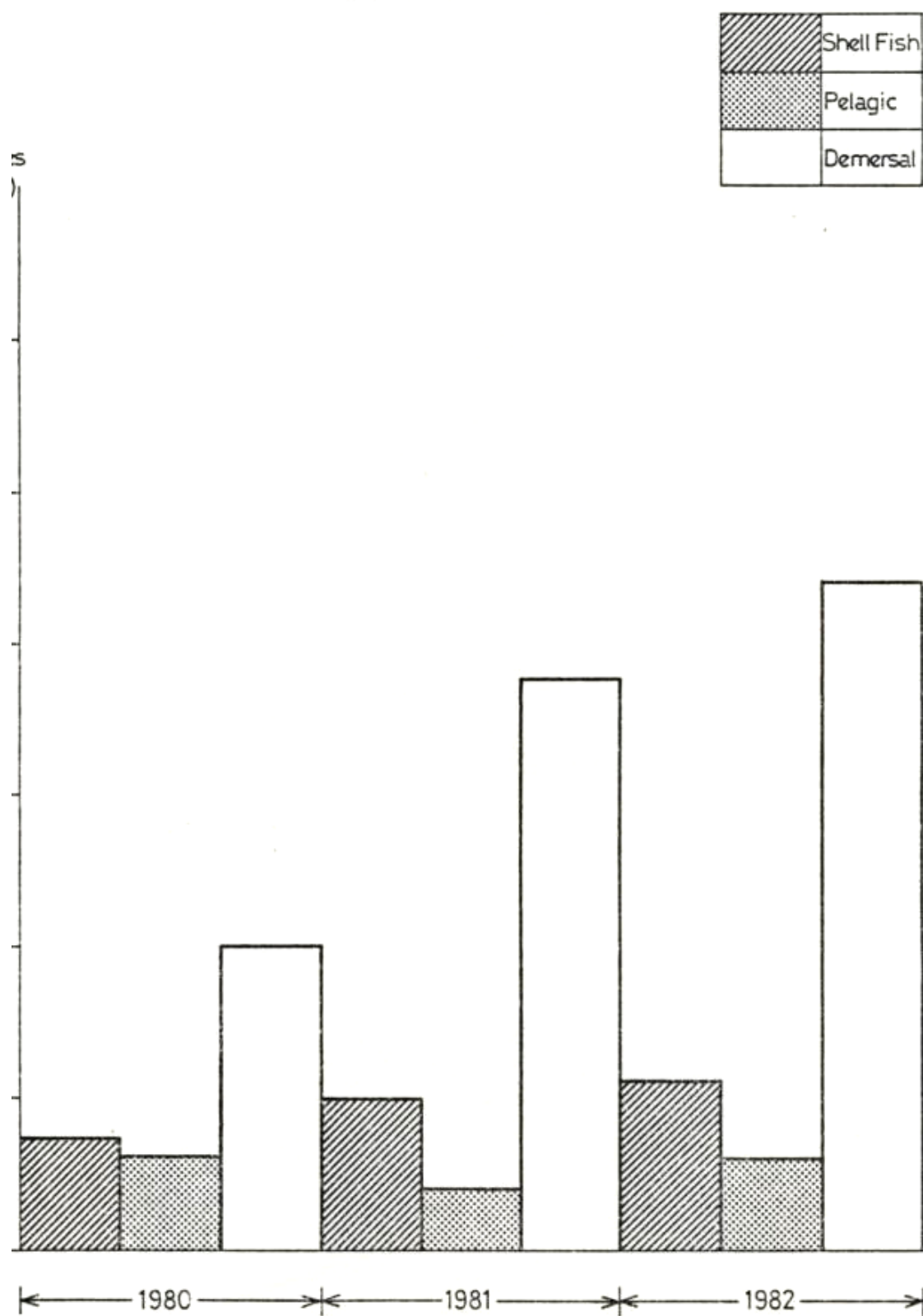
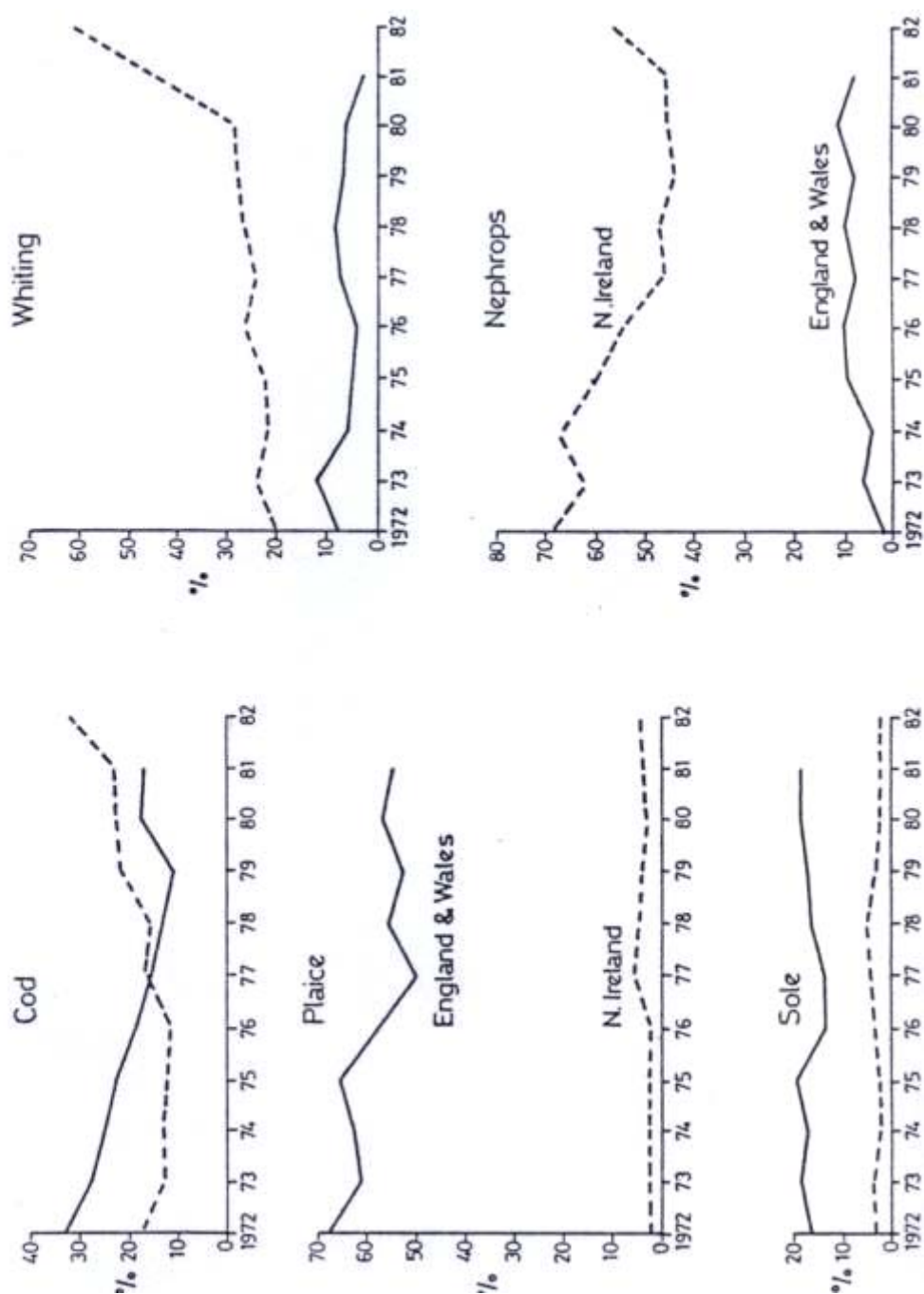


Fig 1

Fig. 2. Percentage Of International Catch
North Irish Sea Landings
Main Species 1972 - 82



