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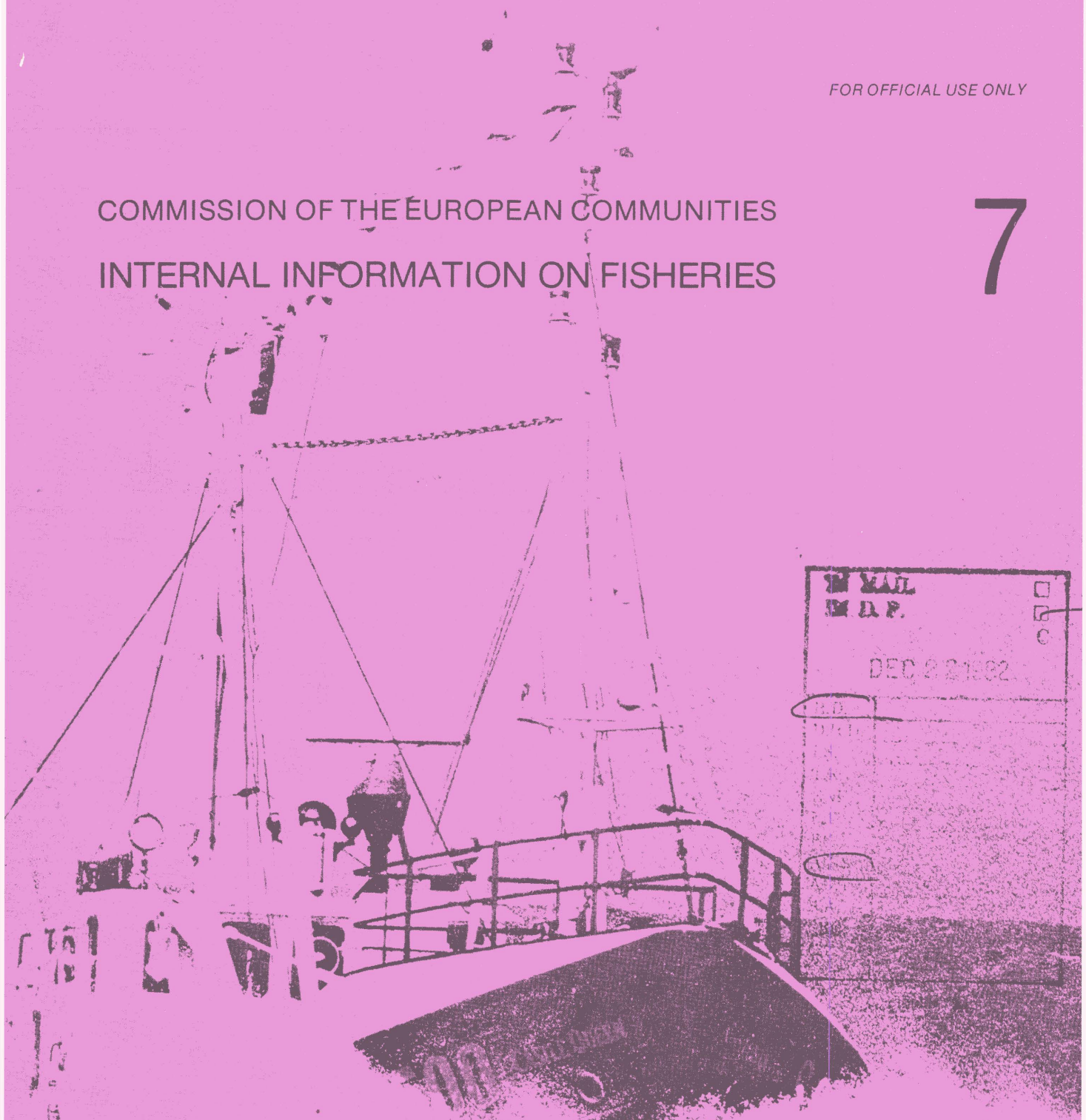

The regional impact of the EEC fisheries policy

The economic and social situation and outlook for the fisheries sector in certain regions of the Community:

NORTHERN IRELAND

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NORTHERN IRELAND

XIV/203/81-EN

DEN REGIONALE VIRKNING AF EF'S FISKERIPOLITIK: DE ØKONOMISKE OG SOCIALE PERSPEKTIVER FOR FISKERI-ERHVERVET I VISSE REGIONER I EF: NORDIRLAND

Resumé

I denne rapport gennemgås udviklingen inden for nordirsk fiskeri og den dertil knyttede forarbejdningsindustri i de sidste 10 år, der foretages en analyse af den nuværende situation og anstilles betragtninger over alternative rammer for den fremtidige udvikling.

I 1970'erne oplevede erhvervet opgange og nedgange: fiskerflåden og forarbejdningssektoren voksede begge med finansiel bistand fra DANI og EF-Kommissionen. Beskæftigelsen inden for erhvervet øgedes, og fangstmængden øgedes ligeledes. Imidlertid aftog fangstmængderne pr. fartøj, efterhånden som Irlands og Skotlands fartøjer samt de nordirske fartøjer øgede fiskeriaktiviteterne i den nordlige del af Det irske Hav.

I 1980 har erhvervet vist tegn på overskydende kapacitet, ligesom tilfældet er for alle fiskerflåderne i Det europæiske Fællesskab. Forslag om at omlægge fiskeriindsatsen ville være uhensigtsmæssige og forslag om at reducere flåden unødvendigt krævende. Udviklingen af den nordirske flåde kan bedst gennemføres ved iværksættelse af en fiskeriplan, der giver Nordirland en fortrinsstilling i den nordlige del af Det irske Hav. Dette behandles i rapporten. Forholdene med hensyn til afsætningen af fisk i Nordirland, fra de landes, til de når frem til supermarkedet, kræver væsentlige forbedringer, og der anbefales i rapporten en iværksættelse heraf efter en mere indgående undersøgelse.

Det er af afgørende samfundsmæssig betydning, at beskæftigelsen i Nordirland bevares og forøges. Med en moderat udvidelse af fangstsektoren og en forbedring af afsætningen af fisk i Nordirland kan dette opnås for South Down-områdets vedkommende, et område med få alternative erhverv.

DIE REGIONALEN AUSWIRKUNGEN DER FISCHEREIPOLITIK DER EWG : WIRTSCHAFTLICHE UND SOZIALE AUSSICHTEN FÜR DIE FISCHWIRTSCHAFT INNERHALB BESTIMMTER REGIONEN DER EWG : NORDIRLAND

Übersicht

Dieser Bericht befasst sich mit der Entwicklung der nordirischen Fischerei und fischverarbeitenden Industrie in den letzten zehn Jahren, analysiert die derzeitige Situation und zieht Alternativen für die künftige Entwicklung in Erwägung.

In den 70er Jahren schwankten die Erfolge der Fischwirtschaft. Mit Finanzhilfen des DANI und der Europäischen Kommission weiteten sich die Flotte und der verarbeitende Sektor aus. Die Beschäftigung stieg an und auch die angelandeten Fischmengen nahmen zu. Die Fänge der einzelnen Schiffe nahmen jedoch ab, da sich die Konkurrenz durch die Fahrzeuge der Irischen Republik und Schottland sowie der Provinz Nordirland in der Nordirischen See verstärkte.

1980 lassen sich wie bei allen Flotten in der Europäischen Gemeinschaft Überkapazitäten verzeichnen. Vorschläge zur Verlagerung der Fangtätigkeit wären ungeeignet und Vorschläge zur Verringerung der Flotte unnötig rücksichtslos. Die Entwicklung der nordirischen Flotte wäre am besten mit der Durchführung eines Fangplans zu erreichen, der Nordirland einen entscheidenden Vorrang in der Nordirischen See einräumt. Dies wird in dem Bericht erörtert. Die Vermarktung des Fischs von der Anlandung bis zum Supermarkt - in der Provinz Nordirland muss erheblich verbessert werden, und in dem Bericht wird empfohlen, diese Verbesserungen nach ausführlicherer Untersuchung vorzunehmen.

Auf Grund sozialer Erfordernisse ist die Beibehaltung und Ausweitung der Beschäftigung in Nordirland unbedingt notwendig. Im South Down-Gebiet, einem Gebiet mit sehr wenig alternativer Industrie, könnte dies durch eine gemässigte Ausweitung des Fischfangsektors und die Verbesserung der Fischvermarktung in Nordirland erreicht werden.

THE REGIONAL IMPACT OF THE FISHERY POLICY OF THE EEC: ECONOMIC AND SOCIAL PERSPECTIVES FOR THE FISHING INDUSTRY WITHIN CERTAIN REGIONS OF THE EEC: NORTHERN IRELAND

Abstract

This report considers the evolution of Northern Ireland's fish catching and processing industry over the past ten years; analyses its current situation; and considers alternative scenarios relating to its future development.

During the 1970s, the industry's fortunes fluctuated: the fleet and the processing sector both grew, aided by financial assistance from DANI and from the European Commission. Employment in the industry rose, and the volume of fish caught also increased. However, catch rates per boat were falling, as fishing pressure by the Irish Republic and Scottish vessels, as well as those from the province, increased in the North Irish Sea.

In 1980 the industry shows signs of excess capacity, as do all the fleets in the European Community. Proposals to relocate fishing effort would be inappropriate, and proposals to reduce the fleet unnecessarily harsh. The development of the Northern Ireland fleet could best be achieved by the implementation of a fishing plan giving Northern Ireland dominant preference in the North Irish Sea. This is discussed in the report. The marketing of fish in the province, from landing to the supermarket, is in need of significant improvement, and the report recommends that this should be undertaken following more detailed study.

The case for maintaining and expanding employment in Northern Ireland is essential on the grounds of social need. The moderate expansion of the catching sector and the improvement of fish marketing in the province could achieve this for the South Down area, an area with little alternative industry.

L'IMPACT REGIONAL DE LA POLITIQUE COMMUNAUTAIRE DE LA PECHE : PERSPECTIVES ECONOMIQUES ET SOCIALES DE L'INDUSTRIE DE LA PECHE DANS CERTAINES REGIONS DE LA C.E.E. : IRLANDE DU NORD

Résumé

Ce rapport examine l'évolution des captures et de l'industrie de transformation d'Irlande du Nord au cours des dix dernières années, analyse la situation actuelle et envisage divers scénarios en ce qui concerne le développement ultérieur de la pêche.

L'industrie de la pêche a connu des fortunes diverses au cours des années 1970 : encouragés par l'assistance financière du DANI et de la Commission européenne, la flotte et le secteur de la transformation se sont développés; l'emploi industriel et le volume des captures ont augmenté; par contre, les taux de capture par navire ont diminué sous l'effet de la concurrence grandissante des navires écossais et irlandais du sud, ainsi que de la flotte de la province, dans le nord de la Mer d'Irlande.

En 1980 apparaissent des indices d'une capacité excédentaire - comme dans les autres pays de la Communauté. Les propositions de déplacement de l'effort de pêche sont inadéquates et celles de réduction de la flotte excessivement sévères. La meilleure façon d'assurer l'avenir de la flotte de l'Irlande du Nord consisterait à mettre en oeuvre un plan de pêche avantageant ses navires dans le nord de la Mer d'Irlande. Cette hypothèse est étudiée dans le rapport Le réseau de commercialisation et de distribution, du lieu de débarquement au supermarché, réclame des améliorations substantielles, qui, d'après le rapport, devraient faire l'objet d'une étude minutieuse préalable.

Eu égard à la situation sociale, il est indispensable de défendre et de développer l'emploi en Irlande du Nord. Grâce à une expansion modérée des captures et à une amélioration de la commercialisation du poisson dans la province, cet objectif pourrait être atteint dans la South Down Area, où la pêche constitue l'essentiel de l'activité industrielle.

INCIDENZA REGIONALE DELLA POLITICA COMUNITARIA DELLA PESCA : PROSPETTIVE ECONOMICHE E SOCIALI DEL SETTORE DELLA PESCA IN DETERMINATE REGIONI DELLA COMUNITA' : IRLANDA DEL NORD

S i n t e s i

Lo studio analizza l'evoluzione della pesca e dell'industria di trasformazione nell'Irlanda del Nord negli ultimi dieci anni, esamina la situazione attuale e valuta le possibili alternative per lo sviluppo futuro.

Negli anni '70 le sorti dell'industria erano fluttuanti : tanto la flotta quanto il settore di trasformazione erano in espansione, per effetto dell'assistenza finanziaria prestata dal DANI e dalla Commissione delle Comunità Europee L'occupazione nell'industria era in aumento, analogamente al volume delle catture. Tuttavia, i tassi di cattura per natante erano flessivi, a causa della crescente pressione esercitata nel Mare d'Irlanda dai pescherecci della Repubblica d'Irlanda e scozzesi, come pure da quelli della regione stessa.

Nel 1980 l'industria ha rivelato eccedenze di capacità, come tutte le flotte della Comunità europea. Proposte intese a spostare l'attività peschereccia sarebbero inadeguate e proposte per ridurre la flotta sarebbero troppo rigide. Lo sviluppo ottimale della flotta dell'Irlanda del Nord potrebbe essere conseguito con la realizzazione di un piano di pesca che riservi all'Irlanda del Nord la precedenza nel Mare d'Irlanda, eventualità che è discussa nello studio. La Commercializzazione del pesce nella regione, dallo sbarco al supermercato, deve essere nettamente migliorata; nello studio si raccomanda che ciò avvenga sulla base di un'indagine più precisa.

Date le esigenze sociali, è essenziale mantenere ad aumentare l'occupazione nell'Irlanda del Nord. L'espansione moderata del settore di cattura e il miglioramento della commercializzazione del pesce nella regione potrebbero consentire di realizzare tale obiettivo nel Down meridionale, zona in cui vi sono scarse possibilità alternative di occupazione.

HET REGIONAAL EFFECT VAN HET VISSERIJBELEID VAN DE EEG : ECONOMISCHE EN SOCIALE SITUATIE EN VOORUITZICHTEN VAN DE VISSERIJSECTOR IN BEPAALDE GEBIEDEN VAN DE GEMEENSCHAP : NOORD-IERLAND

S a m e n v a t t i n g

In dit verslag worden de ontwikkeling van de visserij en visverwerkende industrie van Noord-Ierland in de afgelopen tien jaar en de huidige situatie bestudeerd en worden de economische mogelijkheden voor de toekomstige ontwikkeling van deze sector onderzocht.

In de jaren zeventig was de ontwikkeling niet gelijk voor alle onderdelen van deze sector : zowel de vloot als de verwerkende industrie werden uitgebreid met financiële steun van het departement van landbouw voor Noord-Ierland (DANI) en van de Europese Commissie; meer mensen vonden werk in deze sector en er werd ook meer vis gevangen, maar de vangstratio daalde als gevolg van de intensievere bevissing in het noorden van de Ierse zee door vaartuigen van de Ierse Republiek, Schotland en Noord-Ierland.

In 1980 blijkt de vissersvloot - evenals alle vissersvloten in de Europese Gemeenschap - een te grote capaciteit te hebben. Voorstellen om de visserij elders te beoefenen zijn niet bruikbaar en voorstellen voor de inkrimping van de vloot komen onnodig hard aan.

De ontwikkeling van de vissersvloot van Noord-Ierland zou het best kunnen plaatsvinden in het kader van een visserijprogramma waarbij aan Noord-Ierland de grootste voorrang wordt verleend in het noorden van de Ierse zee. Deze kwestie wordt in het verslag behandeld. De afzetstructuur van Noord-Ierland dient van aanvoer tot supermarkt grondig te worden verbeterd en in het verslag wordt aanbevolen deze verbeteringen aan te brengen nadat de kwestie grondiger is onderzocht.

Om sociale redenen dient het aantal arbeidsplaatsen in Noord-Ierland te worden behouden en zelfs te worden uitgebreid. Door een beperkte uitbreiding van de visserij en de verbetering van de afzet van vis in Noord-Ierland zou dit doel kunnen worden bereikt voor South-Down, een gebied met weinig andere economische mogelijkheden.

THE REGIONAL IMPACT OF THE FISHERY POLICY OF THE EEC: ECONOMIC AND SOCIAL SITUATION AND PERSPECTIVES FOR THE FISHING INDUSTRY WITHIN CERTAIN REGIONS OF THE EEC : NORTHERN IRELAND

FINAL REPORT

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FORWORD

This study was undertaken as put of a series of regional fisheries studies commissioned by the Directorate-General for Fisheries of the Commission of the European Communities.

It was written by Mr John Butlin and Mrs Graham Smith of the Department of Agricultural Economics of the University of Manchester, under the supervision of Professor David Colman.

The Structural Policy Division of the Directorate-General for Fisheries also contributed to its preparation.

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This study does not necesserily reflect the opinions of the Commission of the European Communities and in no way anticipates the future attitude of the Commission in this field.

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1. A SOCIO-ECONOMIC SURVEY OF NORTHERN IRELAND

1.1 The geographical description of Northern Ireland[1]

Northern Ireland is a part of the United Kingdom, with an area of 14,153 km^2, located at the north-east of the island comprising the Irish Republic and Northern Ireland. It lies between 5^{o} 30'W and 8^{o} 10'W longitude, and 54^{o} 00'N and 55^{o} 15'N latitude. Figure 1 shows a map of the province, showing the principal towns, counties and fishing ports. There are six counties and two county boroughs within Northern Ireland. These are:

Antrim

Armagh

Belfast County Borough

Down

Fermanagh

Londonderry County

Londonderry Borough

Tyrone

Of these, only Londonderry, Antrim and Down are adjacent to the sea.

Northern Ireland has a mild and temperate climate, due to its location in the Eastern Atlantic and in the middle latitudes. Winters are mild and summers are warm in this part of the world. The prevailing winds are from the south-west, and the strongest winds occur in the winter. Mean hourly wind speeds are approximately 10KT in winter and 7KT in the summer. Mean speeds of 45 to 50KT have been recorded in both seasons, as have gusts up to 70-75KT inland. In exposed coastal areas, wind speeds are usually approximately 10% higher.

1.2 Demographic Trends

The most recent census of the United Kingdom, taken on 25 April, 1971,

recorded the population of Northern Ireland as 1,536,065.[2] This was an increase of 51,290 (or 3.5 per cent) since the 1966 census. The population of Northern Ireland represented approximately 2.75 per cent of the total United Kingdom population at that time. Table 1 shows the trend in the population of Northern Ireland since 1951.

Of greater interest than the size of the aggregate population is the distribution of that population between urban and rural districts. Table 2 shows how this population has changed between the first and the most recent censuses during this century. The change in proportions of the population located in urban and in rural areas during the twentieth century reflects the demographic changes of country-to-town migration that have occurred in most industrialised countries. However, the rural proportion of the population is higher than in other parts of the United Kingdom, particularly England.

1.3 Occupational Structure

The labour force of Northern Ireland was estimated to be 503,211 in June, 1978. At the same time, the seasonally-adjusted rate of unemployment was 10.6 per cent. Table 3 shows the distribution of the labour force amongst occupational categories. The proportion in the 'Agriculture, forestry and fishing' category fell from 10.98 per cent in 1972 to 9.67 per cent in 1978. Although the figure has fallen marginally since 1972, the significant feature is the high proportion of the labour force engaged in this category of occupation relative to the remainder of the United Kingdom. The service occupational categories are the fastest growing ones, matching the situation in other parts of the United Kingdom and the European Community.

The aggregate level of unemployment in the province deserves mention. The general trend of unemployment in Northern Ireland has been upwards

during the 1970's, the level being higher than the aggregate level of unemployment for England. This is shown dramatically in Table 4, where these regional rates of unemployment in Great Britain and the Republic of Ireland are compared with those of Northern Ireland. Table 4 shows that the aggregate level of unemployment in the province, seasonally adjusted and measured in June, has risen from 7.8 per cent in 1972 to 10.6 per cent in 1978. The monthly unemployment figures in Northern Ireland from January 1979 to July 1980 are shown in Table 5. They confirm the underlying trend of a rising rate of unemployment shown in Table 4, with the most recent figure, for July, 1980, showing a rise of two per cent over the preceeding month. This suggests that the rate of increase in unemployment in Northern Ireland is accelerating as the recessions bites more deeply in the United Kingdom. The province-wide picture hides the local variations in unemployment rates, however. Table 6 shows the breakdown in unemployment rates in Northern Ireland by 'travel-to-work' area. These are defined as 'local labour markets i.e. areas within which the vast majority (on average 93 per cent) of the residents of Northern Ireland work.' The regional variation in unemployment through the Province are clearly reflected in this table. The travel-to-work areas encompassing the major fishing areas to the south-east, and the small ports on the north Antrim coast, are areas in which the unemployment rate lies between the lower levels in parts of Belfast city, and the very high levels in Strabane, Newry, Cookstown and Dungannon. It must be remembered, however, that 'lower' and 'higher' are here used relative to the Northern Ireland labour market. The recorded rate of unemployment is higher than other regions within the United Kingdom.

1.4 Production and Income Trends

The occupational structure of the labour force, discussed above, shows a change in industrial structure over the last decade which is a reflection

of a broader change in the industrial base of Northern Ireland. The obvious reduction in manufacturing and agricultural employment has been matched by the rise in service industry employment.

During the years spanning the end of the sixties and the beginning of the seventies, industrial output increased significantly. During the decade from 1963-1973 total industrial production in Northern Ireland increased by 67 per cent, and the output of manufacturing industry by 68 per cent (HMSO, 1980, p.133). Table 7 shows the indexes of total production and manufacturing production from 1967-1978. Output declined by 13 per cent following the OPEC crisis in 1973. Although there has been some recovery in output, it is still below its pre-1973 level.

Incomes in Northern Ireland are typically below those for the remainder of the United Kingdom, and the gap appears to have been widening during the past decade. Table 8(a) and (b) show the trend of earnings in Northern Ireland, compared to the remainder of Great Britain, during the 1970's. Table 8 shows two clear trends: firstly, the narrowing of the gap for earnings in Northern Ireland during the 1970's (with earnings for women in manufacturing industry exceeding those in Great Britain in 1978); secondly, the difference between earnings in Northern Ireland and Great Britain has consistently been smaller for women than for men.[3]

Average earnings in Northern Ireland have recently been reported to be similar, job for job, to those in the remainder of the United Kingdom (Thomas, 1980). However, the overall cost of living in the province was estimated to be 2 per cent more than the average for the United Kingdom as a whole, and disposable income per capita is 16 per cent lower than the United Kingdom average, due to the greater number of dependents per employee in Northern Ireland. The standard of living in Northern Ireland is, therefore, lower than in the remainder of the United Kingdom. (It is reported, in fact, to be lower than in most regions of the European

Economic Community.) Table 8 shows the average earnings in Northern Ireland relative to those on the mainland.

1.5 Administrative Organisation

In 1920 the Parliament of the United Kingdom passed the Government of Ireland Act, providing for the division of the country into Northern Ireland and the Irish Free State, the northern territory consisting of the six counties and two county boroughs mentioned in 1.1 above. In 1949, the Ireland Act 1949 was passed, which reconfirmed that Northern Ireland was part of the United Kingdom.

The Northern Ireland (Temporary Provisions) Act 1972 provided for the government of Northern Ireland to be taken over by the Secretary of State for Northern Ireland from the Senate and House of Commons of Northern Ireland. This period ended on 31 December 1973, and since July 1974, the province has been governed under the terms of the Northern Ireland Act 1974. This continues direct rule from the Westminster Parliament through the Secretary of State. Northern Ireland is represented by twelve elected members to the Westminster Parliament,and by three 'Euro-MP's' in the directly elected European Parliament.

The Department of Agriculture for Northern Ireland (DANI) is responsible for the development of the agricultural, forestry and fishing industries of the province. The Department serves as agent for the United Kingdom Ministry of Agriculture, Fisheries and Food (MAFF) in the area of economic support for the agricultural, forestry and fishing industries, and in the implementation of the Common Agricultural Policy (CAP) of the European Economic Community (EEC).

The legislative basis for local government in Northern Ireland is the Local Government (NI) Act 1972, which provides for twenty-six district councils, based on the main centres of population. There are 526

councillors elected to the 26 district councils, elected for a four year period of office.[4] The functions of the district councils are threefold:

1. Direct functions, making councils responsible for a variety of local services, such as the provision and management of recreational, social, community and cultural facilities; environmental health; refuse collection and disposal; the provision and management of tourist development facilities; the enforcement of building regulations; and other, similar responsibilities.

2. Representative functions, the councils being obliged to nominate representatives to sit as members of bodies responsible for the administration of regional functions (including education, health and social services and drainage).

3. Consultative functions, through which the district councils are obliged to represent the views of its electorate relating to the provision of regional functions in its district, such as planning, roads and conservation.

It can be seen from this brief survey of the administrative organisation of the province that responsibility for fisheries on a United Kingdom basis is divided between the European Economic Community and the Northern Ireland Office, with the district councils having some local responsibility for smaller harbours. It is within the framework of this administrative structure that the evaluations in this study, and the recommendations emanating from it will be based.

1.6 Regional Planning

The basis for regional planning in Northern Ireland is the Mathew Report (H.M.S.O., 1963). The theme for regional development in the province that was developed in this report was the District Towns Strategy. According to this, the main town in each District Council electoral area was to be developed to fulfill its role as the 'prime centre' in the district, and to fulfill

other particular roles, such as being a port. Other roles, such as those of being the district centre for administration, commerce, education, recreation and marketing, were to be 'fully developed'. The aims of this strategy were: to prevent large-scale population declines in the districts; and to retain in the area those people leaving the countryside due to the contraction of agricultural and other rural employment. The Regional Physical Development Strategy (H.M.S.O., 1977) made the ideas expressed in the Mathew Report (and intervening reports) concrete.

The role of the smaller town and major village was also recognised in the Regional Strategy, as a location for smaller scale industry, as a centre for rural services, and as a dormitory area for those not wishing to live in the town where they are employed. The Regional Strategy,however, was based to some extent on the belief of scale economies existing in the provision of local services.

1.7 Regional Aids from Central Government

Regional aids that are available from the government of the United Kingdom in Westminster are too numerous to itemise here. Details of all the schemes currently operated by Northern Ireland Departments are given in Stokes Kennedy and Crowley (1979). The following list indicates the categories of grants available, under broad general headings:

1. Commerce: (i) Specific industries aid e.g. to the textile industry
   (ii) Energy conservation scheme
   (iii) British Overseas Trade Board for exporters
   (iv) Northern Ireland Development Agency
   (v) Northern Ireland Tourist Board
   (vi) Local Enterprise Development Unit

2. Manpower Services: (i) Employment subsidies

(ii) Disabled persons assistance

(iii) Job search and transfer assistance

(iv) Various training schemes

(v) Management development schemes and Enterprise Ulster, providing employment for, and training, the long-term unemployed.

3. Agriculture: (i) Agricultural education grants

(ii) Farm capital improvement grants

(iii) Livestock grants, subsidies and premiums

(iv) Crop subsidies

(v) Forestry grants

(vi) Loans for improvement of agricultural and forestry enterprises

(vii) Fisheries (discussed in detail below)

4. Environment: (i) Assistance to housing associations

(ii) Grants for housing renovation and improvement

(iii) Redevelopment compensation

(iv) Town centre 'face-lifts'.

In addition, miscellaneous grants are awarded to aircraft, 'bus and railway transport.

A measure of the magnitude of the assistance given to the Northern Ireland economy is the amount paid out each year to the Consolidated Fund of Northern Ireland. This is paid out of money provided by the Westminster Parliament. The sums involved, termed 'grants in aid' make up the difference between Northern Ireland's income and its expenditure. In the year ended March 31, 1979, the sum in question was £560,000,000. This represents 20 per cent of the province's Gross Domestic Product.

A further measure of the assistance given in Northern Ireland[5] is shown in Table 9. Of particular note in the table is the rise in the proportion of the total subsidy payments going to agriculture. In 1974/75 only 6.78 per cent of the total subsidy bill went to the agriculture, forestry and fishing industries. By 1977/78 the figure had risen to 25.61 per cent of all subsidies offered.

The greater importance of public sector expenditure in Northern Ireland compared to the remainder of the United Kingdom is shown by the proportion of Gross Domestic Product represented by public expenditure. For the United Kingdom as a whole, approximately 40 per cent of Gross Domestic Product is attributable to public expenditure; in Northern Ireland, the proportion is nearly 66 per cent.[6]

1.8 The regional importance of the sea-fishing industry in Northern Ireland

The regional importance of a relatively small industry is difficult to quantify. In terms of its contribution to the Gross National Product of the province, or in terms of the proportion of the labour force employed in fish catching and processing, the proportions attributable to fisheries are small. However, this masks the importance of the fishing industry to particular regions within Northern Ireland whereit is much greater. There are two such regions: the southern part of County Down, based on the three ports, Portavogie, Ardglass and Kilkeel, where the commercial fleet is based, and the cost of County Londonderry and County Antrim, from Portstewart in the north to Larne on the east coast. (See Figure 1). The latter sector of the industry is based on a more local catch from each of the ports involved, and is undertaken with much smaller, open vessels.

The regional importance of the fishing industry in Northern Ireland has changed over the years. Hughes reported that, in 1967, the full-time employment in catching was 386. By 1976, the total for full-time employment

had risen to 1176, and for part-time employment 561. In 1979, the total for full-time employment in all sectors of the fishing industry was 1149, with an additional 530 people employed in the industry on a part-time basis. (The proportions devoted to various sectors of the industry are discussed in section 2 below).

The proportion of the labour force in the major fishing areas provided by the fishing industry is shown in Table 10 below. In 1967, nearly 10 per cent of the jobs in the Kilkeel/Annalong area were provided by the fishing industry. Ardglass, part of the Downpatrick area, provided 1 per cent of the employment in that area, although there was little alternative employment in Ardglass itself. Portavogie, part of the Newtownards area, provided 2 per cent of the employment in that area, although the alternative employment opportunities in the immediate vicinity were minimal.

By 1979 the situation had changed. In the Newtownards area, the fishing industry around Portavogie was providing 2.3 per cent of the full-time jobs in the Newtownards area, that around Ardglass 2.7 per cent of the jobs in the Downpatrick area, and the fishing industry in and around Kilkeel was providing 15.7 per cent of the full time jobs in the area. If part time employment in fishing and related industries is included, the proportion of employment in the Newtownards, Downpatrick and Kilkeel areas provided by fishing and ancilliary industries rises to 3 per cent, 3.7 per cent and 24.7 per cent respectively.[7] As a proportion of the total labour force, 0.3 per cent were employed either in the catching sector, or on-shore, either on a full-time or part-time basis, for the province as a whole in 1979.

1.9 Conclusion

Northern Ireland is a relatively small but integral part of the United Kingdom, governed for the time being directly from Westminster, but with

a long-term commitment to a greater degree of self-government in the province, based on power shared between the political parties in existence. Both the United Kingdom government, the Department of Agriculture for Northern Ireland and the district councils have responsibilities which can affect the catching and processing sectors of the industry. Grants and loans have assisted the industry in the past decade, although we shall have reason to discuss below whether grant and loan policy has been in the longer term interests of the fleet as a whole. The absence of alternative employment in the two regions of the province particularly dependent on fish-catching and processing gives the industry an importance far in excess of that reflected by macro-economic aggregates.

The next section discusses the fishing industry in Northern Ireland in some detail, with particular emphasis on how the industry has evolved over the past 10 years.

2. THE NORTHERN IRELAND SEA-FISHING INDUSTRY

2.1 Stocks exploited and areas fished

The Northern Ireland fleet fishes extensively in ICES area VII(a), and to a much smaller extent in VI(a) although catches have been recorded in VII(f), VII(g) and VII(b) (see Figure 2). The main species caught include: shellfish (nephrops, lobsters, crabs); herrings and mackerel; and many demersal species, including whiting, sole and cod. Table 11 details the weight and value of fish species landed in Northern Ireland from 1970 to 1979. It can be seen from the table that the major species landed in Northern Ireland in 1978 were herring, cod, whiting and nephrops. In that year these four species represented 83 per cent by weight, and 86.55 per cent by value of the total landings in Northern Ireland. In 1970, the same four species represented 84 per cent of total landings by value.[8] Since 1978, the catch of herring has fallen substantially, because of the limitations on herring fishing in the Irish Sea in 1977/8 and 1978/9 seasons.

The major fishing grounds exploited by the Northern Ireland fleet, based on the three major ports of Kilkeel, Ardglass and Portavogie, are:

i) the grounds off the east coast of the province;

ii) the grounds around the Isle of Man;

iii) the grounds off the west coast of Cumbria.

In addition to this, a small number of boats usually fish the Mull of Galloway, although the ground was closed in 1980. Approximately six vessels have licences to fish herring in the Clyde estuary, and approximately six fish further afield, for mackerel, in the Minches, off the west coast of Scotland, and in the grounds off the south-west peninsula of England.

The major grounds, with the species caught, are indicated in Figure 3. The nephrops grounds are:

1. from Kilkeel on the south Down coast to Ballyhalbert on the Ards peninsula (approximately 10-12 miles offshore) across to the Isle of Man. This ground continues south of Carlingford Lough, approximately as far south as the latitude of Rockabill in the Irish Republic.
2. from St. Bees Head, on the Cumbrian coast(just south of Whitehaven) down to the South Cart Buoy (on the same latitude as Barrow-in-Furness.

The Mourne nephrops grounds are worked for approximately 300 days a year on average, giving the ground very little rest. The Whitehaven grounds, in contrast, are only worked for four months of the year on average, giving the grounds adequate rest and the prawns time to mature. Consequently, the grade of prawn from the Whitehaven grounds is better than that from the Mourne grounds,[9] particularly in recent years when the pressure on the grounds has been increasing. White fish (primarily whiting and cod, with smaller catches of haddock, sole, turbot and brill, for example), are also caught on the nephrops grounds.

The other major species sought by Northern Ireland's fishermen is herring. There are two main herring grounds exploited by the fishermen:

1. The Mourne fishery, stretching along the Mourne shore, with approximately the same northerly and southerly latitudes as the nephrops fishery, but being located more off-shore. The Mourne fishery has traditionally lasted for five weeks, from late August to the end of September. For a number of years, however, the fishery has been closed, because of the critically low level of the stock.
2. The Manx herring fishery, based on the shoaling areas to the southwest and the southeast of the island. The fishery commences at the beginning of June, and, from then until the middle of August is designated the 'low' season. During this time, fish

are caught off the west coast of the island, the main grounds being to the west of Peel. During the 'high' season, from mid-August to mid-September, fish are caught off the east coast of the island, the main grounds being ten to twelve miles to the south-east of Douglas, on the Douglas Bank. Since 1976 there has been a restrictive licensing scheme operating on the Irish Sea herring fisheries, but this has recently been declared contrary to the principle of equal rights of access by the European Court, and the scheme has been suspended. The licensing scheme for herring fishing in the Irish Sea is discussed in greater detail in section 4 below.