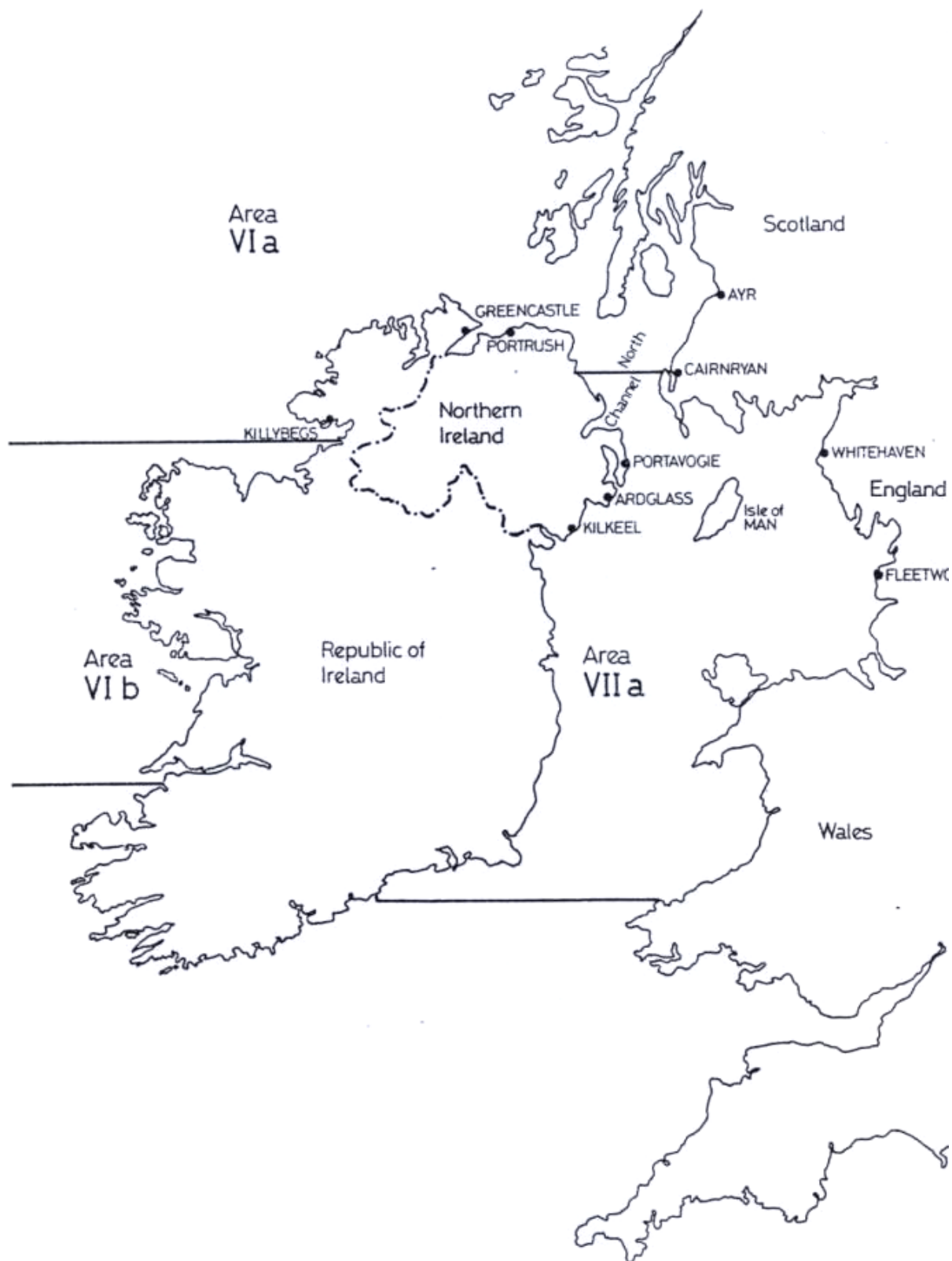


Fig. 3 Fishing Areas of Northern Ireland

Fig. 4 Breakdown of Whiting Catches
 Area VIIa Irish Sea, proportionate catch data England and
 Wales, Republic of Ireland and Northern Ireland respectively
 x 100% 1981 (ICES).