As was mentioned above, boats from the three major ports also fish in the Clyde estuary herring fishery, the Minches, the sourth-west mackerel fishery, and the herring fishery in the Mull of Galloway. This year, however, the Minch herring is closed, and the Mull of Galloway is also closed.

Tables 12-15 show the total catches of herring, cod and whiting, caught in ICES Division VII(a), together, where available, with the share of the catch attributable to vessels from Northern Ireland. From these tables it can be seen clearly that the province's fleet depends almost totally on stocks in the Irish Sea. Northern Ireland vessels caught between 17-31 per cent of the total catch of cod in the Irish Sea and north Channel area (VIIa) and between 20-27 per cent of the whiting catch. A similar picture would be given by information on nephrops and lobsters.[10] The situation in 1978 was as follows:[11] of the species subject to quota, the Northern Ireland catch was 26% of the total international catch. (For the main demersal species, Northern Ireland's share of the total international catch remained at approximately 20 per cent during the period 1972-1978). For the period 1974-1979, Northern Ireland's share of the total catch in area VII(a)

represented 71 per cent, 74 per cent, 77 per cent, 75 per cent, 76 per cent and 85 per cent of the total catch of herring in that area for each year in turn. By comparison, the Irish Republic share of the catch represented 15 per cent, 20 per cent, 15 per cent, 22 per cent, 22 per cent and 15 per cent. There appears to be little basis for the suggestion made by fishermen from the province that the Republic vessels have been taking a disproportionately large share of the catch compared with earlier periods.

The Northern Ireland fleet takes cod in the North Irish Sea both through directed fishing, from mid-February to the end of March; and, during the remainder of the year, as by-catch from the Nephrops directed fishery. It is worth noting at this point that most of the cod, and most of the hake and plaice landings into Northern Ireland arise as by-catch from directed Nephrops fishery. This can be seen clearly by comparing Table 15 with Table 11, for the years 1975-1979. For the same years, the proportion of the whiting catch landed as by-catch from Nephrops fishing was 95 per cent, 100 per cent, 99 per cent, 100 per cent and 75 per cent respectively. Table 13 shows the total international catch of cod in Division VII(a) from 1970 to 1979. It is clear from this that the cod stock, like the herring stock, has been declining in recent years. The share of the catch taken by Northern Ireland vessels fell from 13 per cent in 1974 to 12 per cent in 1975 but then rose to 23 per cent in 1979. The share of the catch taken by Irish Republic vessels also rose during the period, from 32 per cent in 1974 to 45 per cent in 1979. There was a 33 per cent rise in the catch of cod from the North Irish Sea in 1979. Increases in Irish Republic and Northern Ireland landings were mainly responsible, as noted above.

The catch of whiting in the North Irish Sea by vessels from the province represented 29 per cent of the total whiting catch in this ICES area. This compares with a share of the catch rising from 21 per cent to 28 per cent during the four preceeding years. In comparison, the share

of the catch taken by Irish Republic vessels fell from 43 per cent in 1974 to 38 per cent in 1979 (although there was a short-lived recovery in 1977). The total 1979 catch of whiting fell 5 per cent below its 1978 level, but still almost equalled the TAC.

The nephrops fishery in Division VII(a) is unregulated. In 1978, the catch by Northern Ireland's vessels represented 49 per cent of the total catch for this species in the area. The depressed state of the market for nephrops in the United Kingdom during 1980 suggests that there is little danger of over exploitation. There is concern, however, at the magnitude of the by-catch of white fish associated with the directed nephrops fishery. Table 17 shows the magnitude of this by-catch for the Northern Ireland fleet in recent years.[12]

2.2 Infrastructure

Harbours used by the Northern Ireland fishing fleet fall into two groups: those in southern County Down, used by the major portion of the fishing fleet; and those on the east and north coast of County Antrim, and the north coast of Londonderry, from which the small, open boats fish. Table 20 shows the number of vessels of over 40ft. registered length classified according to home ports. Vessels do not always land at their home port, and so the table does not accurately reflect the catching power of the fleet at each port. As can be seen these larger vessels operate entirely out of the three ports of Kilkeel, Ardglass and Portavogie.

In addition to the vessels in these three east coast ports the other category of vessels in the fleet consists of vessels between 20ft. and 35ft. in length which normally catch shellfish, salmon, herring, mackerel and small quantities of demersal fish such as whiting, saithe and cod. The numbers of such vessels, many of which are operated by part-time fishermen, were estimated at 140 from 1970-1972, rose to 150 in 1973 and to 170 in 1974. The numbers of small open boats is thought to have remained constant

at 170 since 1974. These vessels are fishing from small north coast ports, such as Portstewart, Portrush, Ballycastle and Cushendall. The number of vessels fishing from a port may be as low as four or five.

East Coast Ports

Responsibility for maintaining, managing and improving the three ports in County Down has been the responsibility of the Northern Ireland Fishery Harbour Authority (NIFHA) since 1974. The Authority, with six members (two fishermen, two fish processors and two independent members including the Chairman) receives financial assistance from the Government towards the cost of capital projects. The Authority also receives income from a schedule of landing dues and other port charges agreed between the Authority and representatives of the industry in 1974. The major developments at each port since 1973 are discussed briefly below. The stated aim of NIFHA is to ensure that the three harbours under its control are brought up to at least the minimum standard expected from modern fishery harbours (NIFHA, 1980, p.3).

Ardglass. In 1973, only three fishing boats were registered at Ardglass. although Kilkeel and Portavogie vessels frequently landed catch there. The Ardglass fleet has now increased to 14 vessels. There was, however, no fish market, and auctions were held on the open quay under poor lighting conditions, and under unsatisfactory standards of hygiene. No ice was available, and landings during adverse weather conditions were adversely affected by the absence of adequate shelter.

Since that time, a fish market, 58 metres long by 15 metres wide, and an ice plant, with a daily output of 10 tonnes per day and 30 tonnes storage capacity, have been constructed, and additional lighting provided. Deepening of berths is also underway. Plans for the future include the construction of a breakwater pier a new harbour office, and a sampling room. The NIFHA case for improving Ardglass is reproduced

in Appendix 1.

Kilkeel. In 1973, the Kilkeel fleet consisted of 55 vessels of lengths between 40ft. and 80ft. By 1980, 78 vessels of 40ft. or more were based there. A harbour development had been initiated prior to the establishment of the Authority and the Authority took over certain uncompleted works. The development had doubled the harbour size, and enabled vessels to enter and leave the harbour at most states of the tide. Following the development, vessels could land at the fish market quay in the inner harbour, improving access by vehicles to the place of landing. A new fish market was also constructed, with a floor area of 576 square metres.

Under NIFHA, the uncompleted works (harbour lighting and the construction of a slipway) were completed and a further slipway built. Further developments proposed include a further slipway, modification of a pier, improvement of ice storage and handling (currently under construction) dredging equipment (recently provided), and improving the surface of the North Quay. The Kilkeel ice plants currently produce 15 tonnes per day, and there is 40 tonnes storage capacity. It is intended to increase both output and storage capacity by 10 tonnes each.

Portavogie. In 1973, the fleet based in Portavogie was 58 vessels strong, between 40ft. and 80ft. in length. By 1980 the fleet had increased to 60 vessels. As in Ardglass at the time, fish was auctioned on an open quay under poor lighting and unhygienic conditions. Congestion in the harbour made it very difficult to organise properly the berthing of the fleet and landing of the catch. This congestion is reflected by the fact that the harbour had originally only been intended for 25 boats.

Following a feasibility study commissioned by the Authority (NIFHA, 1976), a £4 million development began in 1978, for a period of 4-5 years. The development includes: the provision of a slip-way and 'ebbing-on'

berth; the provision of a new deep-water basin; a fish market of approximately the same dimensions as that at Ardglass; and an ice-plant whose daily output is 10 tonnes per day, with 30 tonnes storage. The enlarged harbour will have sufficient berths for a maximum of 66 vessels.

After an initial period of uncertainty, the capital works undertaken by NIFHA have largely been financed by the DANI grants, 'minor' works being grant-aided to 90 per cent, and major works being grant-aided on an individual basis. The Portavogie development scheme, with a contribution from the European Regional Development Fund, is aided to 100 per cent.

NIFHA income is generated by a £50 charge per annum on each vessel berthing at each of the harbours, and a two per cent levy on the value of fish landed at the three harbours. Charges for the use of fish markets, ice-plants and slip-ways are also made to cover costs. (In practice, a small profit is made on sales of ice).

Other Minor Harbours[1]. The minor harbours of the province were surveyed by the Ministry of Commerce between 1975 and 1977. The survey was intended to:

> "...enable this Ministry to make an appraisal (on the basis of ascertained facts) of the physical state of these harbours; the measures needed to improve them; to evaluate their contribution (actual and prospective) to the amenity and quality of life in Northern Ireland and their attraction for tourists..." (Department of Finance, Preamble)

We shall see below that the particular emphasis on the amenity and tourist value of these harbours may show a particular degree of foresight.

Table 16 shows the individual characteristics of these harbours. We shall simply emphasise important features relating to groups of harbours. The harbours of North Derry and North Antrim traditionally serve the local community, either for the part-time or full-time summer fishery or for recreational purposes. The port with excess berthing capacity at the moment is Portrush. Although a major recommendation by the Ministry of Commerce survey is that Portrush should be devoted to taking up the excess demand for berths for recreational vessels from Portstewart and Coleraine,

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1. The minor harbours are discussed in greater detail in sub-section 3, pp.48ff.

there is some anecdotal evidence that fishing activity is increasing there. Much investigation has been undertaken into proposals to extend Ballycastle harbour, an extract from one of the subsequent reports is included as appendix 1.

The fishing activity from the three small harbours on the east Antrim coast, and in the North Belfast area is, if anything, less than that along the north coast (with the exception of some fishing activity from Larne, a private harbour). These harbours serve a mainly recreational purpose, including a considerable amount of sea-angling, both for the local community and for the population centres of Belfast, Larne, Carrickfergus and Ballymena, each of these being less than one hour's drive from several of the smaller ports.

The harbours in North Down serve a largely recreational purpose also, providing moorings for the marine recreational demand of the greater Belfast area. The main small-harbour fishing activity in South Down is based on Annalong, with Newcastle boats marginally supplementing the small boat fishing effort. The Annalong fleet, comprising between forty and fifty inshore skiffs, is now unable to fish the Mourne herring stock, however, and is laid up from August, apart from a few boats that continue to fish for lobsters during that month.

In terms of fish landings the north coast ports have consistently been the most prolific of the province's minor ports (although landings in all the minor ports represent only a small proportion of total landings in the province). Information on the total north coast catch is contained in Table 17. It can be seen from this table that the important species to the small-scale, North Coast fishermen have not changed significantly over the ten year period. In 1970, the total catch was over 59 tonnes, of which mackerel represented 23 per cent, saithe 27 per cent, plaice 18 per cent and lobsters 12 per cent. By value, however, lobsters represented 64 per cent of the gross revenue from the catch;

herring contributed only 7 per cent of the catch revenue, plaice 14 per cent, and saithe 6 per cent. The total catch fluctuated over the succeeding years between a minimum of 27 tonnes in 1977, and a maximum of 68 tonnes in 1976. The catch fluctuations over the intervening period appear to have amplified, as can be seen from Figure 7. This is often regarded as a characteristic of overfishing. However, it would be difficult to attribute this to the declining number of small, open fishing vessels on the North Coast. It may, on the other hand, lend substance to the rumors that are legion on the North Coast concerning fishing by the Republic fleet and its adverse effect on the Province's North Coast fleet and its catch.

By 1979 the proportions of the catch represented by the major species had changed. Lobsters constituted 29 per cent of the catch and 75 per cent of the revenue from the catch; saithe represented 34 per cent of the catch by weight but still only 12 per cent by value. In other words these two species accounted for 63 per cent of the catch by weight and 87 per cent by value.

2.3 The Northern Ireland Fishing Fleet

The number of vessels over forty feet in the fleet increased during the reference years of the study by 65 per cent, from 98 vessels in 1970 to 152 vessels in 1980. Table 18 shows the total number of such vessels according to the port of principal landing. Table 19 shows the vessels classified according to registered length. The proportion in each size category has fluctuated over the years. The smallest category increased both in proportion and number from 1970 to 1977, but fell again in the last two years of the decade. At the same time the proportion in the 50 to 59.9 foot category fell, but then rose in 1979 and 1980. The proportion of the fleet in the 60 to 69.9 foot category rose until 1974 and then declined during the following six years. The next

largest category of vessels, over twenty feet, represented roughly the same proportion of the fleet until 1975, rose until 1979 and then fell slightly in 1980. Only one vessel with a registered length of more than 80 feet had joined the fleet until 1980, when 5 such vessels were part of it.

It is difficult to explain these changes in the proportion of the fleet in each size category, except for the increase in the number of purse-seiners in the fleet. This can be attributed to a desire by a small number of fishermen or companies to participate in the Minch and South-west mackerel fisheries. There has been some speculation that a few of these purse-seiners would exploit the blue-whiting stocks in Division VI(a), but no trips to these stocks have been recorded by any of these vessels.

A number of possible explanations for changes in the number of vessels in particular size categories have been presented, however. The most likely explanation of the rise in the smallest size category, (i.e. 13 per cent to 22 per cent over the reference period), however, is that it came about as a direct result of the DANI grant and loan policy for fishing vessels. This, it has been said, has been designed to spread the available money over as many vessels as possible, encouraging the expansion of the fleet via its smallest category. This hypothesis can, however, be tested. The age and size structure of the Northern Ireland fleet is shown in Table 20. As may be seen from the summary table on page 23 (which is drawn directly from Table 20) seven out of the 38 vessels constructed between the years 1970-1980 were between 40-49.9 feet in registered length. In contrast, of the 37 vessels in the fleet in 1980 built during the years 1960-1969, only two were between 40-49.9 feet registered length. Although the numbers involved are small, and the sample only taken from the most recent year, there does appear to be evidence

of a deliberate attempt by DANI, for whatever reason, to increase the number of boats in the smallest category built during the 1970's.

To extend this analysis beyond 1960 may be slightly spurious, but the number of vessels of registered length less than 49.9 feet that were built prior to 1960, and which were in the fleet in 1980, was still small. The summary table below shows that in the years prior to 1960 the number of vessels in the smallest size class which were still fishing in 1980 was small. Most of the 80 vessels built before 1960 and still in the fleet in 1980 (68 of them, or 85 per cent) were between 50 feet and 79.9 feet in length.

Size and Age Distribution of the Northern Ireland Fleet, 1980

Period of Construction	40'-49.9'	50'-59.9'	60'-69.9'	70'-79.9'	>80'	TOTAL
1970-1980	7	9	10	8	4	38
1960-1969	2	12	13	10	-	37
1950-1959	9	13	27	1	-	50
1949 and before	3	11	16	-	-	30

Source: Table 20

It is evident from these summary figures that the 1960-1969 period was atypical, with a much lower proportion of smaller vessels being built. The other feature is the halving in the proportion of boats being added to the fleet from the 60-69.9 feet category.

Another major feature which comes from Table 20 is the grouping of new vessel building into relatively few years, reflecting, presumably, one or two years of better-than-average fishing prior to this time. During the years 1978-80 thirteen vessels were added to the fleet. Nineteen were built in the years 1975/76. Eighteen were built between 1965 and 1968, fourteen in the years 1960/61, twenty-one between 1956 and 1958, twelve in 1953/54, and twenty-eight in the post-war years from 1947 to 1950.

In other words seventy-three per cent of the fleet fishing in 1980 was built in nineteen of the forty-two years since the oldest boat fishing was built. Fishermen in Northern Ireland, as elsewhere, obviously follow a myopic investment policy: profits are ploughed back into fishing vessels in the expectation that the good years that produced these profits will continue. This impression, gained from the figures presented, was confirmed by conversations with fishermen who were launching new vessels in 1980.

Table 22 shows the 1980 fleet categorised by Gross Registered Tonnage and horsepower. It is evident that the fleet comprises mostly of boats in the 20-100 Gross Registered Tonnage, 100-500 horsepower range. Indeed, only nineteen vessels out of one hundred and fifty two lay outside this category. The picture shown is of a traditional fleet with most of the vessels being purpose-built from generation to generation to catch particular species of fish (Nephrops with a significant by-catch of whitefish, and herring) by particular methods. There is little evidence in the fleet of innovation either with vessel-type or catching methods.

The major gear-types used by the vessels in the fleet are either nephrops trawl, herring trawl or white fish trawl. This is the gear used by the majority of the fleet, including all the smaller vessels in the north-west section of Table 22. The group of five larger vessels in the south-east corner of the table are purse-seiners, and the two vessels in between are queen scallop or pelagic trawl vessels. None of the vessels are constructed to undertake beam-trawling with which other countries, particularly Belgium and the Netherlands, have had success in the Irish Sea.