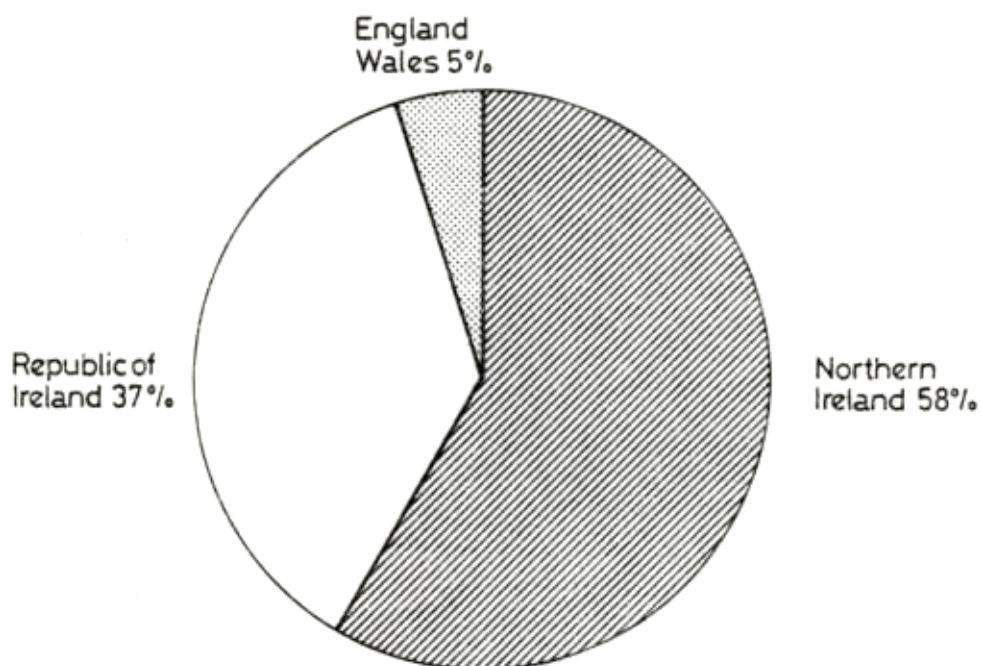


Fig. 5
 Breakdown of Cod Catches

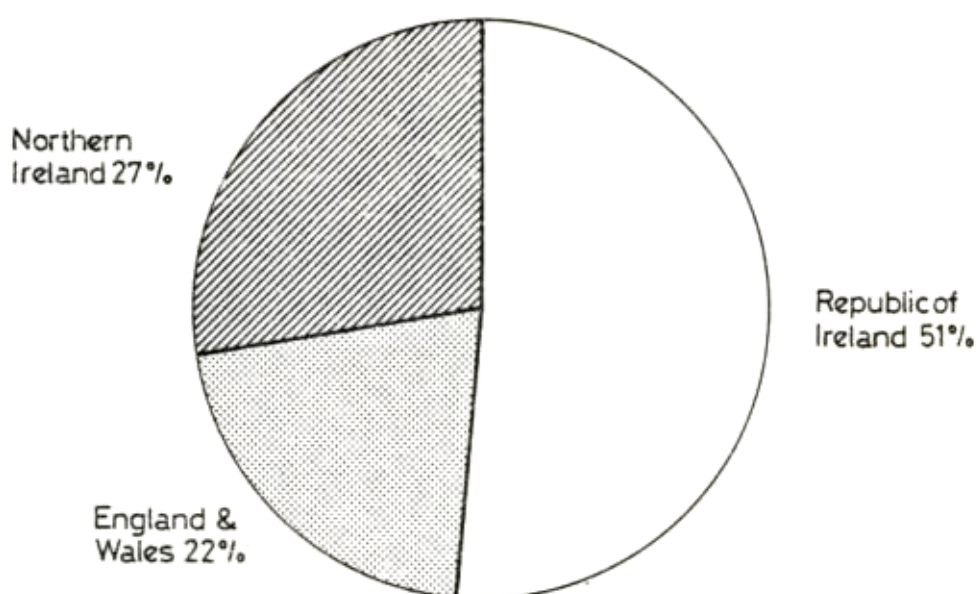


Fig. 6
Breakdown of Nephrops Catches

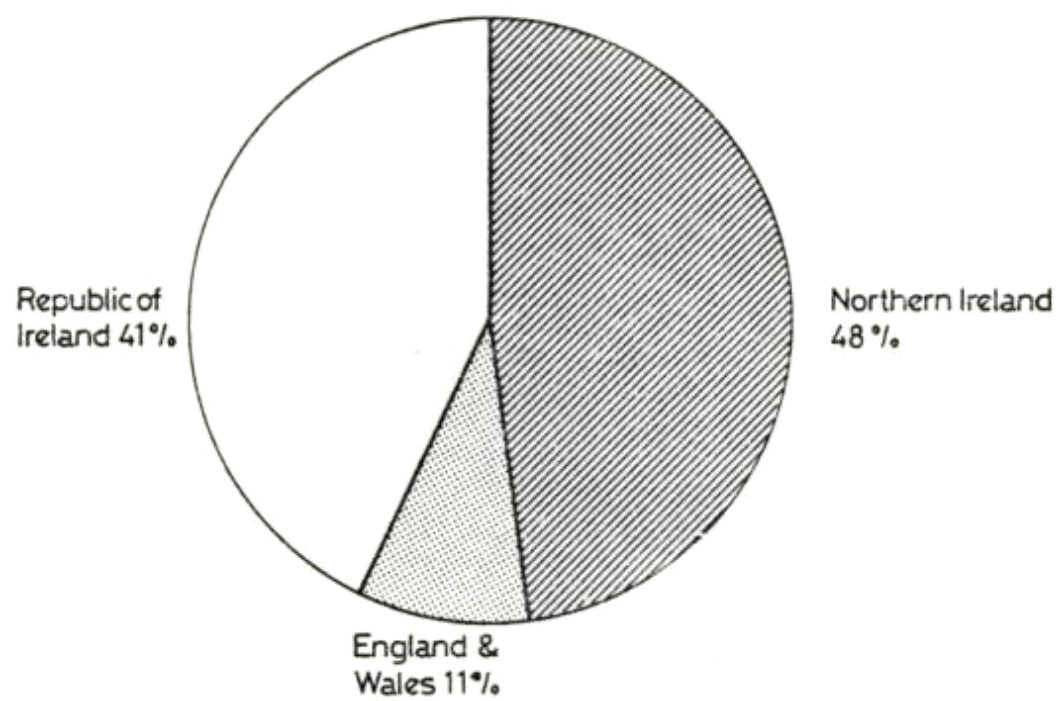


Fig. 7
Breakdown of Plaice Catches

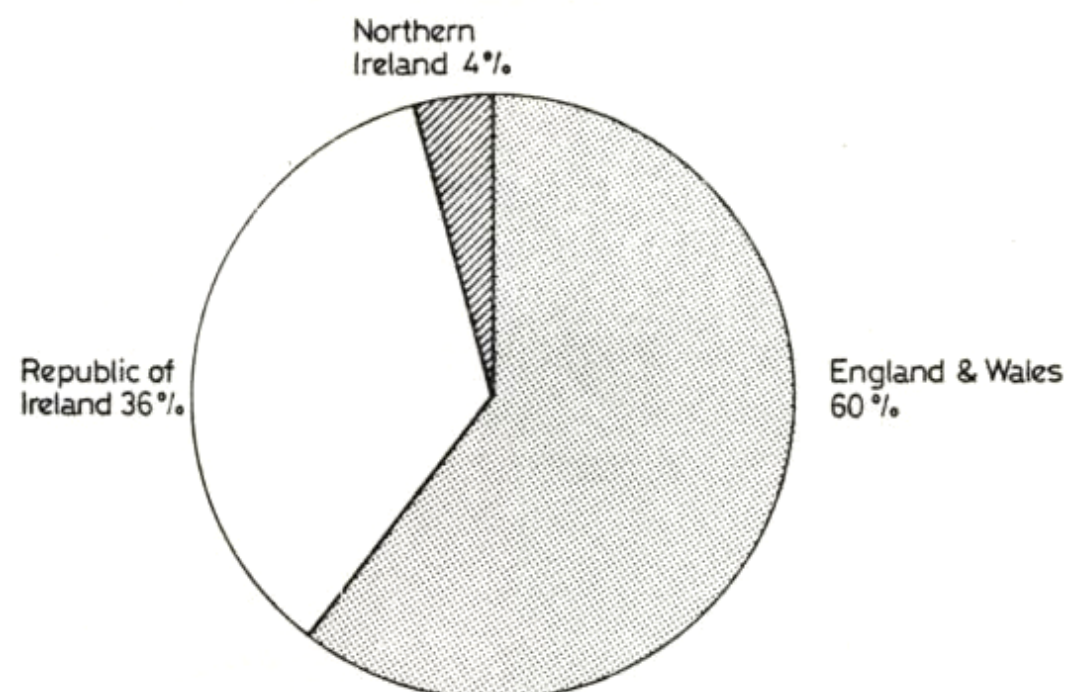


Fig. 8 NORTHERN IRELAND