The age of the fleet has been rising slightly over recent years, as shown in Table 21, despite an explicit attempt by DANI to reduce it over the past decade. To some extent the age of a vessel is not relevant: it is the age and type of fishing gear, finding equipment, and the engine capacity that determine its productivity, in addition to the skill of the skipper.

All vessels fishing in the United Kingdom now are required to carry a certificate of sea-worthiness issued by the Department of Trade and Industry. We shall see below that the DANI policy has not been directed to encouraging gear upgrading in the fleet.

2.3.1 Landings of fish in Northern Ireland, and by Northern Ireland vessels in other parts of the United Kingdom

It was noted above that Northern Ireland vessels are heavily dependent on fish stocks in ICES area VIIa. Inevitably, landings from the fleet are going to be in ports surrounding the area. These include not only the three major ports in Northern Ireland but also ports in Scotland, England and the Isle of Man, particularly at Ayr, Campbeltown, Whitehaven and Peel. Comparison of the quantities of fish landed in Northern Ireland, and by Northern Ireland vessels in the remainder of the United Kingdom (Tables 23 and 24), shows that landings outside Northern Ireland by the province's vessels in 1970 already represented 64 per cent of landings in Northern Ireland. However by 1977 landings into other parts of the UK doubled, largely due to the mackerel fishery off south-west England and by 1978 landings outside Northern Ireland represented almost double (182 per cent of) landings in Northern Ireland. Table 23 also demonstrates the overwhelming importance of the three major fishing ports in Northern Ireland compared to landings at other ports in the province.

The sudden increase in landings by Northern Ireland vessels in other parts of the United Kingdom was largely due to the introduction of the purse-seiners into the fleet, of which there were five in 1980. The catching ability of these ships is so great that their landings form the Minches into ports on the west coast of Scotland, and from the south-west mackerel fishery into ports such as Plymouth and Falmouth on the south-west coast of England tends to dominate the overall landings. Perhaps of more concern to the health of the processing industry is that, whilst

landings in Northern Ireland increased by 23 per cent between 1970 and 1974, they subsequently fell by 15 per cent in the years up to 1979. In contrast landings by Northern Ireland vessels outside the province in 1979 had increased by 156 per cent from 1976 following the entry of the purse-seiners into the Northern Ireland.

2.3.2 Ownership of the Northern Ireland fleet

The pattern of ownership of the Northern Ireland fleet is typically that of single or joint ownership of individual vessels, that is, it is essentially a family-based pattern of ownership. Having said that, however, there are one or two local concentrations of ownership: for example, in 1980 the Kilkeel fleet included four vessels with the same registered owner. Similarly, in Portavogie, there were three vessels with the same registered owner. In both cases this represents only 5 per cent of the total number of vessels per port. If vessels were to be calculated according to family grouping there would, however, be considerably more concentration, with five family groups owning, or having interests in, twenty-two vessels in Kilkeel (28 per cent). A similar picture would be seen in Portavogie.

There is a small amount of forward integration mostly into processing but also, in one or two cases, into marine engineering. This does not, however seem to represent a degree of integration sufficient to jeopardise the interests of other parties in the Northern Ireland industry.

2.3.3 Employment in the catching sector and other parts of the fishing industry in Northern Ireland

In terms of the total labour force employed, the fishing industry in Northern Ireland employs only a small proportion of the labour force. In 1979, total employment , whether full-time or part-time, in any aspects of the fishing industry, including ancilliary industries and harbour administrative staff, equalled 1,729 people (see Table 10e) or 0.3 per cent of the

total Northern Ireland labour force. This macro-economic statistic, however, belies to a considerable degree the importance of the Northern Ireland fishing industry. It is important, firstly, on the South Down Coast and in the Ards peninsula. In the three major ports there, and particularly in the immediate vicinity of Kilkeel, Ardglass and Portavogie, the fishing industry provides the major, and almost the only source of employment, 73 per cent of total employment in the industry is based on these three ports.

This is not the only area where the fishing industry is important, however. Along the coast of Londonderry and County Antrim in particular inshore fishing from small boats, from seven to twelve metres long, provides a supplementary source of income to small-holders in areas where the soil is relatively poor, agricultural holdings small, and alternative employment located in the major urban centres up to 60 miles away.

Employment in all sectors of the industry has increased since Hughes (1970) first surveyed the industry in 1967. At that time (and remembering that he only considered full-time employment in the industry) the total employment was 896, of whom 586 were employed in the catching sector. Thus the off-shore/on-shore ration was 1:1.53. By 1976, employment in the catching sector had risen by 323, to 809. Of these, 271 were part-timers. Full-time employment in the industry had increased by 52. The off-shore/on-shore ratio , with total industry employment at 1716, had increased to 1:2.12 reflecting an increase in ancilliary employment, particularly processing and wholesaling. By 1979, total employment was estimated to be almost the same as in 1976 standing at 1729 (although those employed in the north coast appear to have been omitted from the 1979 survey). However full-time employment in the catching sector had risen by 105 from 1976, and total employment in processing by 111. Those employed in wholesaling had fallen from 251 in 1976 to 79 in 1979 and there had been a reduction of 21 in those employed in boat-building, and a reduction of 14 in harbour administrative and other similar occupations. The off-shore/on-shore ration also fell to 1.89.

Fishermen are paid on the basis of a share system, the traditional system of remuneration in fisheries where the boats are owned by families or small groups rather than by large companies. The method of calculation of the share is as follows for a vessel skippered by her owner: the costs of food, fuel, ice and insurance are deducted from the boat's gross earnings for the week. The remainder is divided two ways: half goes to the skipper 'for the boat' i.e. the maintenance repairs and depreciation. The other half is divided equally amongst the crew including the skipper. If the boat's earnings are low as they are for the Nephrops vessels at the present time, the skipper may forego his share or even supplement the crew's share from the previous 'boat shares'. There is no information on the earnings of fishermen in the Northern Ireland fleet.

There are variations on the above scheme. In the case where the skipper of a vessel is not the owner he will probably receive two shares. For the small 'skiffs' operating from ports such as Annalong, and small boats fishing elsewhere, the proceeds of the catch may be split equally amongst the crew.

In general the fishing industry is part of the culture of the Ulster coast, although its contribution to the economy is, by and large, confined to South Down. The small harbours along the entire coastline used to support small inshore fishing fleets, many until the beginning of the Second World War, and people now in their sixties and seventies recount clearly the fishing activities, the seasons for particular species, and quantities caught. However, the increased cost and scale of fishing and the centralisation of processing and transport facilities has resulted in the virtual disappearance of any fishing activity from many of these small harbours.

2.3.3. The Profitability of the Northern Ireland Fleet

Data has been provided by the Northern Ireland Fish Producers' Organisation Limited on the costs and earnings of a sample of Northern Ireland vessels

over the three years 1978-1980. The data is summarised in Table 24d. This data, which represents an (admittedly non-random) 1:10 sample of the 1980 fleet demonstrates several factors clearly. The first is the great difficulty in making broad generalisations about a fishing fleet. The experience represented by these vessels over the three-year period is quite varied both in terms of the behaviour of gross revenues and costs. A few vessels (five of the sixteen) increased their earnings in both years, although two of these boats did pay off loans in 1979 and therefore are not really a valid comparison. For the other three vessels the average rate of increase was 43.68 per cent in 1979, and only 8.16 per cent in 1980. Seven of the vessels had increases in gross revenue from landings in 1979 but falls in 1980; of these, one had a new loan in 1977, one was surveyed by the Department of Trade in 1979 and subsequently required work doing before a certificate of sea-worthiness was issued, one was re-engined in 1979, and one was laid-up for major repairs in 1979. For the other three vessels the average increase in earnings in 1979 was 9.5 per cent and the average reduction in 1980 was 26.66 per cent. For the remainder of the vessels facing a decline in both years one had his loan reduced, one was a new vessel commissioned in 1979, and one made no loan repayments in 1980. For this group of four vessels the average decline in earnings in 1979 over 1978 was almost 16 per cent, and the fall in 1980 over 1979 was slightly over 22 per cent. For the sample as a whole the net change in earnings in 1980 compared with 1978 varied from an increase of 84 per cent to a decoine of 52 per cent.

Most of the boats in the sample were covering their costs in 1978; for some, however, the difference between costs and earnings was sufficiently small as to make the crew's share appear insufficient. Vessel 2 appears to have lost money in 1978, but, as the vessel continued fishing in 1979 and 1980 these figures are probably suspect.[1] For vessel

1. The fact that total costs and fuel costs are entered as the same figure in the table lends further evidence to this suspicion.

10 the difference between costs and earnings was only £1,800. This would represent only £900 for the crew's share or, for a 5-man crew, £180 per year per man from fishing.

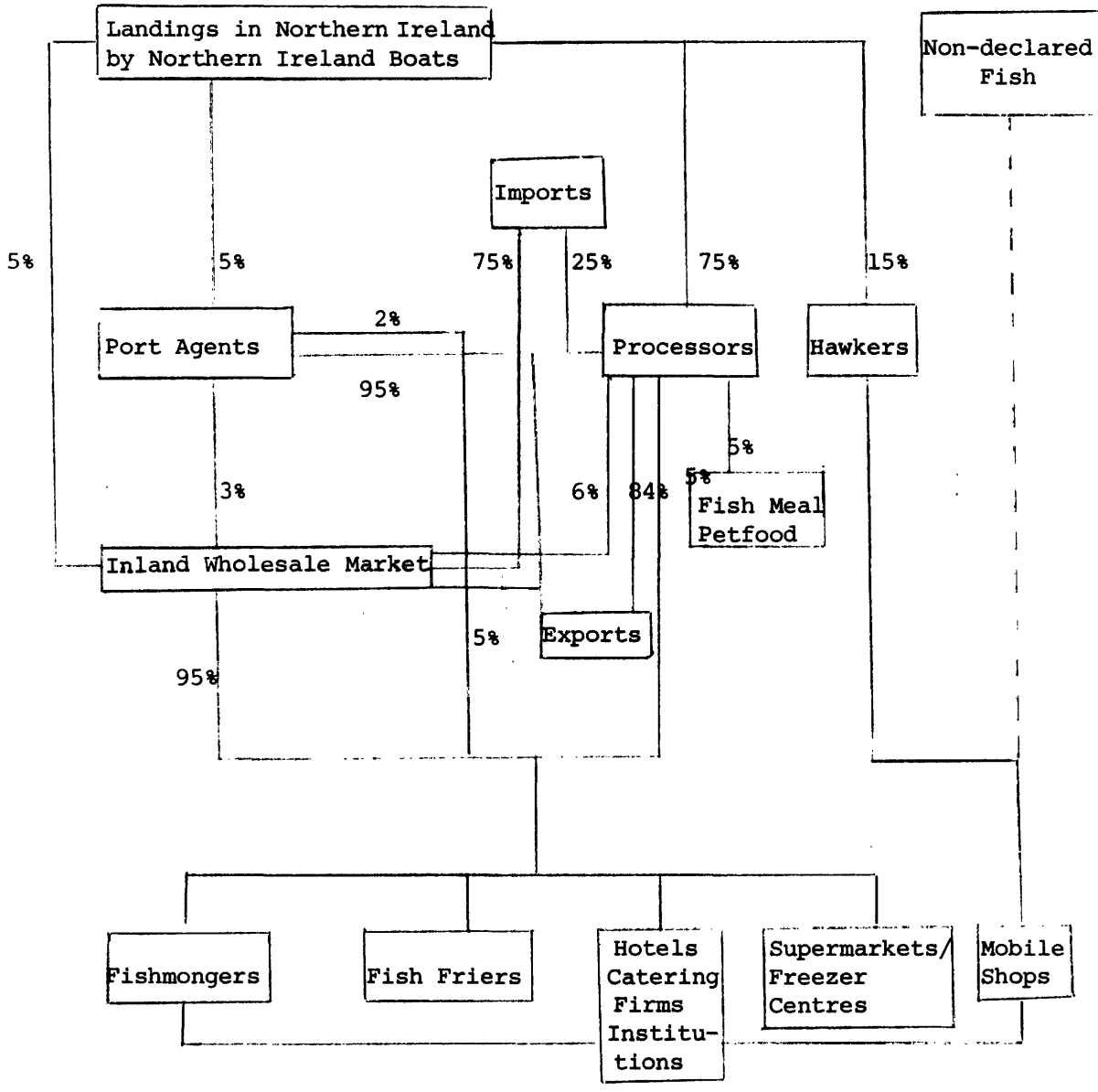
The rate of increase in costs in 1979 exceeded the rate of increase in earnings for twelve of the sixteen vessels in the sample. For 1980 all the vessels but one (Vessel number 2) had increases in costs that were proportionately greater than increases (if any) in earnings. The evidence is, of course, that the rise in fuel costs in 1980 was significantly greater than the increase in any other cost component. The average increase in total costs during 1980 was 48.19 per cent with an average increase in fuel costs alone of 93.76 per cent compared with average fall in gross earnings of 8.87 per cent. The equivalent averages for 1979 were total cost increases of 34.53 per cent, fuel cost increases of 42.43 per cent, and gross earnings increases of only 13.48 per cent.

Another way of understanding the predicament of the Northern Ireland fishing industry is to consider the evolution of the average absolute figures during 1979 and 1980. In 1978 average gross earnings amongst the sixteen vessels was £51,342.25 and total costs were £24,460.44, the net average earnings being £26,881.81. For a 5-man crew this would represent annual individual earning of £2,688.18. Fuel costs averaged £7,824.50, or 32 per cent of total costs. By 1979 average revenue had risen to £58,263.19 and costs had risen to £32,906.63. Average net earnings per vessel were £25,356.56, or £2,535.66 per crew member for a 5-man crew. Fuel costs were £11,144.44, representing 34 per cent of total costs. By 1980, however, average gross earnings had fallen to £53,095.24, whilst total costs had risen to £48,764.33, leaving only £4,330.91 as the average net earnings per vessel. This would provide a 5-man crew with earnings of only £433.09 per man for 1980. Fuel costs had risen to £21,595.69, or 44 per cent of total costs. This figures are, of course, in nominal terms; if they were to be presented in terms of real purchasing power, the picture would

continued on page 32

2.4 Outline of the flows from landings to final use

The following flow chart summarises the distribution of fish landed in Northern Ireland, which will be examined in greater detail in the following sections.



Notes Data represent percentage quantity outflows from each source. Since formally collected returns do not exist for almost all of these flows the data is estimated on the basis of reports from fishery experts. 'Exports' are to mainland Great Britain and elsewhere.

be even more bleak; average net earnings would be reduced by approximately 15 per cent for 1979, to £21,553.08, and by 23 per cent for 1980, to £3,313.15.

2.5 Landings and first hand sale

2.5.1 Landings

In presenting and analysing information about the supply of fish for human consumption in Northern Ireland, it would be useful to have data on: (i) landings in the Province by Northern Ireland vessels, (ii) imports, (iii) exports, and (iv) the quantites used for non-human consumption. Adding the first two items and subtracting the last two would give the total supply of fish for human consumption in Northern Ireland within the unit time period. However, since we are examining a small industry, in terms of employment and contribution to GNP, in a region of the United Kingdom, there does not exist data on imports into nor exports from Northern Ireland nor, indeed, on quantities used for non-human consumption. Nonetheless there is a wealth of very detailed and highly accurate data on landings in Northern Ireland. In Table 11 details of the weight and estimated value of species of fish landed in Northern Ireland for the period 1970-9 are outlined. In 1979 herring, cod and whiting accounted for 81.44% (60.76%) of all whitefish landed by weight (value) and 51.25% (21.61%) of all fish landed by weight (value). Nephrops represented 36.44% (61.53%) of all fish by weight (value) and 92.49% (95.50%) of shellfish by weight (value).

The landings of the main species for the three main ports for 1976-9 are presented in Table 25. Although data covering all ports exists over the full reference period information at this level of disaggregation exists only from 1976. Moreover, whilst this data does not cover all ports it does encapsulate the vast majority of sea fish landed in Northern Ireland; in 1979 97.73% (97.33%) of fish landed in Northern Ireland by weight (estimated value) came ashore at the three main fishing ports, Ardglass, Kilkeel and Portavogie. Of this total, 19.30% (18.35%) by weight (value) was landed at Ardglass, 50.43%

(51.38%) at Kilkeel and 30.27% (30.27%) at Portavogie. Of the herring, cod and whiting, 22.14% by weight is landed at Ardglass, 52.82% at Kilkeel and 25.04% at Portavogie. Considering Nephrops as a proportion of total fish landed at respective ports, in 1979, Ardglass accounts for 29.83% (57.48%) of the total landed by weight (estimated value), Kilkeel 33.83% (62.39%) and Portavogie 40.55% (68.13%). Looking at the landings of nephrops in the individual ports as a proportion of the total nephrops landed in 1979, then Ardglass accounts for 16.40% (16.67%) of the total landed by weight (value), Kilkeel 48.61% (50.71%) and Portavogie 34.98% (32.62%). Noting that whiting is often caught as a by-catch with nephrops, then the general picture which emerges is that a higher proportion of whitefish is sold at a higher price at Ardglass and a greater proportion of nephrops is sold at a higher price in Kilkeel, given the proportions (and distribution, over sizes) of boats registered in these (home) ports. These general results are broadly confirmed over the period 1976-8.(See Figures 4-7)

More detailed information for 1979 is given in Table 26 where landings by species by port by month are presented. Such data is particularly helpful in assessing the distribution within the year of species landed in the three main ports. More specifically, herring is mainly landed over the period June to September, cod during March and April, and whiting from October to May; the main nephrops season is July until November, inclusive.