ANALYSIS OF ESTIMATED FRESH DEMERSAL SUPPLY AND DEMAND
LANDED WHOLE FISH EQUIVALENT

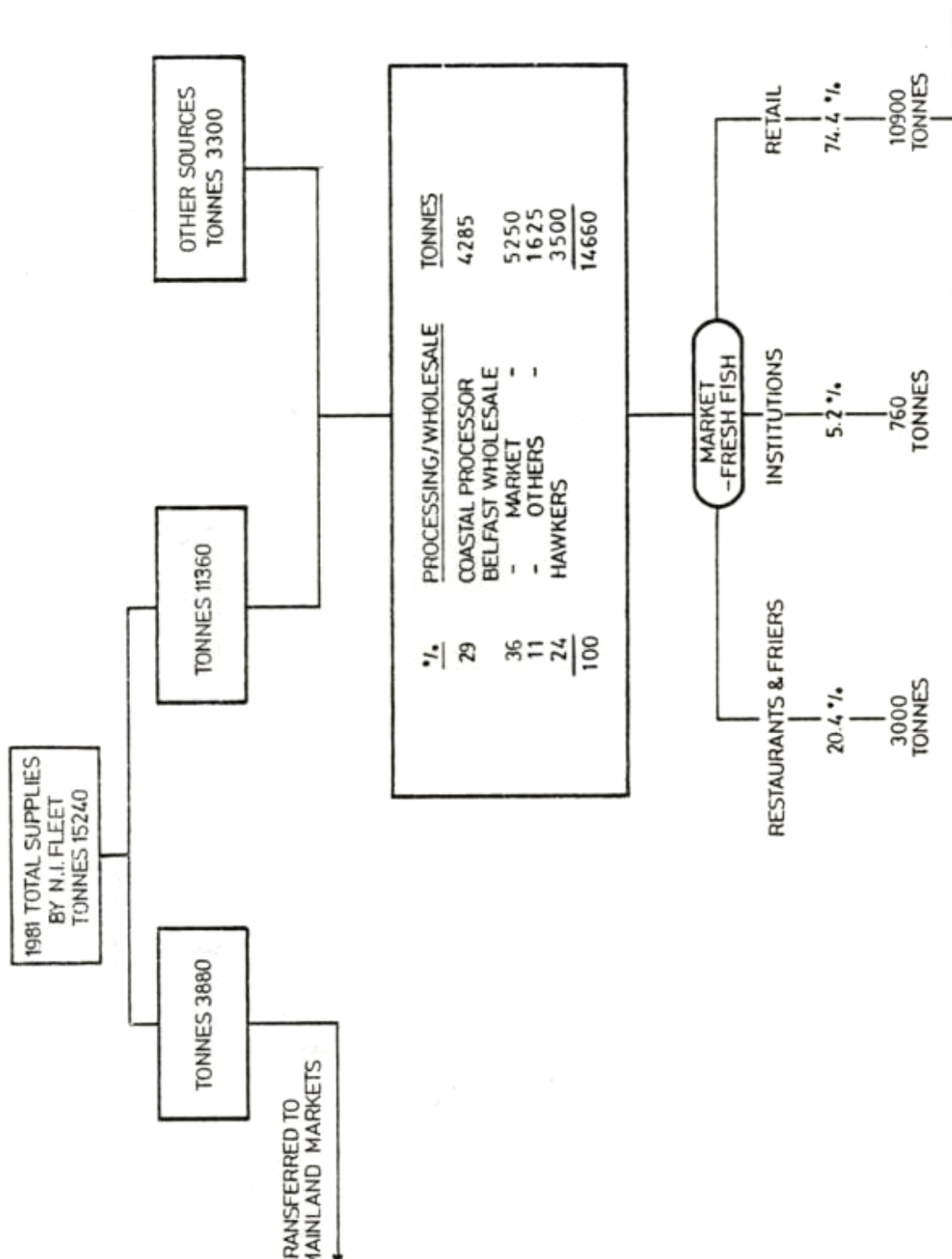


Fig.9
N.I.FISH TRADE ORGANISATIONAL STRUCTURE

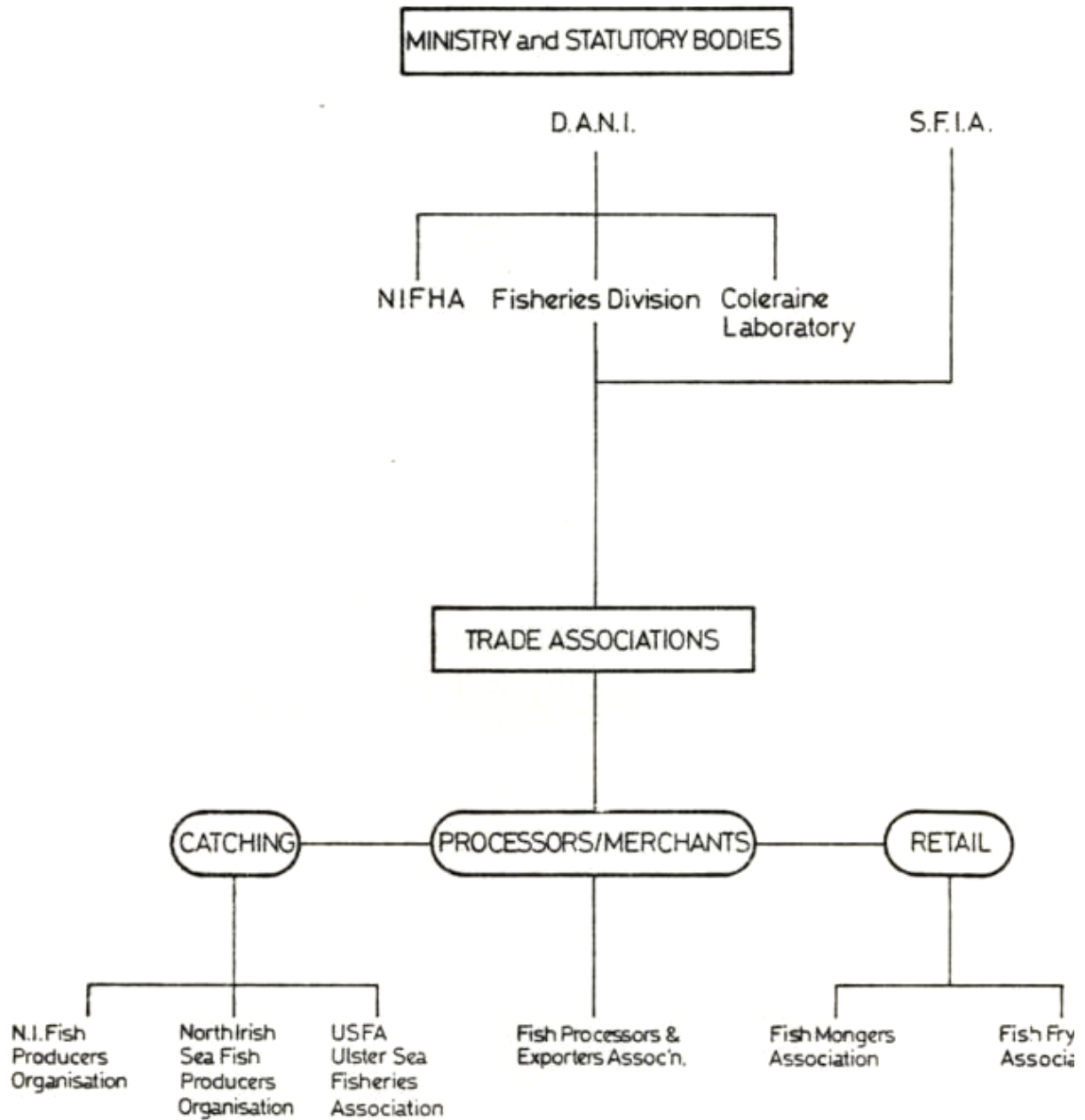
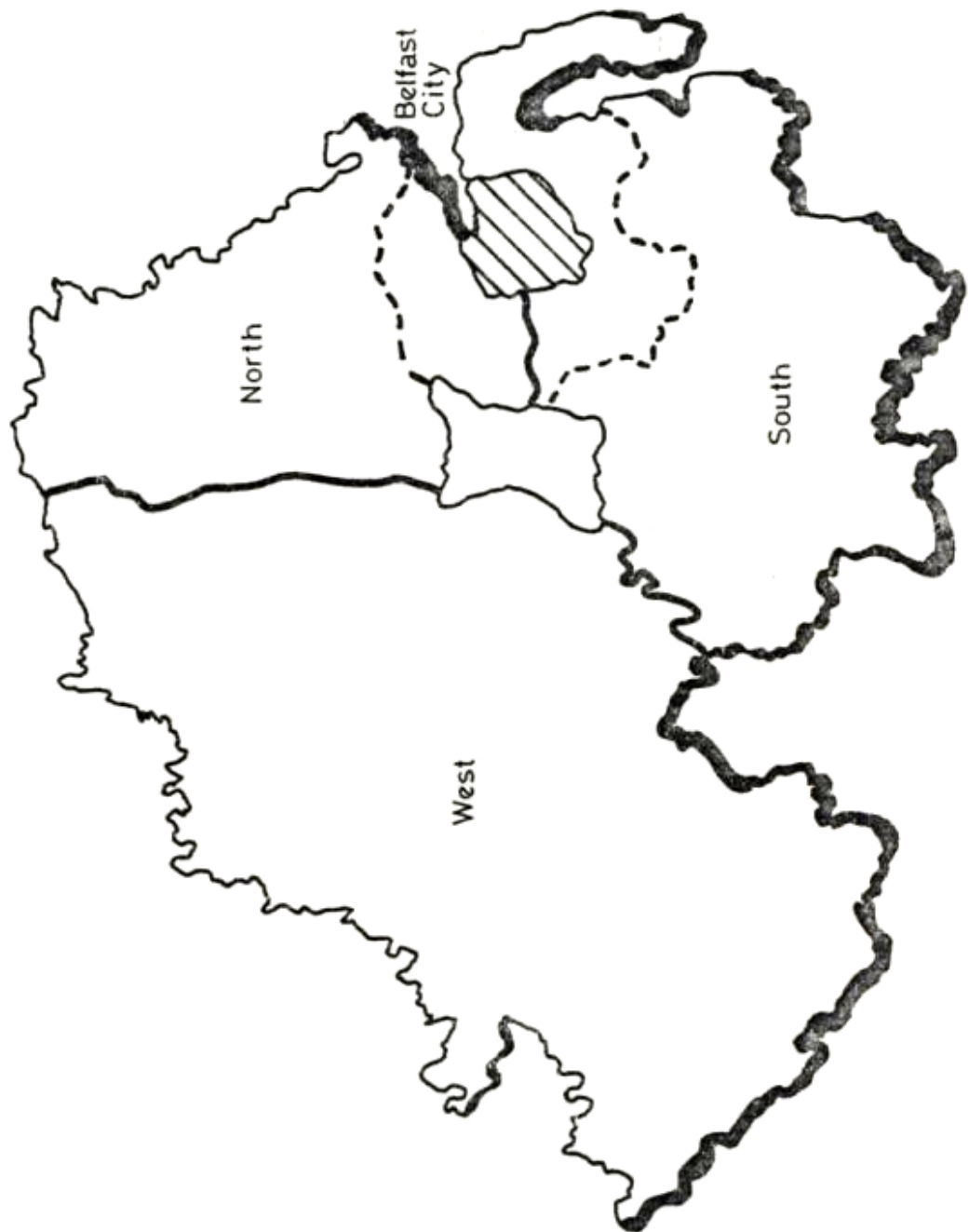


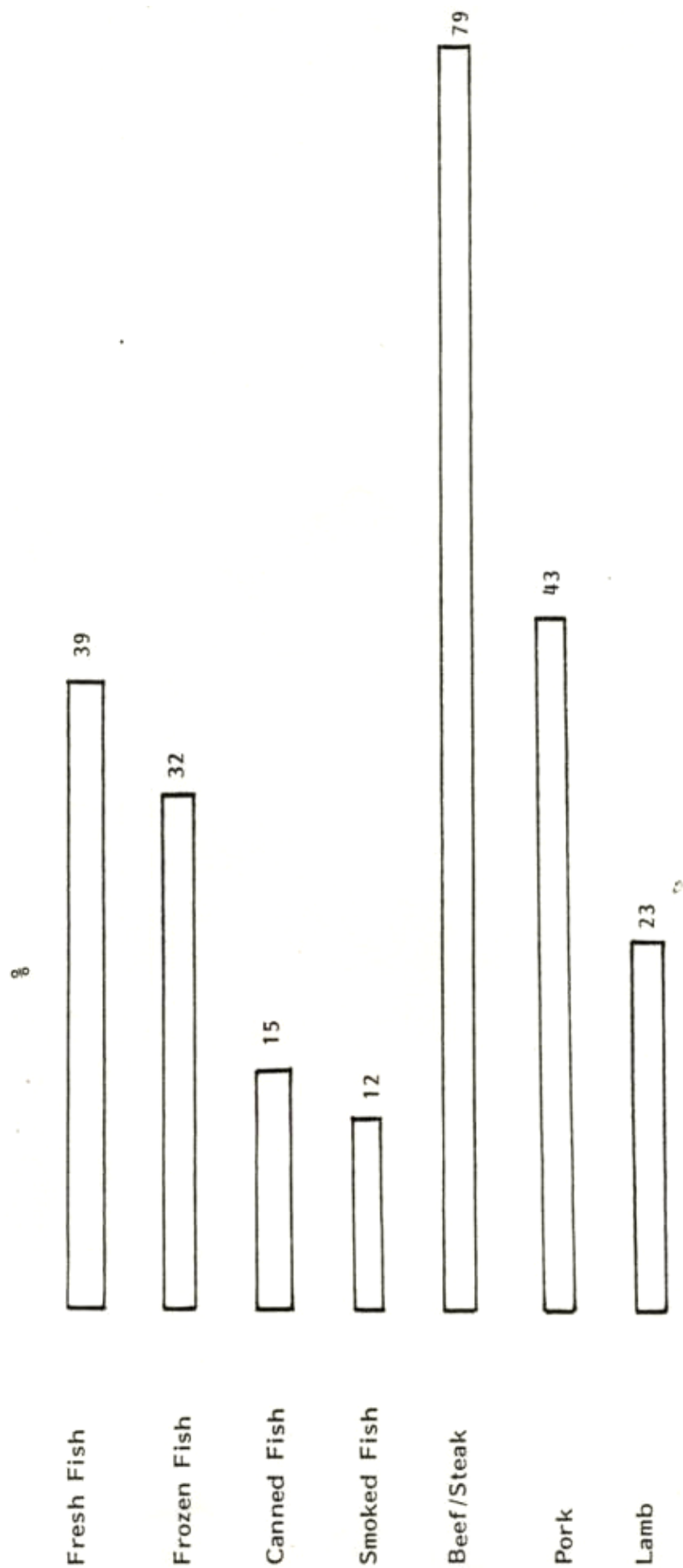
Figure 10
Northern Ireland Regions – Consumer Survey