2.5.2 First-hand sale

The quayside price of fresh fish for human consumption reflects the relative scarcity of the fish, rather than the costs of the fishing trip. Quayside prices are constantly fluctuating and appear difficult to predict. Indeed, inspection of Table 25, Landings of Main Species by Port 1976-9, indicates little systematic variation of prices of specific species over the reference period. Both cod and herring, however, achieved peak real and nominal prices per tonne in 1977.

There are five auctioneers who operate in the three main ports; one at Ardglass, three at Kilkeel, and one at Portavogie. They not only auction fish but also supply fish boxes to boats and act as general land agents by, for example, arranging supplies of fuel oil and provisions for boats.

Auctioneers receive a fee of 5% of the value of sales. They pay the fisherman weekly but may have to wait several weeks before they receive payment from the fish buyer. Consequently they may have to finance significant loans.

Ardglass

There are eleven boats based on Ardglass and approximately seven more regularly land fish there. Two of these additional boats are from Kilkeel and the remainder from Portavogie. These latter boats are said to land in Ardglass because they take more care in the handling and presentation of fish than most of the Portavogie boats, and consequently receive a much better price for their fish. Although three of the eight processors in Ardglass own boats there and buy from their own boats, approximately 95% of fish landed is sold in the fish market, in the order in which it is landed, by public auction. Before the auction starts, however, some buyers appear to discuss amongst themselves what quantities of which species they wish to purchase that evening.

Kilkeel

In Kilkeel, the vast majority of fish is sold by public auction in the fish market. Approximately 80% of the boats in Kilkeel are members of the Northern Ireland Fish Producers Organisation, membership of which requires that fish be sold at auction. Where possible, all fish, other than nephrops, is sold in the order in which it is landed. Nephrops are taken to one end of the market for auctioning last, by weight rather than by the count. Because of the large number of boats landing into

Kilkeel, the location of the fish market, the congestion in the harbour, and sometimes in the fish market, it is not always possible to sell fish in the order in which it is landed. On occasion this has implications for the price paid for fish. The EEC price support scheme only applies to boats which are members of a producers' organisation.

Portavogie

The first-hand sale of fish in Portavogie differs, in some respects, to that at the other main fishing ports. Whereas Ardglass and Kilkeel have covered fish markets (into which fish can be landed direct from the hold) to protect the fish from the environment and enable it to be displayed to potential buyers, such a facility is not yet built at Portavogie. Consequently fish is landed and sold from the quayside in crowded conditions. Fish caught by Portavogie boats has been sold in four main ways.

Much of the fish is sold by public auction. There are many buyers looking for a small quantity (one or two boxes) of wholefish to take home to gut, fillet and skin before selling it the following day. There is one large buyer, who purchases almost all of the large number of small lots of "choice" fish (that is, for example, sole, turbot, brill) at a relatively low price. However, the fish is usually ungraded, badly handled and poorly presented in comparison with Ardglass and Kilkeel. At the auctions we visited there was a tendency for the price to be high at the beginning, when the hawkers were buying their fish, and for the price to fall as successive lots were sold. Since the auction normally starts at the end of the quay furthest from the harbour mouth, boats which return first (probably having been at sea a shorter time and perhaps having smaller catches) obtain a higher price, ceteris paribus.

A second way in which fish is sold is by negotiating private sales before and during the auction. Some buyers are known to some boats, and

small quantities of fish are sold in this way.

Thirdly, some fish is kept in the holds of some Portavogie boats until after the auction is over for private sale to members of the crews' families and/or known hawkers for home processing. It is clear from the small landing figures recorded in official records that a small number of boats are doing this with, possibly, up to 25% of their catch. Moreover, since the records of landings compiled by the Department of Agriculture for Northern Ireland are based on the auctioneers' records of fish sales, fish sold privately is not recorded in the official statistics as landed fish. Consequently it has been entered separately in the flow chart of section 2.4.

The fourth method of sale of fish in Portavogie has been by contract. This was restricted to nephrops which were bought by the count and shipped to Whitehaven for processing. The contract price, however, was flexible and changed almost monthly in line with prevailing market conditions. This form of sale ended in July 1980 after operating for one year.

2.6 The Processing Industry

The processing industry is located mainly on the coast of County Down, around the three main fishing ports: Ardglass, Kilkeel and Portavogie. There are, however, two important processing firms at Annalong, five miles north east of Kilkeel on the coast, and some less significant enterprises on the coast of County Antrim at Ballycastle and Cushendall. The capacities and throughputs of the main plants are as follows:

Size Range Annual Processing and Storage Capacity (m^2)	No. of Plants	Average Processing and Storage Capacity (m^2)	1979 Estimated Averag Throughput (tonne
Under 750	3	392	550
750 upwards	3	2,949	1,050

Source: DANI, unpublished

Ardglass is the main centre for whitefish processing and Kilkeel is where much of the shellfish is processed. At Portavogie there are many small processors. The distribution of processing installations does not entirely correspond with landings. Setting aside imports of fish by processors which occur independently of the distribution of processing plants within the Province, the main movements are of whitefish from Portavogie, and to a lesser extent Kilkeel, to Ardglass. After describing the main characteristics of the industry we shall look at processing at each of the main port districts in turn. Fish offal disposal will then be discussed.

The industry comprises of 26 firms, two of which are members of the Imperial group but the majority of which are independent. Half of the firms process to the final stage of retail packages, half only to bulk frozen fillets.

The throughput of the fish processing industry over the period 1972-9 is presented in Table 27. In general terms the total throughput has remained constant, except for a fall in 1977-8 but with the reduction in herring processing from 1977 there has been a switch to processing whitefish and shellfish. In 1976 whitefish amounted to 38% by weight of the throughput of processing plants, herring 37% and shell fish (mainly nephrops) 25%. By 1979 49.6% of the throughput by weight was whitefish and 33.7% was shellfish; herring accounted for only 16.6%.

Data on numbers employed in fish processing in the three main ports in 1976 and 1979, when the Department of Agriculture carried out surveys, are presented in Table 10(a) - (c). Total employment of full time and part-time men and women was 371 in 1976 and 487 in 1979 ; an increase of approximately 30%. Of the additional jobs approximately 62% (72) went to full time women in Ardglass and Kilkeel. As noted above, however, this increase in employment in processing has not been associated with an increase in throughput of processing plants.

The majority of women are employed in nephrops processing. There was an increase of 66% in the employment of full-time women in processing in Ardglass and Kilkeel between 1976 and 1979 but in 1979 the throughput of shellfish was only 12.5% higher than in 1976.

Ardglass

The Ardglass district has eight processing firms, five of which are situated in the harbour, employing approximately 150 in 1980. Of the eight firms, two are small nephrops processors the rest devote their energies to whitefish and herring. The whitefish is filleted, frozen and packed in both consumer and wholesale packs. Fresh filleted whitefish is also sold in markets and to hotels and caterers in Northern Ireland. Herring is smoked and, occasionally, cured in brine.

According to fishery experts, practically all of the fish landed in Ardglass (which amounted to £1.18 million at first sale value in 1979) is processed locally. Moreover the Ardglass industry buys in approximately 50% by value of Portavogie landings and 20% by value of Kilkeel landings for processing. At first sale value this was approximately £1.6 million in 1979.

Because of seasonal fluctuations in the availability of fish and because of the weather, supplies of fish for processing are uneven and uncertain. It is estimated that Ardglass harbour is unusable for approximately 25 days of the fishing year because of weather conditions. Significant quantities of fish for processing in Ardglass are bought in the Irish Republic. It was reported that sometimes such fish could be purchased at a price lower than the withdrawal price. Not only are supplies from the Republic relatively inexpensive but they are frequently available at times when such species cannot be purchased in the Province. Herring is the main fish in this respect. Although herring cannot be landed in Northern Ireland for much of the year because of the United Kingdom restrictions on fishing herring there is a ready supply from the Irish Republic processed in Ardglass for a large proportion of the year. It was reported

that since the Irish punt depreciated relative to the £ sterling, such trade had been encouraged slightly.

Kilkeel

Kilkeel, with Annalong, has seven main processing firms, employing 245 people in 1980. Of the seven firms, three process nephrops exclusively; two used to be primarily associated with herring processing but have diversified into nephrops, and to some extent scallops, because of supply constraints on herring; one processes only herring, and one handles both herring and whitefish.

The nephrops processors produce glazed and breaded scampi for export to Great Britain, approximately 85% of output, and other parts of Europe, particularly Spain, but also France and Switzerland. Less than 1% of output is sold in Northern Ireland. Herring is smoked, using oak from the Province, salted, and spiced. Smoked herring is sold in the United Kingdom and Italy (where there is strong demand for "silver" herring, which is prepared by smoking over pieces of oak rather than the usual shavings). Salted herring, gutted or ungutted, is sold to the Netherlands and France. Spiced herring is sold to Norway and Germany. There is traditionally a strong demand for processed Mourne herring in Germany, the Netherlands, and Italy because such fish have a lower fat content, is large in size, and has scales in perfect condition. These latter two characteristics are attributed to the fish being caught by drift net.

According to fishery expert opinion, approximately 85% of nephrops landed in Kilkeel (approximately £1.75 million at first sale value in 1979) are processed locally. (It is, however, not possible to relate this figure in any simple way to the data on the throughput of processing plants in Table 26, because some processors hold significant stocks of unprocessed nephrops). Additionally, supplies have come from Ardglass. Recently Kilkeel processors have been looking further afield for their supplies of nephrops. Recent landings in Kilkeel have been relatively small in quantity and the nephrops

tails themselves have been light in weight. Processors face a demand for large tails and, consequently, they demand large tails. There are two main sources of supply: Scotland, especially Mallaig, and the Republic of Ireland, especially Galway and Skerries, (some of these nephrops being purchased under contract by the count). Although the nephrops landed in Scotland come from waters not currently fished by the Northern Ireland fleet, it is reported that many of the large tails landed by boats in the Republic come from waters fished by boats from the North and the Republic.[1]

In 1979 there was an excess supply of nephrops. This was caused by fishermen from the west coast of Scotland, who used to fish cod, haddock and whiting (which they could not sell because of inexpensive imports) and fishermen from Northern Ireland, who used to fish herring (which they had to cease because of quota restrictions) switching to nephrops. This is not a designated species and so has no withdrawal price. In order to support local fishermen, some processors bought large quantities of these shellfish to fill their cold stores. After they purchased these stocks, interest rates in the United Kingdom increased significantly as a result of the Government's restrictive monetary policy. It is reported that some firms have had difficulty financing these large stocks, which resulted from their response to the excess supply.

Herring supplies historically came from the Mourne and Manx fishery. However, since the Mourne ground has been closed, the main source has been Isle of Man herring landed in Kilkeel and, to a lesser extent, Ardglass. There is one, not unimportant, exception. The processors of the "silver" herring find that the fish from the Isle of Man waters has too high a fat content for their purposes.

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1. Informed opinion has explained that fishermen from the North are required by United Kingdom law to fish for nephrops with a 70 mm mesh net, which size lets the strong, big nephrops out but in which the small, weak, unwanted nephrops remain. Boats from the Republic, however, fish with smaller mesh nets, 45-55 mm, from which the strong nephrops cannot escape.

Consequently, they import approximately 10 tonnes of herring from Canada, in June of each year, for smoking in September until October. Although, they feel, the Isle of Man herring would have a suitable oil content towards the end of the season, supplies could be uncertain and so the Canadian fish is used.

Portavogie

The Portavogie district has six main, full-time, processing firms and, unlike the other two main fishing ports, many part-time processors. The auctioneer at Portavogie has 50 hawkers, half of whom appear actively engaged in processing at any one time, on his books. Moreover, it is estimated that there are 20, part-time, family, processors directly associated with particular boats. Total employment in processing in Portavogie is estimated at 120 in 1980. Of the firms, one processes nephrops the remainder process whitefish. Of the part-time hawkers, 20% process nephrops, the rest whitefish. The whitefish is filleted and skinned. Nephrops are glazed and breaded or, by hawkers, cooked and shelled.

The whitefish, to a large extent whiting, landings of which amounted to approximately £0.32 million at first sale value in Portavogie in 1979, is sold to markets, hotels, office canteens, fish and chip shops, and direct to the consuming household through mobile shops visiting towns and factory car parks. Nephrops are sold by the firm which processes them to distributors in Great Britain and Spain and by hawkers to hotels and direct to the housewife.

Almost all of the whitefish processed in Portavogie comes from Portavogie boats. Informed sources have suggested that this probably accounts for 30-35% of the catch of these boats. Supplies of nephrops, however, are not so straightforward. For almost one year from July 1979 all nephrops landed in Portavogie were sold, by the count, under contract to Christian Salveson for processing in Whitehaven. The main firm processing nephrops in Portavogie bought supplies in the other main ports and the Republic. Hawkers, however, purchased prawns privately direct from the boats.

Many comments have been made to us by full-time processors in Portavogie, and by well-established whitefish processors in other ports, about what they reported to be the inferior standards which the hawkers adopted. We have seen, in Portavogie, fish offal being dumped over the harbour wall and then those same, unwashed, boxes being used to collect fish from auction. Furthermore, we have seen fish being filleted in apparently unhygenic conditions with, for example green mould on the workbench. It appears to us that such apparently low standards cannot be in the long-term interests of the industry as a whole.

The North Coast

There are two main processors on the north coast employing approximately 15 people in 1980. One of them fillets and skins local cod, coley and plaice and smokes coley, mackeral and salmon. Lobster is also taken. The other processor brings whitefish from Portavogie, where he has two boats, for filleting and skinning. At Ballycastle, in particular, the processing factory is significantly employed for only four or five months each year. Because of a shortage of supplies of local fish for processing in the winter months, it is necessary to bring fish from Portavogie and Greencastle in the Republic to keep the processing firm occupied. Much of the fish processed on the north coast is sold locally, with the exception of lobster and salmon, smoked and fresh, which is sold in London and Manchester.

Fish Offal Disposal

The largest by-product from fish processing is fish offal, 17 tons per week of which is sold by processors in Ardglass to petfood manufacturers in Northern Ireland. The remainder of the fish offal from Ardglass is usually dumped. At Portavogie, offal is dumped over the harbour wall into the sea by some processors when they come to the fish auction. Kilkeel used to have a fish meal factory which

closed in 1979, after operating for five years, because it received insufficient supplies of offal. Kilkeel offal now mainly goes to reduction factories in the Republic at Drogheda or Killybegs, or is taken to the local dump. In season, one of the major herring processors freezes offal and takes it to a petfood manufacturer in Melton Mowbray, England.

2.7 Markets and Marketing: the Distribution of Fish

A schematic representation of the distribution of fish is presented in section 2.4, to which the reader is referred. In this present section, attention is directed towards flows through the inland wholesale market, all of the other flows associated with 'Processors', 'Hawkers' and 'Non-landed Fish' having been discussed in section 2.6.

The main inland wholesale fish market for Northern Ireland is in Belfast. There are four firms of inland wholesale merchants, employing approximately 20 people in 1980, who act as distributors and do not undertake any processing. Only twenty five per cent by weight of the fish handled by these merchants originates as landings in Northern Ireland by the Northern Ireland fleet. It is purchased by agents at the ports or from processors and transported to Belfast by road. The other 75% of the distributors' fish, estimated to be approximately 8000 stones weight per week, is delivered by road from Aberdeen on Tuesdays to Fridays and, occasionally, Saturdays.

At first it appears surprising that such a large proportion of the fish sold through the Belfast fish market is imported from Aberdeen. There are several reasons. Aberdeen supplies a wide variety of processed fish throughout the year. The fish is filleted, skinned and, sometimes smoked. In season, there is fresh cod, coley, haddock, hake, halibut, herring, mackerel, plaice, sole, whiting and other varieties. Frozen, block whiting is imported in significant quantities, although landings of whiting in Northern Ireland by the Northern Ireland fleet are second only to nephrops in weight. In 1979 the landings

represented 2,946.35 tonnes. The main difference between the imported block whiting and locally filleted fish is that the former fillets are of a standard size whilst the Northern Ireland fillets are often not graded, of varying sizes and inadequately presented. Fish friers, in particular, demand standard size fillets, well-prepared and presented, which they can take straight from the box to immerse in batter and fry. From Aberdeen, the Belfast market receives a dependable, continuous supply of standardised, graded, high-quality fish.

Fish is not sold by auction at the Belfast markets. Most of the business between the merchant and the buyer, usually a fishmonger (of whom there are approximately 65 in Northern Ireland in 1980), fish frier or hotel, is done by telephone. Normally, the buyer orders his requirements one day in advance. Most of the fish is delivered, although some buyers collect their orders. There is good communication between the buyer and his merchant but negligible communication between buyers.