FOOD TYPES BOUGHT IN PAST WEEK

Base: 493 Housewives

FIG. 11



CONSUMER SURVEY

Fig 12

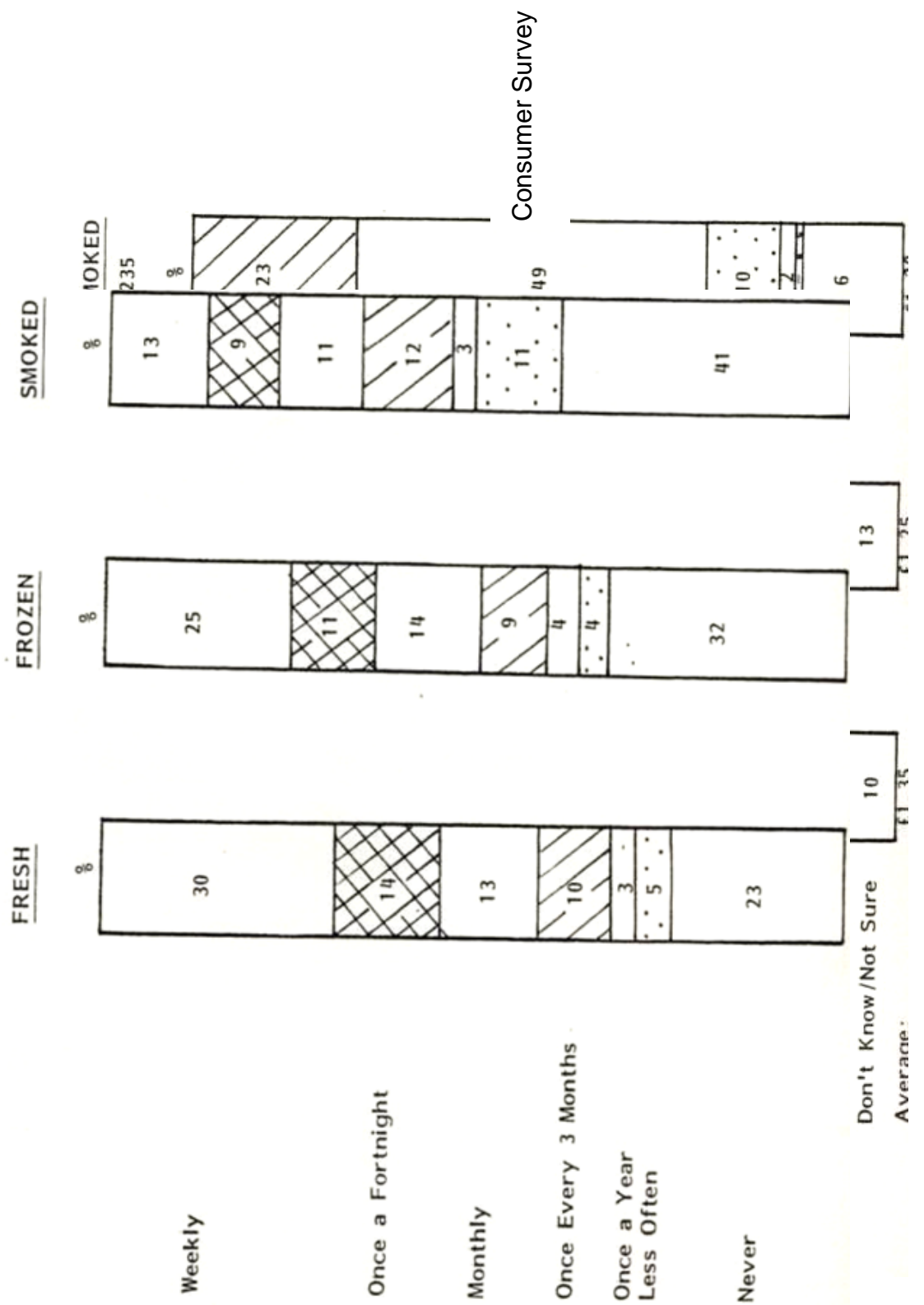
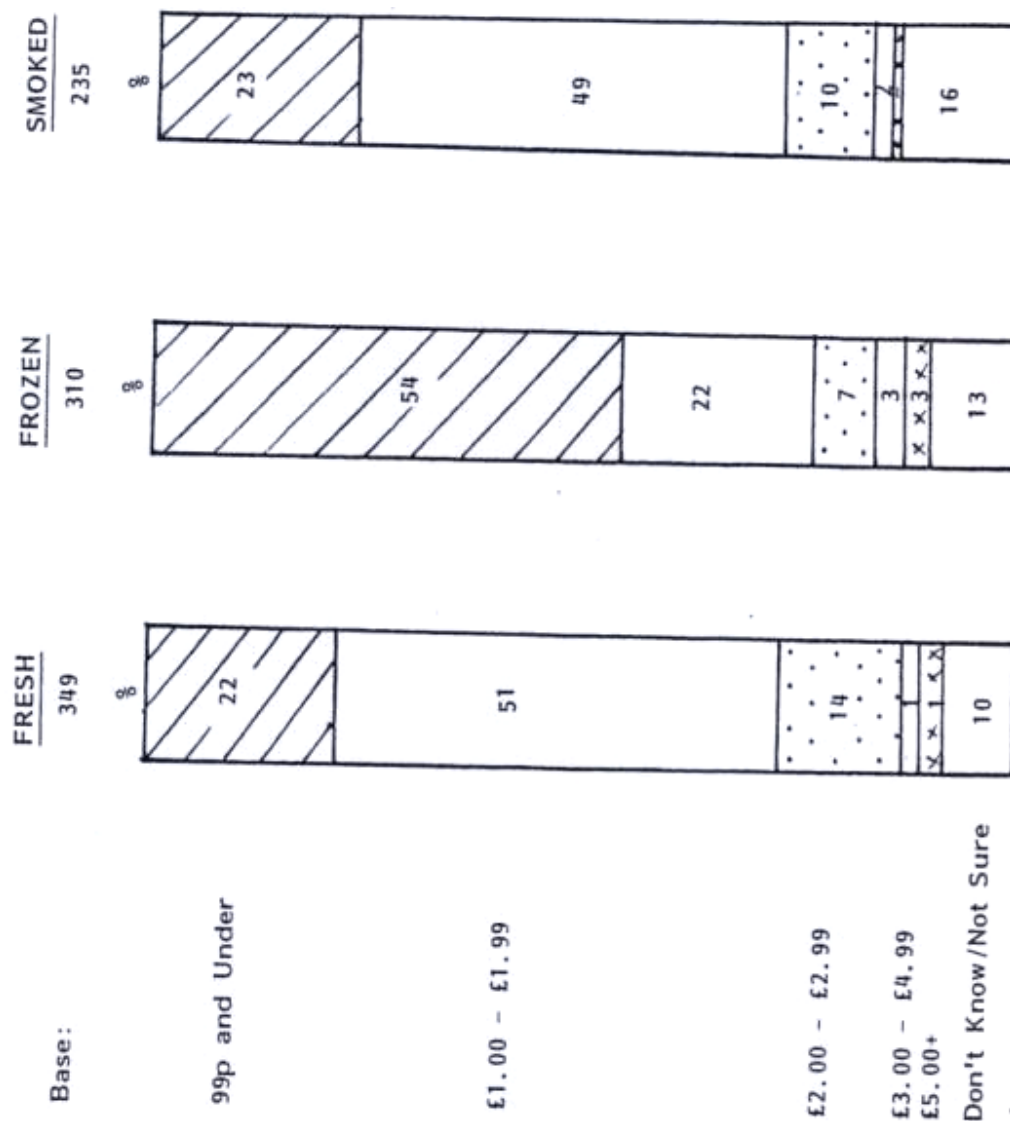


Fig 13

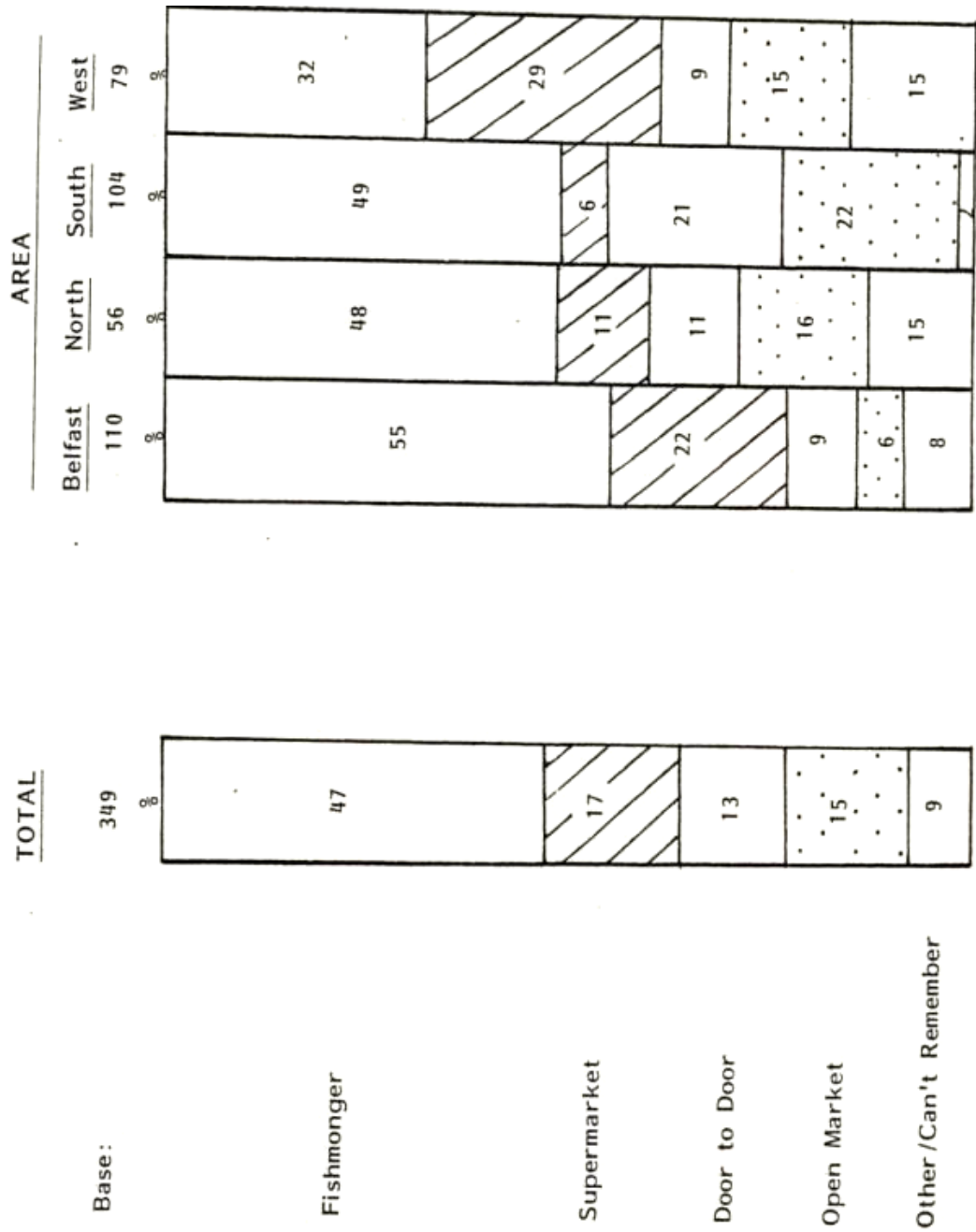
AMOUNT SPENT ON LAST PURCHASING OCCASION

Base: All Purchased Fish Type in Past Year



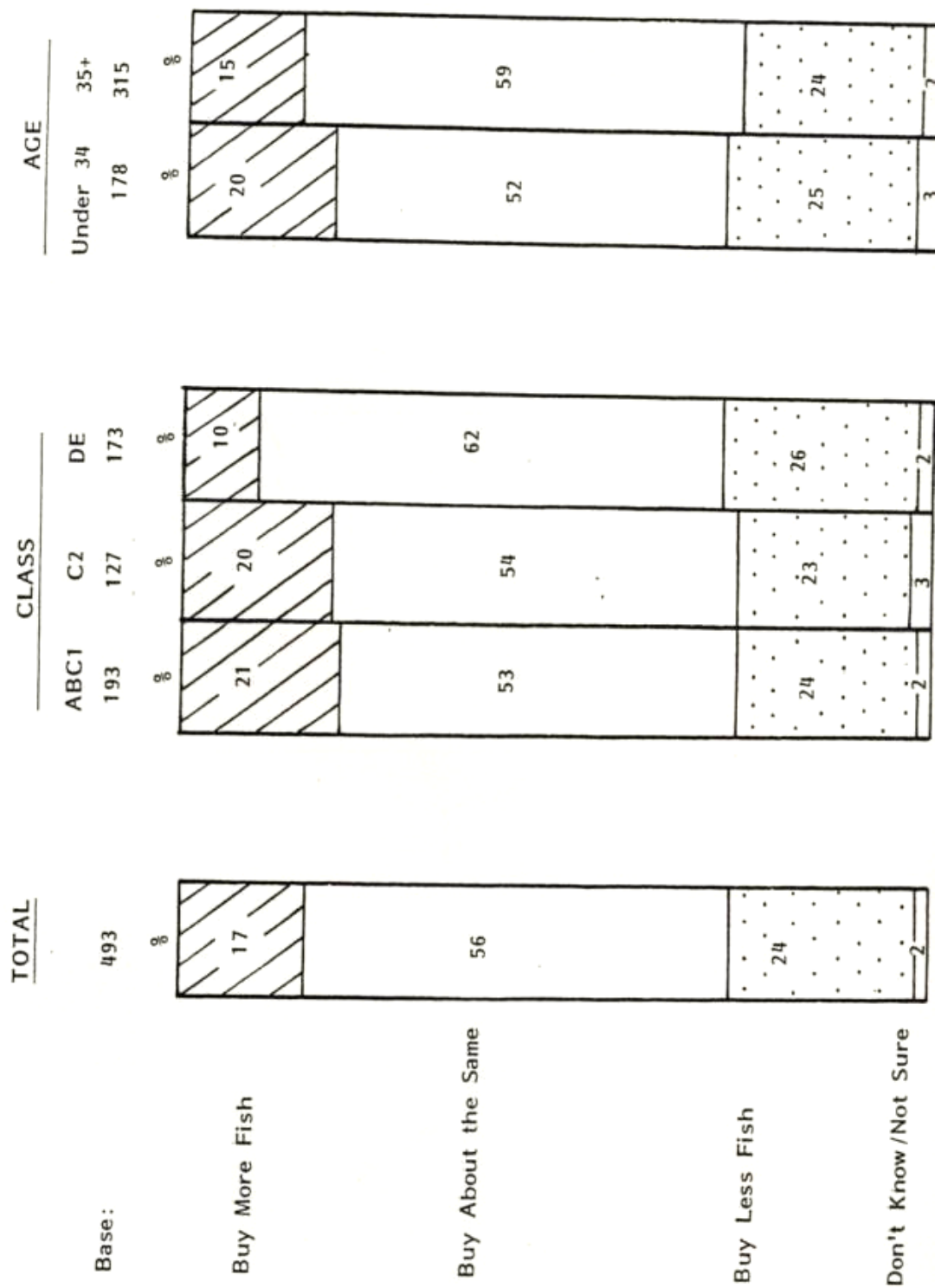
LOCATION OF LAST PURCHASE - FRESH FISH
(All Bought Fresh Fish in Past Year)

FIG



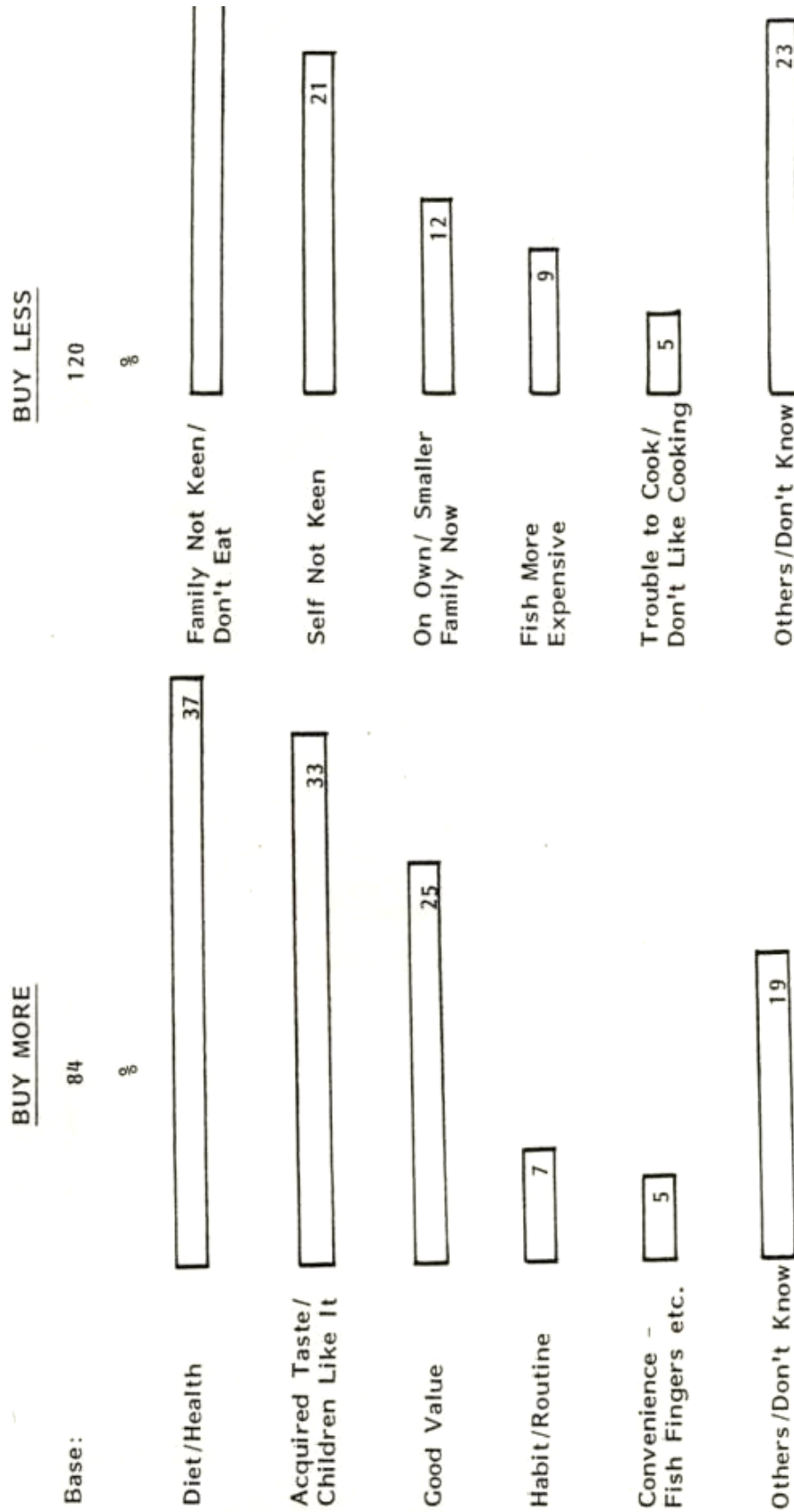
TRENDS IN BUYING FISH
(All Housewives)