Occasionally, the Belfast wholesale merchants act as agents for processors in Aberdeen and buy wholefish, either directly themselves or through port agents, at auctions in Ardglass, Portavogie and Kilkeel. This fish is transported by road, using the same vehicle that brought fish from Scotland (hence transport costs are very low), for filleting and block freezing in Aberdeen. It was reported to us that this does not occur often for two reasons. First, when a shortage of fish does occur in Aberdeen then it can be of significant size requiring typically,for example, 400 boxes of whiting to eliminate the excess demand. Given usual landings in Northern Ireland, the additional demand for such a relatively large quantity would raise the price such as to make the operation non-viable. The second reason is that any demand in Aberdeen would only be for gutted fish, not whole fish. In Northern Ireland, whiting, for example, is rarely gutted, whereas in Scotland, we were told, 90% of the catch is gutted.

2.8 Related Industries

There are many industries related to fishing: boat building, marine engineering, maufacturing of gear (including engines, steering gear, trawl winches, radar and electronic systems), chandlering, together with service support industries, typical of which is the Northern Ireland Fishery Harbour Authority. In Northern Ireland, there are no firms manufacturing gear. There are three main chandlers, used by the fleet, employing approximately 10 people in 1980. Service industries, typically, harbour staff and government inspectors, probably amount for a further 30 jobs. The most important related industries, in employment terms at least, are boat building and marine engineering. The results of the Department of Agriculture's surveys of employment in boat building and repairing in the three main port districts in 1976 and 1979 are presented in Table 28. Total employment in the two survey years was practically the same, apart from an increase of 15 full-time jobs in the Portavogie district. In 1979 there were 56 jobs in boat building and repairing in these three locations. Total manpower at the three main ports was 1504 in 1979; boat building and repairing, therefore, represented approximately 3.7% of the total.

There are four firms in County Down which undertake boat building and repairing and one which only does repairs, mainly to decks and holds. The largest of these firms, employing 12 in 1980, is situated in Bangor and typically builds boats of 65-70 feet in length. At Portavogie, one boat builder employs 5 men and builds boats up to 45 feet while one firm of 3 men only undertakes repairs. Further south on the County Down coast there is one firm in Annalong and one in Kilkeel each of which employs 5 men and builds boats up to 35 feet in the winter, but in the summer concentrates on repairs to decking etc. These repairs generally peak between the end of the cod fishing and before the herring season, that is, from mid April to early June.

There are three main firms of marine engineers, two are situated in

Belfast and one in Kilkeel. The Belfast firms are primarily concerned with engines: one is the Gardiner agent for the whole of Ireland, the other is the Caterpillar agent for Northern Ireland. The Kilkeel firm are Kelvin distributors and Volvo service agents for Northern Ireland, although they provide a full range of marine engineering services. Each of these establishments has a labour force of approximately 12.

Fishing boats of the type built in Northern Ireland, are constructed in three stages: (i) the keel is laid and planked; (ii) the deck beams are corked; (iii) the equipment is connected. It usually takes ten months to build a 65-70 foot boat and boat builders generally like an order book of 1-2 years. However, there are no further boats on order at the boatbuilders in County Down. This lack of demand is attributed to two factors. For the larger boats there have been few grants announced and, with present high interest rates and low revenues from fishing, fishermen do not plan to engage in significant capital expenditure. The lack of demand for the smaller boats, however, was reported to us to be due primarily to the closure of the Mourne herring fishery off the coast of County Down. Many boats of 35 feet in length used to be operated by part-time fishermen using drift nets in the Mourne fishery. It is not anticipated that there will be further demand for boats of this size before the opening of the Mourne grounds.

Boat builders, however, appreciate that there is scope for diversification. Indeed, two of them own and run chandlers shops. Some firms reported to us that they could manufacture and overhaul pleasure craft, but found it difficult to ascertain to what extent and when they should diversify; they considered that planning was impossible given uncertainty over future policy.

With the expansion of the fleet there has been an increase in demand for the services of marine engineers and we are reliably informed that employment in this sector has doubled in the last five years. In 1975, work was generally sporadic but with the increase in fleet size work has become more continuous.

Normally, boat owners have engineering work done by the nearest engineer or, for particularly specialised work, by the nearest distributor or agent. The firm at Kilkeel gets most of its business from boats at that port, but also from boats at Ardglass, Portavogie, and Clogher Head in the Republic. Many Portavogie boats have engineering work done in Belfast and at Girvan in Scotland. Occasionally, when there is a long queue for engineering services in County Down, some boats have work done in the Isle of Man. We were told, however, that there were sometimes queues there as well, because of a shortage of suitably skilled engineers.

Marine engineers drew our attention to one problem, peculiar to Northern Ireland, which had emerged over the last decade. Because of the "troubles", many wholesalers and stockists throughout industry were holding relative low stocks of parts and general hardware. Often, only adequate stocks were kept of fast-moving factors. In consequence delays occur when parts for engineering repairs have to be ordered direct from the manufacturer, rather than from a local stockist.

2.9 Industrial Organisations

Producer Organisations

There are two fish producers organisations representing Northern Ireland's fishermen: the Northern Ireland Fish Producers Organisation Limited, whose offices are in Bangor, North Down; and the North Irish Sea Fish Producers Organisation Limited, with an office adjacent to the fish market in Kilkeel, but whose main office is in Whitehaven, Cumbria, on the British mainland. The Northern Ireland Fish Producers Organisation Ltd (NISFPO) was recognised by DANI and the European Commission on January 2, 1976, and the North Irish Sea Fish Producers Organisation Ltd (NIFPO) recognised by UK Fisheries Departments and the European Commission on August 4, 1976. NISFPO was allowed to recruit members in Northern Ireland because its 'economic area' included the Northern Ireland east coast. This permission was conditional

however, on agreement being reached with NIFPO (whose activities covered the same area) on the operation of common selling rules and prices so that the market would not be disrupted. Both organisations received capital subsidies from the European Commission to aid in their establishment and to assist with operating costs over the first three years of operation.

The terms of reference for the operation of producer organisations under the Regulations of the European Community allow them to co-ordinate the activities of individual fishermen; to plan the supply of fish to the market; to grade and label fish at the market; and to claim financial aid for market support. However, the primary activity of both producers' organisations in Northern Ireland to date has been the operation of a withdrawal price scheme (although NIFPO has ambitions to enter into chandlering, and has already taken steps in this direction). The schemes operated are the regional withdrawal price schemes for white fish, herring and mackerel. Nephrops 'one of the major species taken by the Northern Ireland fleet, is not a designated species and therefore not eligible for price support. The quantities of fish withdrawn from the market is shown in Table 37. It is obvious that the major benefit from the withdrawal schemes accrues to the few large purse-seiners that operate in Scottish waters and in the south-west approaches, although withdrawals of whiting and herring were significant in 1976. Withdrawals of whiting are reported to have been significant again in the Spring of 1980, although the quantities involved have not yet been reported to us.

Membership of either producers organisation is difficult to establish. In 1976, membership of NIFPO was 100, drawn mainly from Kilkeel but with a few members from Ardglass and Portavogie. NISFPO had 21 Northern Ireland members in 1976. However, the tendency for a few skippers to join both of the POs obscures the proportion of the fleet eligible under the withdrawal price scheme. By September, 1980, membership of NIFPO had

risen to 123, with some members having recently been recruited from the east Antrim ports. In June 1980, NISFPO reported a membership of 14 based in Kilkeel.

Other Industry Associations

Unlike other parts of the United Kingdom there are no separate associations for inshore, middlewater and distant water fishermen. The size of the Northern Ireland fishing fleet is so small that there is only need for one association of fishermen. Many of the fishermen in Kilkeel belong to the Ulster Sea Fisherman's Association, as do some of those in Ardglass and Portavogie. As is the case with most other institutions in Northern Ireland, however, whether or not one is a member of a particular organisation depends on one's social and cultural background, as well as one's occupation. As in the case of the producers'organisations membership of the Ulster Sea Fisherman's Association is lower in Portavogie than in the other ports, although the evidence that we have is anecdotal rather than quantitative. It is thought that the reason for this low membership is at least partly due to the predominant, strict religious denomination to which many of the residents of Portavogie and the surrounding area belong. This discourages its members from belonging to any other organisation than those associated with the Church.

There does not appear to be any formal organisation of fish processors in Northern Ireland, perhaps because of the small numbers of firms involved. Nor is there an association of fish fryers in Northern Ireland which is comparable to the associations of fish fryers to be found in the major cities of Great Britain.

There is also no evidence of unionisation amongst the crew members in the three major ports of South Down. This again contrasts with the situation on the mainland, particularly amongst the fleets owned by large companies, where many of the crew members do belong to unions. During visits to the major ports we found no evidence of any desire, thus far frustrated, on the

behalf of crew members to belong to unions. This may be because of the essentially family-based structure of the fleet in the Province. A similar factor may be responsible for the absence of unionisation amongst people working in the processing plants. A further factor contributing to the absence of unionisation in the processing sector may be the proportion of part-time, female labour working in this sector. It is well documented that the degree of unionisation amongst females and amongst part-time workers in the United Kingdom is lower than that amongst males and amongst full-time employees.

There appears to be little interest amongst those employed in the Northern Ireland fishing industry in forming either professional associations, or in unionisation. It may be that the absence of any effective lobbying voice on the part of the vessels based in the three major ports explains the feeling amongst the skippers in the Northern Ireland fleet that they have been ignored both by the United Kingdom government and in the European Community negotiations concerning the Common Fisheries Policy (CFP).

3. SUBREGIONS WITHIN THE NORTHERN IRELAND FISHING INDUSTRY

As has been mentioned above the Northern Ireland fishing industry has two clearly identifiable sectors: firstly, the three commercial ports of South Down; and, secondly, the small harbours from which small boats varying in length from 20 to 35 feet, fish, either on a part-time or full-time basis. The total average annual catch from the small harbour fleet, based primarily on the North Ulster Coast, was 47 tonnes per annum between 1975-1979. The major part of this in-shore or small vessel activity is based on the coasts of County Londonderry and County Antrim and in two ports in County Down, particularly the port of Annalong. The main small harbours from which fishing activity now takes place are listed in Table 18 although a few of these only support recreational sea-angling. There are only 16 small ports from which small vessels regularly fish. These vary in size from Annalong, where there are approximately 50 part-time vessels (currently laid up because of the total ban on fishing herring in the Mourne, the main ground for those vessels) to Greencastle and Port Bradon, small private harbours of only a few metres from which individual families have fished for salmon (in the case of Port Bradon) and lobster (in the case of Greencastle). Estimates of the labour employed in these ports in 1976 varied from 38 full-time and 187 part-time fishermen to 287 full-time and approximately 300 part-time. Within this group of ports some stand out as being relatively more important. These include Portrush, Rathlin Island, and Annalong. We shall consider each in turn.

Portrush is currently the only harbour of safe refuge on the Ulster coast between Londonderry and Larne. It is a commercial harbour which used to be used for the export of stone from nearby basalt deposits, but this trade has declined considerably. By virtue of this now largely redundant trade the harbour can accommodate vessels of considerably greater draft than most fishing vessels. The estimate, in the Department of Finance Survey,

of only five part-time fishing vessels working from Portrush is certainly an underestimate. At least one small in-shore boat is currently working from the port from the month of April to October. During a visit there, when the weather was poor and all the vessels were in port, this vessel and ten other fishing vessels were seen berthed. If this represents the true fishing effort from Portrush it is the only small port which has experienced an increase in fishing activity in the 1970s.

Rathlin Island is approximately eight miles north of Ballycastle. There are about two hundred inhabitants, and the main activities are farming and fishing, with some tourism in the summer. The only transport between the mainland and Rathlin is via a ferry service, operated by up to four open vessels approximately 35 feet long. There are approximately fifteen inshore vessels operating from Rathlin, employing about forty men from the island fishing the waters between it and the mainland. Most of the fishing is undertaken from April to October. The weather during winter months curtails the fishing that can be undertaken then.

The most recent vessel to enter the Rathlin fleet is a 40 foot boat used for lobster fishing and trawling. Unlike the smaller boats in the fleet it cannot be hauled ashore in adverse weather conditions. It has been washed away during winter storms in the past.

The species of fish caught along the North Coast include herring, mackerel, plaice, cod, hake, haddock, whiting, lobster and crab. As noted above, the average total catch by the small harbour fleet is 47 tonnes per annum. Table 19 shows that mackerel, plaice, saithe and lobster form the major proportion of the catch by weight, and that lobster is by far the most important species by value. From 1977 to 1979 its share of the catch in value terms varied from 73 to 78 per cent. The lobster catch is highly variable, ranging from 4.04 tonnes in 1977 to 14.04 tonnes in 1976. The traditional method of lobster catching is used with each boat working between 20 and 40 creels (lobster pots).

Methods of fishing for mackerel and herring along the coast vary from jigging, long-lining, to handlining and for white-fish the methods used are trammel netting, trawling (particularly by boats from Rathlin Island)together with some handlining.

In addition to supporting full-time or part-time commercial fishing on a small scale between the months of April (occasionally February) and October, there are a small number of commercial sea-angling companies operating from small harbours on the north coast. The Northern Ireland Tourist Board (N.I.T.B., 1972) provides grant aid for the development of sea-angling operations which are to be the sole source of income of the proprietor. This is discussed further in Section 4 below. There are, to date, three enterprises which have received grant aid for the purpose of establishing sea-angling enterprises, two in Portrush (and one in Larne).

On the east coast of County Antrim fishing is extremely limited. Most fishing is either part-time or is essentially amateur sea-angling. The same is true down the coast as far south as Annalong. This port used to be more important as a fishing port than Kilkeel, now the busiest of the three South Down ports. Since Kilkeel became a base for larger fishing boats, even some of the skiffs based on Annalong have moved to Kilkeel. The fleet of skiffs fishing out of Annalong is now approximately 50 boats although they tend to land either in Annalong or Kilkeel. The fleet is essentially a part-time fleet, concentrated on the Mourne herring stock from mid-August to the end of October. The vessel owners are made up of farmers and professional people who spend part of the summer fishing. There are a small number of men who fish through the summer, from the beginning of April through to the end of October. The fishing during the first part of the season consists of daylight fishing for mackerel and lobster. The second part of the season is spent fishing the Mourne stock. The vessels used are open skiffs, approximately 18 to 36 feet long, with a draught of approximately 2 feet 6 inches. Mackerel

are caught by line, the lobsters by the traditional method of creeling, and the herring by trammel netting. The herring are mostly landed at Annalong where they support a processing (smoking) industry.

With catches of Mourne herring having declined dramatically the fishery was closed in 1979. At the present time very few of the skiffs are fishing. The few that are fishing are those that work from April, and they have continued to fish through August for lobster. It is not expected that the Mourne fishery will be opened at least before 1982, and maybe later than that. The economic effect of the closure of the Mourne herring has probably fallen more severely on the processor in Annalong than on the catching sector there. This is because fishing is not the main source of income for most of the fishermen. The processor has not diversified into other activities, and does not import fish from other ports in any significant quantities to sustain the operation.

4. FISHERIES POLICY

The fisheries policy affecting the Northern Ireland fleet can be considered under two major headings: that of the United Kingdom (including the Isle of Man, which is not strictly a member either of the United Kingdom nor or the European Economic Community) and that of the European Community itself. We shall consider each in turn below. Before this, however, we shall consider how the responsibility for fisheries management has evolved between the United Kingdom government and the European Community.

The basic tenet of the original common structural policy for the fishing industry of the six founder Members of the European Community was that of equal access of all EEC vessels to fish in the waters under the sovereignty or jurisdiction of Member States. However, Article 100 of the Treaty of Accession of 1972 entitled two of the three new Member States to limit access of their waters up to six miles from the coast, and in some cases (including Northern Ireland) up to 12 miles, to their own vessels, and to the vessels of other EEC Member States which had traditionally fished in the area. This derogation of the Regulation (republished in 1976 as EEC No. 101/76 on January 19) ceases in 1983 unless other arrangements are agreed by the Council of Fisheries Ministers.

Under the 1976 Hague Agreement Member States agreed to extend fishery limits to 200 miles. At the same time it was agreed that, within these national limits, Member States could unilaterally take interim action to conserve stocks provided that these conversation measures were non-discriminatory, necessary, temporary and approved by the Commission.

4.1 National Fisheries Policy

4.1.1 Conservation and Control Measures

The regulation of fishing within 12 miles of the coast of Ulster is permitted under the Fisheries Act (Northern Ireland) 1966. This is essentially enabling legislation under which management measures can be implemented when

and if necessary. These management measures are implemented as Statutory Rules and Orders, passed either to ensure that the policy with respect to the fisheries of Northern Ireland conforms to the policy for the remainder of the United Kingdom or to implement management measures exclusively for the North Irish Sea up to 12 miles from the coast of Ulster. In either case Fisheries Division, DANI, is the body responsible for introducing the relevant instrument. The instruments currently operating fall into five classes:

1. those relating to fish hygiene (mainly shellfish);
2. those relating to the detailed designation of sea boundaries;
3. those relating to the minimum size of fish that are permitted to be landed;
4. those relating to limitations on the size and type of vessel permitted to use a particular type of gear;
5. those relating to the regulation of fishing within the 12 mile limit.