FIG. 15



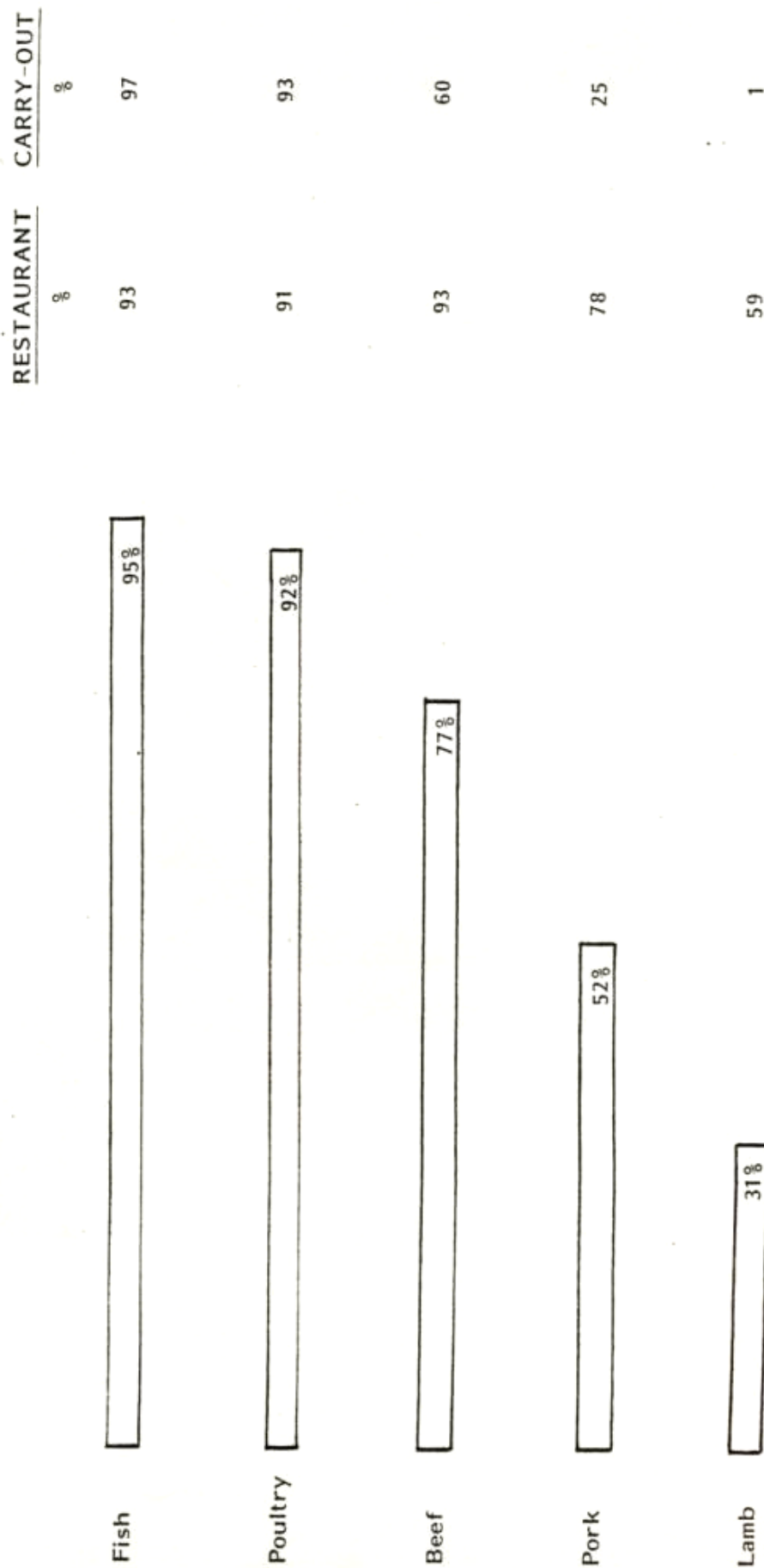
REASONS FOR TRENDS IN FISH BUYING
(All Buy More/Less Nowadays)

FIG. 16



FOODS SERVED REGULARLY
(All Outlets)

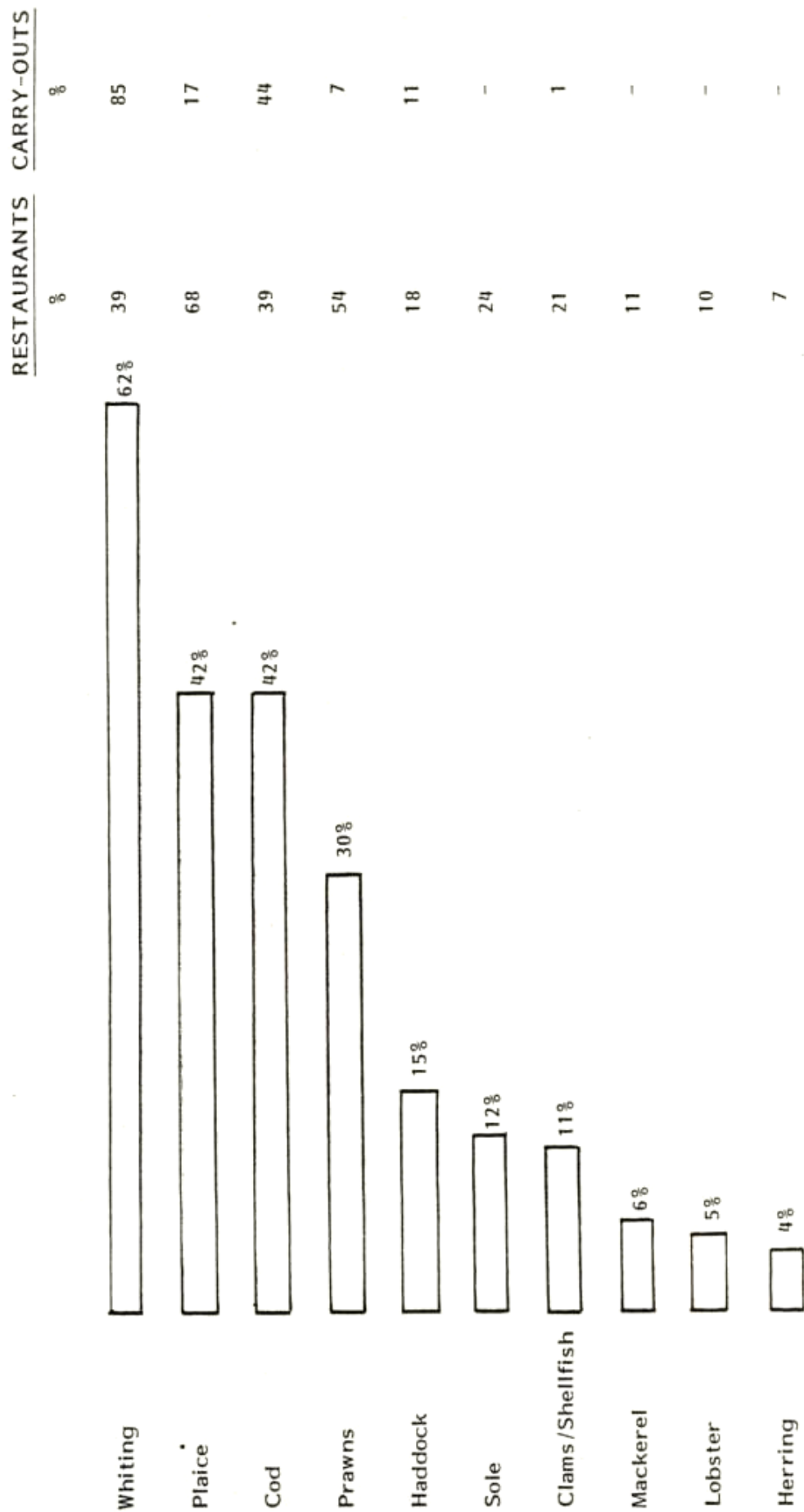
FIG. 17



FISH TYPES SERVED REGULARLY

FIG. 18

(All Outlets Serve Fish)



EXPENDITURE ON FOOD TYPES - RESTAURANTS (76)

FIG. 19

	WEEKLY AVERAGE PER OUTLET	GROSS WEEKLY EXPEND- ITURE	ESTIMATED ANNUAL MARKET VALUE (Wholesale Prices)
	£	£	£
Beef	£161.43	£12,269	£6.4 m.
Poultry	£86.62	£6,583	£3.4 m.
Fish	£84.93	£6,455	£3.4 m.
Pork	£36.75	£2,793	£1.4 m.
Lamb	£28.21	£2,144	£1.1 m.

EXPENDITURE ON FOOD TYPES - CARRY-OUTS (73)

FIG. 20

	WEEKLY AVERAGE PER OUTLET £	GROSS WEEKLY EXPEND- ITURE £	ESTIMATED ANNUAL MARKET VALUE £
Fish	£134.15	£9,793	£2.7 m.
Poultry	£76.68	£5,598	£1.5 m.
Beef	£40.38	£2,948	£0.8 m.
Pork	£8.49	£620	£0.2 m.
Lamb	£0.14	£10	£3,000

EXPENDITURE ON FISH TYPES - RESTAURANTS (76)

FIG. 21

	WEEKLY AVERAGE EXPENDITURE £	GROSS WEEKLY EXPEND- ITURE £	ESTIMATED ANNUAL MARKET VALUE (Wholesale Prices) £
Prawns	£29.22	£2,221	£1.2 m.
Plaice	£19.23	£1,462	£0.8 m.
Whiting	£12.06	£917	£0.5 m.
Sole	£6.28	£477	£0.3 m.
Cod	£6.20	£471	£0.2 m.
Clams /Shellfish	£5.45	£414	£0.2 m.
Lobster	£2.45	£186	£0.1 m.
Haddock	£1.80	£137	£0.05 m.
Mackerel	£1.32	£100	£0.05 m.