Of major interest to the current investigation is the series of Herring (Prohibition of Fishing), Regulations (Northern Ireland) 1979 orders, prohibiting the catching of herring by trawling or seining from latitude 50°N running south east to the mid-line of Carlingford Lough, approximately 54°N (the boundary on the east coast between Northern Ireland and the Irish Republic). This is the prohibition of fishing on that part of the Mourne herring stock spawning within United Kingdom waters. Order No. 80 (1979) prohibited fishing the stock from April 1st 1979 until 31st August, 1979. This was then replaced by Order No. 308 (1979) prohibiting fishing in the area from September 1st 1979 to August 31st 1980. This in its turn has been replaced by further Orders in 1980. Order No. 256 (1980) as amended by Order No. 291 (1980) prohibited fishing until 31st December 1980. Order No. 443 (1980) continues the prohibition until 31st December 1981.

The other regulations affecting the Northern Ireland fleet are implemented either by the Manx Board of Agriculture and Fisheries and the Ministry

of Agriculture, Fisheries and Food (MAFF) in London. DANI usually makes representations of its views concerning proposed conservation measures both to MAFF and to the Manx Board. In the following paragraphs we review the development of fisheries management policy in the Irish Sea paying particular attention to the herring stocks.

In 1973 landings of sprats and herrings into the Mornington fish factory by Northern Ireland vessels were very small indeed. Concern was expressed about the declining size of crabs being landed on the east Antrim coast,and about the number of undersized lobsters retained in the catch by the Rathlin Island fleet. A note of concern about the state of the Manx herring stocks was also voiced in 1973. The Manx Board of Agriculture and Fisheries in association with MAFF announced a closure of the Manx grounds from October 1st to November 17th in that year. Whilst it was originally thought that this conservation measure alone had produced a one-third reduction in the catch there is some evidence (see Tomkins and Butlin) that the absence of some of the Scottish vessels from the fishery that year produced this result. The Mourne fishery was also closed for 3½ days per week in 1973, from October 1st to November 17th. This measure did not succeed in reducing the catch, however, and the fishery was closed completely between October 2-13 in 1974. The Isle of Man herring grounds were again closed from the beginning of October until mid-November in that year.

In 1975 more stringent conservation measures were introduced both for the Mourne and for the Manx herring grounds. The Manx fishery was limited to an overall quota of 18,000 tonnes together with a closed season from October 1 to November 17. In the Mourne fishery fishing was only permitted for 3½ days per week, from September 1 to November 30. Within these three months, vessels over 80 feet registered length (essentially the purse-seiners) were banned from the fleet. In addition the fishery was closed from September 29 to October 12 to all vessels except the Mourne skiff fleet (inshore

fishing boats) under 35 feet, for whom a quota system was implemented. The Mourne skiffs were not permitted to fish at all once they had landed their quota of 510 tonnes.

In 1976 the quota for the Isle of Man herring grounds (more specifically, the waters between latitudes 53° and 55°North which are outside the fishery limits of Northern Ireland and the Irish Republic and outside the territorial limits of the Isle of Man) was reduced by 6000 tonnes from 1975, down to 12,000 tonnes. In addition, a closed season was implemented for the period October 4 to November 20 as the quota of 11,000 tonnes allocated for the period prior to October 4 had been landed. Management of the Mourne fishery involved a 3½ day fishing week for vessels over 35 feet and a 4½ day week for vessels under 35 feet. During the period from October 4 to 17 the fishery was closed to vessels over 35 feet. Vessels under 35 feet were again allocated a quota of 510 tonnes. These skiffs were not allowed to fish for herring on the Mourne shore after October 14 as the quota had been caught by that date.

The conservation measures for the North Irish Sea herring were agreed in 1977 within the EEC framework. The TAC for the Irish Sea herring was established at 13,000 tonnes by the Council of Ministers on the advice of the International Council for the Exploration of the Sea. The UK was allocated 91.5 per cent or 11,900 tonnes of this TAC. The TAC applied only to Manx herring as the Regulations also prohibited fishing for herring between July 27 and December 31, within 12 miles of the coasts of Northern Ireland and the Irish Republic and between latitudes 53°20' and 53°40'North (in other words, the Mourne herring stock). In addition the Manx grounds were closed from October 1 - November 19.

The UK/Isle of Man quota was controlled through a restrictive licensing scheme. Thirty-nine vessels from Northern Ireland were licensed. Amongst the conditions attached to the licenses were that, during the 'low season' (until August 20) fishing would be restricted to five days a week; from then

until the closure on October 1st, the 'high season', fishing was restricted to four days per week. A Management Committee consisting of representatives from all sections of the industry regulated the catch quota on a daily basis in terms of the catch per vessel. Informal per vessel quotas were established each week by the Management Committee and checked by the port fisheries officers. It is claimed that the purpose of this limited daily vessel quota is to preserve continuity of fishing and supplies to the processors. We shall argue below, however, that it has potentially adverse effects, raising the costs per unit catch through discouraging the efficient use of fishing vessels.

In 1978, no conservation measures were agreed by the Council for the conservation of the Manx and Mourne stocks. Consequently, unilateral measures were implemented by the Manx and UK fisheries authorities, acting on scientific advice from ICES. Herring fishing was prohibited on the Mourne stock from 54^{o}N to 55^{o}N within 12 miles of the coast of Northern Ireland from September 20-December 31, 1978. For the same period, in accordance with Commission proposals, the herring grounds within 12 miles of the Irish Republics eastern coast had been closed. This effectively closed the Mourne ground completely. Within Northern Ireland's waters an exemption was granted unilaterally by the UK Government to the vessels less than 35 feet long which were permitted to fish until they had taken a quota of 400 tonnes. This having been taken, the fishery was closed on September 26. This was the subject of a case before the European Court, brought by the Commission, the Court ruling against the UK in a judgement issued in July, 1980.

The ICES recommendation for the 1978 herring TAC on the Manx grounds was 9,000 tonnes, a further significant reduction from the previous year. 90 per cent of the TAC, 8,100 tonnes, was allocated to the U.K. Again the UK quota was controlled by restrictive licensing. Despite a reduced TAC the number of Northern Ireland vessels licensed was, surprisingly, increased to 55 for the high season, from August 21 to September 24, when the fishery

was closed. The conditions of the licence included a requirement to land the catch only at specified ports. As in 1977 daily catch limits per vessel were implemented. A small number of Northern Ireland vessels were affected by the closure of ICES division VIa to fishing (excluding the Firth of Clyde) from July 6, 1978.

In 1979 the Mourne fishery was again closed. Acting on the advice of ICES scientists the Isle of Man and United Kingdom acted unilaterally, setting a TAC for the Manx stock of 7000 tonnes of which the UK quota was 90 per cent or 6300 tonnes. The UK quota was again controlled by restrictive licensing with 57 vessels from Northern Ireland being licensed. The County Down skiff fleet was not allocated a quota, and relatively few vessels put to sea to catch lobsters. The fishery closed on September 22. The Management Committee ran a system of daily vessel catch limits, as in previous years.

For 1980, 10,000 tonnes was recommended for the Manx herring grounds, of which the UK assumed a share of 90 per cent. The quota could not be regulated by a restrictive licensing scheme, however, as this had been declared contrary to the Hague Agreement by the European Communities Court of Justice (The Times, 28 July 1980, p.6), as had the quota allocated to the County Down skiff fleet in 1977/8. Licences were issued to UK vessels but were freely available. About 57 vessels from Northern Ireland (of an estimated total of 90 vessels) fished the Manx herring grounds.

The weather during the 1980 high season was particularly poor. The Management Committee established a 300 kg. per man quota per vessel for the UK boats in the fishery for a 4 night fishing week. The landings on any day could make up any quota lost from not having fished earlier in the week, or could include the following day's quota in advance. By September 15 the UK catch amounted only to 7000 tonnes. Consequently the Management Committee permitted a vessel quota of 1000 kg. per vessel per day, and extended fishing through the week until the final day of closure. The final UK catch is

estimated to be 8,620 tonnes, approximately 400 tonnes short of what the UK considers to be its share of any TAC for herring in the Irish Sea.

White fish TACs were again recommended for the Irish Sea in 1980. As in previous years, however, they had minimal impact on the Northern Ireland fleet. There are two reasons for this: firstly, apart from cod, most of Northern Ireland's catch of white fish comes as a by-catch from Nephrops fishing rather than from directed fishing for a particular species. Secondly, the Northern Ireland fleet fishes for cod early in the year, during February and March. It is only later in the year that the TAC is likely to be exceeded and fishing curtailed.

4.1.2 Aids to the Fishing Fleet

As in other parts of the United Kingdom the Northern Ireland fishing industry receives various forms of financial assistance. We shall consider in turn the forms of aid granted to the catching and to the processing sector of the industry.

The legislative basis enabling aid to be given to the fishing industry is contained in the Fishing Vessels (Grants) Act (Northern Ireland) 1967 and the Fish Act (Northern Ireland) 1972. Aid is provided through, and supervised by, the Northern Ireland Department of Agriculture. The Department of Commerce provides aid for the fish processing industry and for the minor harbours of the Province for maintenance and some improvements.

Investment Schemes

There are certain preconditions common to all the schemes in operation, and some that only apply to particular schemes. Four requirements have to be satisfied by all applicants:

1. The application and the project both have to be business propositions.
2. Projects must be shown to contribute to the Northern Ireland fishing industry, and to the increased efficiency and economy of the vessel involved.

3. Applicants must be British subjects resident in Northern Ireland or companies incorporated under Northern Ireland's law. For fishery co-operatives the majority of members must be ordinarily resident in Northern Ireland.

4. Grants are not available for second-hand vessels or equipment. Loans were available until 7 November, 1980, but have not been available since that date.

There are three types of scheme currently operating:

(i) New vessels, Re-engining and improvements,

(ii) Establishment of fish farms,

(iii) Fisheries co-operatives;

and (iv) Loans (until 7/11/1980).

Each will be considered in turn.

(i) New vessels, re-engining and equipment. The proportions of the cost covered by a grant vary. The details are given in Table 31. There will be cause to refer to this scheme again below. For the moment it suffices to note that preferential treatment is given to vessels under 80ft. registered length. Vessels constructed elsewhere than in the United Kingdom are only eligible for grant aid if DANI is satisfied that the cost of the project compares favourably with construction costs for a similar operation undertaken in the United Kingdom. Second-hand vessels, engines, parts, equipment or apparatus, or any work which the Department considers to be routine repair, maintenance or replacement, are all ineligible for a grant.

(ii) Establishment of Fish Farms. Grants are awarded for all necessary land and water work, buildings, boats and equipment. The rate of grant is 30% of approved costs for either fresh water or marine farms.

(iii) Fisheries Co-operatives. Grants are awarded for capital expenditure and for 'administrative development' towards the establishment of a fisheries co-operative. Table 30 shows the proportions of categories of approved costs

that can be grant-aided. (There is, to date, one fisheries co-operative in Northern Ireland, the Lough Neagh Fishermen's Co-operative Society based on the Lough Neagh eel fishery).

(iv) Loans (until 7/11/80) For certain categories of expenditure DANI would make loans, subject to normal financial security requirements. The rate of interest payable was usually kept a little below the Minimum Lending Rate (previously the Bank Rate) of the Bank of England.

The categories of expenditure that were eligible for assistance are shown in Table 31, together with the proportions of the cost eligible for loans. For loans not exceeding £2000 repayment was usually made by half-yearly payments over a period not exceeding 5 years. For loans over £2000 payment was usually made over regular intervals for up to 15 years.

Table 32 shows the allocation of grants to Northern Ireland fishermen over the past decade, although from 1977 it has not been possible to obtain information about the number of beneficiaries. In nominal value the payments have fluctuated quite considerably, and, although damped in real terms, the fluctuations are still quite dramatic. Nevertheless the funds allocated both to grants and to loans have obviously fluctuated significantly over the 11 years in question. From Table 32 it is also obvious that the relative emphasis placed by the Fisheries Division on new vessel building versus re-engining and other improvements to vessels has flucutated over the years. Table 34 shows the proportions of grants and loans that have been allocated to new vessel building over the years 1970-1978. It is clear from that table that new vessel building received the highest priority in the mid-1970s when, it will be recalled from Table 20, a large number of vessels fishing in 1980 joined the fleet.

Operating Costs

Until 1974 subsidies were paid via the White Fish Authority on white fish, and by the Herring Industry Board on herring. These subsidies were termed 'operating subsidies'. The herring subsidies, paid on voyages

terminating in Northern Ireland, were based upon a minimum price established for herring, this minimum price varying according to the use to which the fish was to be put, whether it was to be sold fresh or frozen, and how far from the port of landing it was to be sold. The white fish subsidy, on the other hand, could be based either on the registered length of the vessel, or on the weight of the fish landed. The amounts of subsidy paid from 1970 to 1974 were:

1970	£34,113	on	white	fish	and	£3,453	on	herring.
1971	£28,673	"	"	"	"	£7,476	"	"
1972	£34,521	"	"	"	"	£8,249	"	"
1973	£26,929	"	"	"	"	£5,776	"	"
1974	£15,145	"	"	"	"	£790	"	"

(All figures are for the accounting year ending March 31 of the calendar year in question).

In 1975 the UK government introduced the White Fish and Herring Subsidies (UK) Scheme to alleviate problems the industry was experiencing due to the increases in operating costs, particularly fuel oil costs. The scheme applied to all fishing vessels over 40 feet registered length, and ran for three periods during the year January 1 - June 30, July 1 - September 30, and October 1 - December 31. To qualify for the subsidy, vessels needed to have spent a certain number of days at sea catching white fish or herring (essentially to demonstrate that they are full-time fishing vessels). For voyages resulting in a mixed catch of white fish and shellfish the subsidy was payable only if the landed catch of white fish was greater than half the total landed weight of the total catch from the voyage. Most Northern Ireland vessels qualified for subsidy in each period, the remainder of the fleet qualifying for subsidy in at least one period. In the first period the Northern Ireland fleet received approximately £100,000, approximately £46,000 for the second period, and £40,000 for the third period.

Whilst no explicit operating cost subsidy has since been paid by the United Kingdom, a scheme recently announced by MAFF is to cover, for 1980 only, the gap that has opened up between revenue and costs during the year (particularly for more modern vessels with high interest and capital repayments on loans) and the causes of which for Northern Ireland are discussed in Part III. The scheme bases the lump sum payment on vessel length, with the payments available to vessels of the size typically found in the Northern Ireland fleet being:

less than 35 ft.	£225
35-40ft.	£450
40-45ft.	£1,125
45-50ft.	£1,350
50-55ft.	£2,250
55-60ft.	£3,150
60-65ft.	£4,950
65-70ft.	£6,750
70-75ft.	£8,100
75-80ft.	£9,450

This is, in fact, the first and major payment of the aid of £14.1 million announced by MAFF on September 19, 1980. (The payment of the second depends on sufficient money remaining after the first payments have been made). To qualify for aid, all vessels must have been 'available for fishing' on August 7, 1980. Vessels over 40 feet long (which have not been sold during the year) must have fished for at least 44 days during the qualifying period 1/1/1980 to 7/8/1980. Vessels under 40 feet long would need to produce evidence of landings with a cumulative value of at least £1,500 during any continuous 90-day period falling within the qualifying period 1/1/1980 - 7/8/1980. A rough calculation suggests that the Northern Ireland fleet will receive approximately 6 per cent of the £14 million. This is based on the size of the fleet in 1980 from Table 19 and assuming that there are 150 vessels less than 35 feet long in the fleet. By comparison it is estimated that the Scottish fleet will receive approximately half of the total

allocation.

Exploratory fishing

Exploratory voyages on a small scale are undertaken by the Northern Ireland Fisheries Laboratory, Coleraine. They also occasionally undertake major exploratory fishing programmes. During the past eleven years there have been two of these: in 1971, and a recent series of voyages in 1980.

In 1971 a commercial survey of Norway pout as a potential industrial fish was undertaken. The exploratory fishing lasted for more than two months, from December 1970 to February 1971. Although significant quantities of haddock, whiting and cod were caught, the Norway pout catch was insufficient to indicate the viability of a commercial fishery. The area surveyed, to the north and west of Londonderry, had been surveyed previously and the results of those surveys landed greater quantities of Norway pout and significant quantities of blue whiting. The conclusion of the survey was that the concentration of the Norway pout on the sea-bed was too intermittent to support the establishment of a commercial fishery based on industrial species alone.

During the period 1970-1980 the major part of the sea fisheries work of the Coleraine Laboratory was directed towards monitoring stocks of crab and lobster on the Antrim coast, monitoring nephrops catches, and investigating the technical viability of oyster rearing in Strangford Lough. A certain amount of monitoring of catches from the Mourne stock and of inshore voyages to investigate the stock were also taken during the period.

The largest exploratory voyage programme undertaken by the Coleraine Laboratory was, however, implemented during 1980. M.A.F.F. had allocated £1,000,000 to finance exploratory voyages for the UK fishing fleet, and tenders were requested. Three Northern Ireland vessels were chartered to explore three separate areas: the Golden Fleece examined the catch rates of Nephrops in ICES Divisions VII(f) and (g) (the Bristol Channel); the Green Field examined the catch rates of demersal fish and shellfish in the Celtic

Sea and the Southwestern approaches (ICES Divisions VII(f), (g), (h) and (j)); and the Celestial Shore examined the potential of selected fishing grounds to the north and north-west of Ireland (in ICES Division VI(a) and VII(b).