EXPENDITURE ON FISH TYPES - CARRY-OUTS (73)

FIG. 22

	WEEKLY AVERAGE PER OUTLET £	GROSS WEEKLY EXPEND- ITURE £	ESTIMATED ANNUAL MARKET (Wholesale Price) £
Whiting	£95.71	£6,978	£1.9 m.
Cod	£20.49	£1,496	£0.4 m.
Haddock	£3.83	£280	£0.1 m.
Plaice	£2.62	£191	£0.05 m.
Others	£10.96	£800	£0.2 m.
TOTAL		<u>£2.7 m.</u>	

MAIN SUPPLIERS OF FISH

(All Ever Serve Fish)

FIG 23

OUTLET TYPE		LOCATION	
Rest-aurant	Carry-Out	Greater Belfast	Rest of Northern Ireland
71	71	48	94
%	%	%	%
66	69	52	76
24	15	40	10
10	7	2	12
4	7	13	2
7	1	-	6

TOTAL

142

Base:

Wholesaler

68%

Local Fishmonger

20%

Direct From Quays

8%

Market

6%

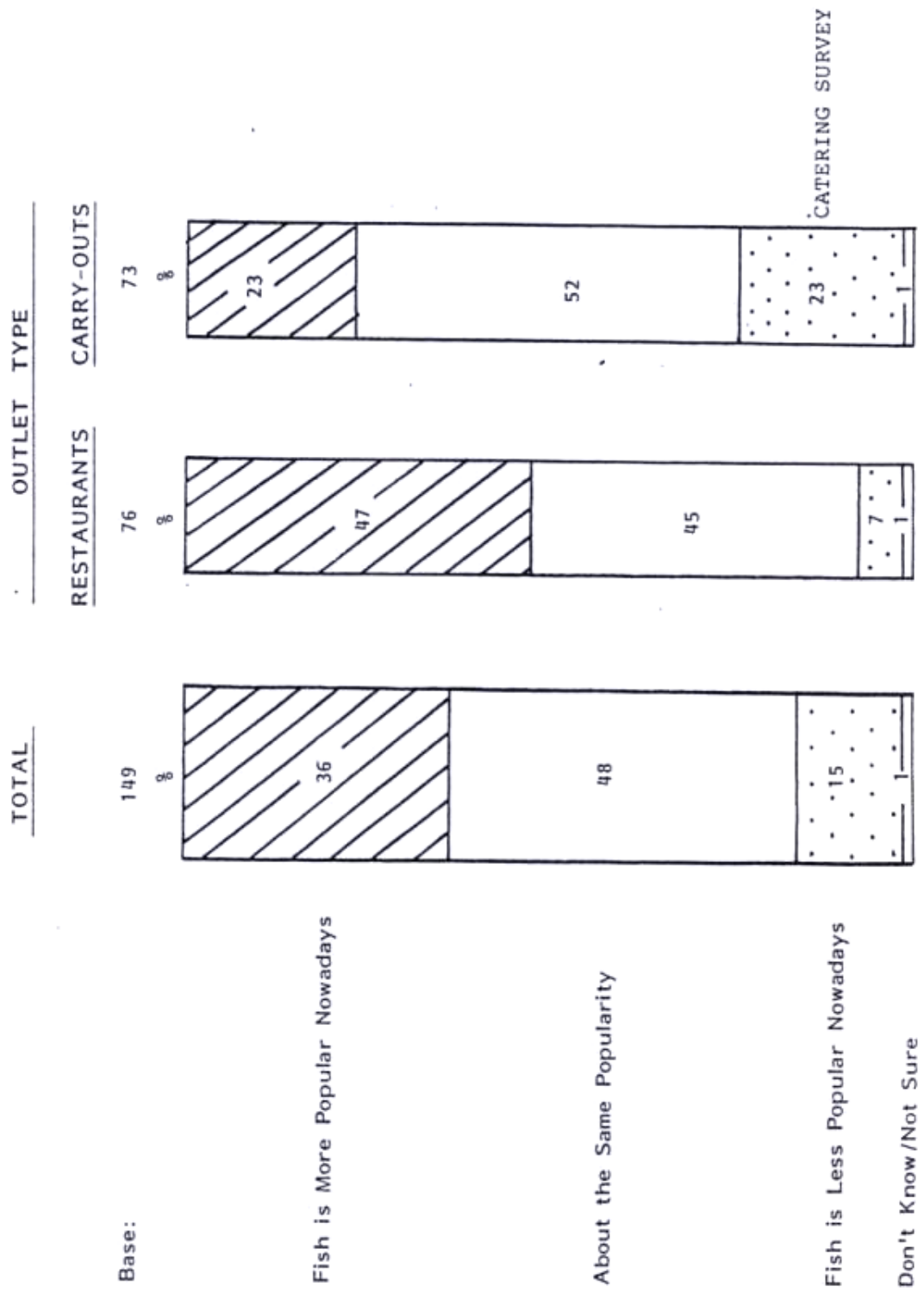
Others

4%

CATERING SURVEY

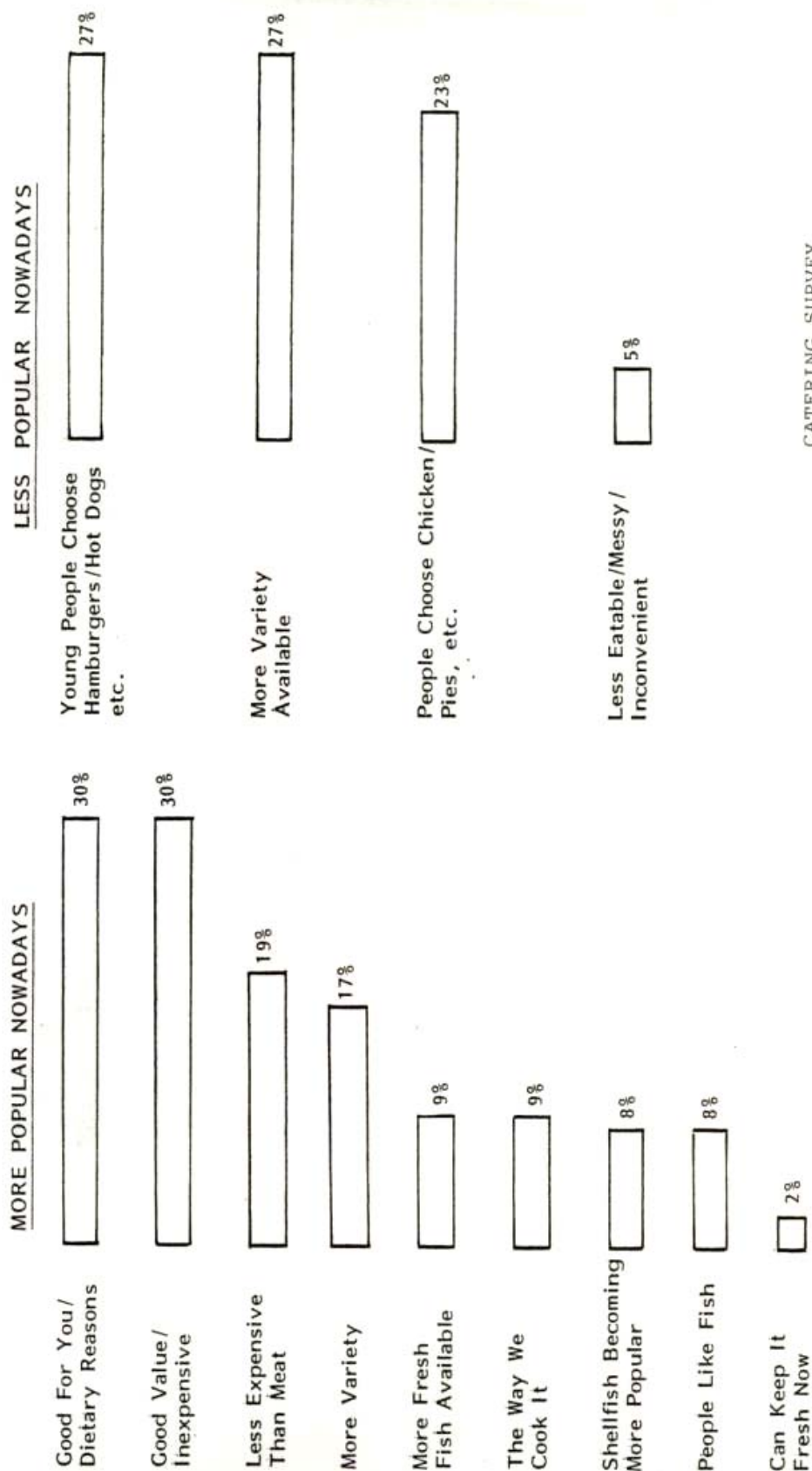
PERCEIVED POPULARITY OF FISH
(All Outlets)

FIG. 24



REASONS FOR POPULARITY

FIG 25



CATERING SURVEY