The Golden Fleece charter lasted for 21 days. Most of the successful trawls for Nephrops were in the ICES subdivision VII(g). Significant by-catches of cod, ling, haddock, megrim, and hake were also caught. Amongst the species caught but rejected were Norway pout and blue whiting. In contrast the results of the Green Field voyage were uniformly poor, with yields of Nephrops varying from ½ to 2 boxes (22.25 - 89 kgs) approximately per trawl. Very little demersal fish was seen in commercial quantities, although the use of a smaller-meshed net would have yielded large quantities of immature blue whiting and Norway pout.

The voyage of the Celestial Shore was undertaken in two parts: the first part, on the grounds to the west and south-west of Islay (off the west coast of Scotland), on the Dubh Artach ground, and to the north of Mishtrahull, was not successful. The second part, from the grounds to the west of Tory Island to Donegal Bay and the grounds to the west of County Mayo was more successful. A small number of trawls made to the west of Aran Island also proved successful. The species caught to the north-west of Tory Island included cod and haddock; the catch in Donegal Bay yielded commercial quantities of whiting, haddock, cod and megrim; the grounds to the west of County Mayo yielded considerable quantities of cod, megrim and whiting, the maximum taken in one trawl being 30 boxes (191 kgs) of whitefish. The grounds from 40 miles to 26 miles west of Aran Island yielded cod and haddock. For the voyage as a whole, 50 per cent of the catch by weight consisted of whiting, megrim, cod, haddock or angler fish.

The conclusions of the three voyages are that: most of area VII(f) and the southwestern part of VII(g) are unsuitable to Nephrops trawling, that the Celtic Sea and the southwestern approaches are unlikely to yield commercial

quantities of demersal fish during the summer months; but that the grounds west of Donegal Bay and north of County Mayo in the Republic appeared to be potentially good fishing grounds.

Information is available for the cost of only one of the three voyages. The voyage of the Green Field, which had to be suspended for four days out of the planned 18 days, cost £20,843, or approximately £1500 per day. If this cost were applied to the other two exploratory voyages, the total cost would have been approximately £75,000 or 7.7 per cent of the total money allocated by the UK government for exploratory voyages.

4.1.3 Aids to the Processing Industry

The processing industry in Northern Ireland has, over the reference period for this study, received substantial aid both from the Department of Commerce in Northern Ireland and from the European Commission particularly in recent years. The quantities involved and their disposition are discussed chronologically below. The division of responsibility for government aid to the fish processing industry is not clearly defined. The Department of Commerce has the major responsibility, it would appear, with the Fisheries Division of DANI having supplementary responsibility. There is a considerable amount of informal contact on these issues of overlapping responsibility. Table 36 summarises the allocation of grants to the fish processing industry in Northern Ireland since 1970.

During 1978 the Northern Ireland Local Enterprise Development Unit (LEDU) joined the Department of Commerce in assisting the fish processing industry.[1] LEDU allocated grants totalling £66,927, of which £47,567 was for plant and machinery and £19,360 for buildings. The corresponding figures for the Department of Commerce were £76,908, of which £53,814 was spent on

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1. LEDU was established in 1976 to encourage the expansion of small local businesses in the province, with the associated expansion in employment opportunities.

plant and machinery and £19,360 on buildings. For the accounting year up to March 31st 1979, total Department of Commerce grants were £47,000, and LEDU grants totalled £96,000. (No breakdown of the proportionate allocation to plant and machinery or buildings is currently available).

It is clear from Table 36 that the amount of aid going towards capital improvements in the processing industry has increased dramatically in both real and nominal terms in recent years, and even in real terms the increase between 1977 and 1978 is 411 per cent. The fluctuations in earlier years are caused by major capital expenditure on a new factory. The policy of those responsible for the fishing industry in Northern Ireland has always been to assit the expansion of the fishing industry but there is no explanation for the dramatic increase in the amounts awarded over the past two years. It may be that the high level of capital expenditure supported may encourage over-capacity in the Northern Ireland fish processing industry as well as in the catching sector of the industry.

4.2 Community Fisheries Policy

The Community Fisheries Policy impinges on the Northern Ireland fish catching and processing industry in several ways as can be seen from previous sections. At least one factory has been grant-aided partly from FEOGA; a significant proportion of the skippers in the industry receive price subsidies through the withdrawal price scheme operated by NIFPO and NISFPO; and vessel purchase has been assisted through grants from the Commission. In addition the new harbour extension at Portavogie is receiving a 30 per cent grant from the Regional Fund of the European Community, this amounting to £1.6 million.

The most important aspects of the Community Fisheries Policy to date, when viewed from a Northern Ireland viewpoint, are the Council Regulation (EEC) No. 1852/78 (see Official Journal, L211) on an interim common measure for restructuring the inshore fishing industry, (amended in 1979 - see

Official Journal L78, and in 1980 - see Official Journal L167), and the Council Regulation (EEC) No. 754/80 concerning, for certain stocks in the Community fishing zone, the fixing for 1980 of total allow catches, the share available to the Community and the means of making the catches. We shall review these below, and the effect that they have had upon the Northern Ireland fishing industry. Following this we shall outline other aspects of Community fishing policy which, whilst of particular importance to other regions or countries, are of rather less importance to Northern Ireland.

Regulation No. 1852/78 allows for FEOGA funds to be used to grant aid the construction or purchase of fishing vessels or the construction, equipping and modernisation of mariculture establishments. The 'capital subsidy' or grant may amount to 25 per cent of the total investment, and the scheme was originally intended to operate for 1978 only. The vessels eligible under the regulation are vessels between 40 and 80 feet (12-24 metres) or those whose Gross Registered Tonnage lies between 25 and 130. By both criteria all but five of the vessels fishing from Northern Ireland in 1980 would be eligible under this scheme. Further stipulations under the regulation include the requirement that the project is expected to be profitable to the fisherman and beneficial to the region from which the boat will fish.

In terms of the contributions from the Fund and the beneficiary, three regions (Northern Ireland, Greenland and Mezzogiorno) are allowed a lower contribution from the individual (25 per cent instead of 50 per cent) and a higher proportion from the fund (50 per cent instead of 25 per cent). The Member state's contribution remains not less than 5 per cent. (As was mentioned above the typical rate of grant paid under the Fishing Vessels (Grants) Scheme (Northern Ireland) 1976 is 35 per cent, thus reducing the Fund's contribution to 40 per cent. The cost to the Fund for the 1978 year was 5 million units of account (£3,077,000 approximately)).

Regulation No. 592/79 extended the scheme in Regulation No. 1852/78

for one more year, and included the French Overseas Departments in the derogation on the contributions by the Fund and the beneficiary. 15 million units of account (£9,230,750 approximately) was to be spent on projects by the Community.

A further amendment to Regulation No. 1852/78 was issued in June 1980 as Regulation (EEC) No. 1713/80. In essence the amendment permitted application to be made to the Commission for grants to support major improvements to fishing vessels. 'Major' was implied by the requirement that each project cost at least 65,000 units of account (approximately £40,000). The terms of commitment by the Commission, by the Member State and the individual beneficiary remain the same. The total amount allocated for the 1980 restructuring scheme was 20 million units of account (£12,500,000 approximately).

Under the 1978 scheme and the 1979 amended scheme, FEOGA funds were allocated to assist the construction of fishing vessels in Northern Ireland. Since the Funds were first allocated to assist vessel construction, until the present (1973 - 30/6/1980) 26 vessel construction or purchase projects for the Northern Ireland fleet have been grant aided together with an extension to a fish farm. The total amount of money allocated to these was £2,117,339.[16] In 1980 16 applications for vessel improvements were forwarded to the Commission. Of these 15 were for the fitting of more powerful engines, together with other vessel improvements. Under the conditions of Regulation No. 1852/78, and as amended in 1979, 2 projects were approved for Commission grant aid in 1978, 14 projects in 1979, and 8 in 1980. Hence, of the 26 projects grant-aided by the Commission, almost all of them have been approved during the last two years.

The 1980 agreement on TACs obviously has a potentially significant influence on the Northern Ireland fleet. For the Irish Sea (ICES Division VIIa) the TAC for cod was agreed at 9,000 tonnes, the Mourne stock closed, and the Manx stock was allocated a 10,000 tonne TAC for herring. As

noted above the major influence has been on the herring stocks: the cod catch for Northern Ireland comes very early in the season and does not exceed 10,000 tonnes. The remainder of the white fish catch of the Northern Ireland fleet is mainly by-catch from Nephrops fishing and as such is not affected by TAC arrangements (although the evidence shows that the white fish by-catch may often significantly exceed 10 per cent of the total catch by weight).

However, of greater import than the total agreed TACs is the national allocation or quota, particularly of the herring stock. Although they have subsequently been sent back for revision by the Council of Ministers, the original distribution of the Irish Sea herring TAC allocated 25.7 per cent to the Irish Republic and only 74.30 per cent to the whole UK (see COM(80) 452). Whilst the rationale behind this lies in principle in the Hague Agreement commitment to the Republic, in practice the allocation to the Republic appears unconsionably generous. This can be seen clearly when the Republic's 1974-1979 herring catch is considered. The figures were 15, 20, 15, 22, 22 and 15 per cent of the total catch, or an arithmetic average of 18.77 per cent over the six years. The importance of Irish Sea herring may be small for the UK fleet as a whole but it assumes much greater importance in relation to the catch of the Northern Ireland fleet.

Community Fisheries Policy has also had an influence upon the fish processing industry in Northern Ireland. Under the terms of Regulation No. 355/77 the Community can grant aid specific projects or programmes designed to rationalise the treatment, processing or marketing of one or more agricultural products, including fisheries products. Title I of the scheme refers to the need to prepare major development programmes for an area in order to obtain aid for projects, and Title II refers to specific projects. The Regulation is in force for the five year period until 1982, and an allocation of 400 million units of account (approximately £246,000,000) has been set aside for the period, equivalent to 80,000,000 units of account

(almost £50,000,000) per year. Under this regulation, two fisheries projects have been funded in Northern Ireland to date, representing expenditure by the EEC of £227,350.

Other Community Fisheries Policy provisions have had less of an influence on Northern Ireland's fishing industry. In some countries the arrangements made with third countries concerning arrangements for fishing in the Community fishing zone in return for admission to third countries' waters has had important effects, but this is not so for the Northern Ireland industry. Without a doubt the provisions for financial assistance, the agreement on TACs in the Irish Sea, and the sensitivity of the fortunes of the Northern Ireland fleet to marginal re-allocations of the UK and Irish Republic quotas are the aspects of the Common Fisheries Policy that have the most important current and potential effects on the Northern Ireland industry.

PART II

Analysis of the Structure of the Fishing Industry

1. The Resource Base
2. Infrastructure
3. Fleet structure
4. Employment
5. Processing and Marketing
6. Summary and Conclusions

1. THE RESOURCE BASE

Over the past decade the resource base on which the Northern Ireland fishing fleet depends, the stocks in the Irish Sea (ICES Division VII(a)) had gradually declined, with the major exception of Nephrops stocks. The technical investigations of the Northern Ireland Fisheries Research Laboratory in Coleraine have expressed increasing concern over the proportion of under-sized lobsters recorded in catches by small vessel fishermen along the Antrim coast, and the ICES recommended TACs for the stocks of the Irish Sea as a whole have been gradually adjusted downwards. It was explained in Section I that there is little concern about the Division VIIa cod TAC in Northern Ireland because the cod stocks are fished by that fleet in February and March, and the Northern Ireland catch is only a modest proportion of the total catch, fluctuating between 12-20 per cent of the catch between 1970 and 1978 and rising to 23 per cent in 1979. Similarly, landings of almost all other white fish species are by-catches of the Nephrops fishery and therefore are discounted for quota calculation purposes. However, both the Manx and Mourne herring stocks are still not thought to be recovering significantly. The TAC for the Manx stock was not fully taken up in 1980, even though the Manx Fisheries Committee extended the fishing into the last weekend of the season and raised the informal vessel quota from 300 kgs to 1,000 kgs per man. The Northern Ireland Fisheries Laboratory in Coleraine has investigated the Mourne stock with several days of experimental fishing. However, they are not optimistic about the possibility of opening the fishery before Autumn 1981 at the earliest.

Faced with a declining resource base in its traditional fishing area, a fleet can attempt to adopt one or more of three alternative approaches to the problem: firstly, it can lobby for political measures to exclude other country's vessels from the grounds it has traditionally fished; secondly, it can attempt to fish other stocks which have as yet received little attention;

and third, it can seek to fish in other areas.

The amount of political activity undertaken by Northern Ireland's fishermen over the past decade has been limited and, apparently, been confined to local issues. Discussions with fishermen to not show any great depth of feeling concerning other fishermen in the grounds traditionally fished by the Northern Ireland fleet. The main vessels concerned are either from the Irish Republic or Scotland; the one is a member of the UK and the other is a country with whom Northern Ireland has a 'voisinage' agreement. This agreement, whose initial implementation was on 25/8/1964, entitles fishermen from the Irish Republic and Northern Ireland to fish in each other's twelve mile limits providing that no conservation measures or local by-laws are contravened. There is, then, little pressure from Northern Ireland's fishermen to exclude vessels from other countries. However, EEC regulations do permit the allocation of an exclusive 12-mile coastal band in certain regions of the Community. The possible effects of establishing such a zone in the Irish Sea, to protect the South Down inshore skiff fleet, is discussed in the following part of the report.

Whilst fishermen in the Northern Ireland fleet occasionally suggest that there are relatively unexploited fishing grounds in the Irish Sea, there is little scientific evidence to support them. One or two progressive fishermen have commissioned beam-trawlers in 1980 and are to try exploiting the sole stocks in Morecambe Bay that have traditionally been heavily and extensively fished by the Belgian and the Dutch fleets. However, there is serious concern about the state of these stocks and, whilst one or two Northern Ireland vessels may be able to make a living by including these stocks in the grounds that they fish, any further pressure is likely to lead to more stringent conservation and the consequent under-utilisation of these vessels.

Another small group of Northern Ireland vessels does, of course, fish the mackerel stocks off the west coast of Scotland and in the South-west Approaches. Conservation measures are also being tightened on these stocks,

however, and it is not likely that these grounds will provide a significant proportion of the Northern Ireland fleet with a reliable resource base in the near future.

The third approach, and the only viable one remaining, is encouraging the indutry to fish for stocks outside of ICES Division VII(a). Exploratory voyages have been undertaken to the northwest of Londonderry in the early 1970's to search for Norway pout to examine the viability of basing an industrial fishery on this stock; and to the west of the Republic and to the Celtic Sea and Bristol Channel area, during 1980. The evidence from these voyages suggests that fishing for prawns in specific areas of the Celtic Sea is viable, as is demersal fishing to the west of Donegal Bay and north of County Mayo. It is interesting to note that vessels from the Northern Ireland fleet used to fish both of these areas in the 1960s. The reasons given for the withdrawal of the fleet from both of these areas include the rising cost of fuel, difficulties that some skippers have encountered in icing up and taking on board sufficient water, and the poor prices received for their catch, in the Republic's ports.

2. INFRASTRUCTURE

In terms of infrastructure needs a small, inshore fishing fleet, such as that in Northern Ireland has four sets of needs:

- berthing, including a port of safe harbour in bad weather;
- an adequate area in which to land fish, and from which to sell the fish that has been caught;
- adequate and easy access to oil, water and ice supplies;
- a slipway where repairs can be made to the boat, and minimise the time away from the fishing grounds.

During the 1970's the major harbours of Northern Ireland have undergone considerable improvement in one or more of the areas mentioned above. In 1973 the improvements to Kilkeel harbour were completed and, subsequently, work on a second ice-plant (to extend the port's ice-producing capacity beyond 12 tonnes per day) was started in 1979/80. A major survey of Ardglass has been undertaken, and is reproduced as Appendix 2 to this report. We discuss the main features of the survey below. Also, as has been mentioned below, the harbour at Portavogie is currently being enlarged and improved, and will provide first-class berthing facilities for 66 vessels when the scheme is completed (in 1984).

Kilkeel There are, inevitably, complaints about particular facilities at each harbour, but these were particularly prevalent at Kilkeel. Amongst these complaints the following figure most prominently:

(i) There is concern about the silting up of the harbour entrance at Kilkeel, caused by the diversion of the river into the harbour during the 1971/3 alterations. An extremely old dredger brought from Preston alleviated the problem for a short time but this was taken out of commission during the summer of 1980.

(ii) The positioning of the fish market at Kilkeel is strongly criticised by the port's fishermen, as its use entails crossing the harbour twice; once to unload the fish at the market, and once to tie up on the other side of the harbour.

(iii) The ice plant at Kilkeel is positioned so that vessels which are taking on ice will block the harbour entrance. NIFHA is building a new ice plant in the port but its positioning, behind the harbour master's office, will make it difficult and arduous to take ice

on board. This could be alleviated by the installation of a simple conveyor system from the new ice plant to the dockside.

(iv) Kilkeel cannot accept any further vessels. The over-crowding has resulted both from the increase in the size of the fleet and from the increase in the length of many of the vessels currently berthing in Kilkeel. The congestion is not simply for berthing space, but also for the off-loading space at the fish dock and the increased demand for water and ice. For example, when two of the purse-seiners were unloading their catch at the same time during the high season for the herring fishery, during the summer of 1979, no other vessels were able to unload their fish catch for two hours.

As the most southerly of the three main ports Kilkeel is used as a port of safe harbour only when vessels are fishing the Mourne herring stock. For the other grounds the vessels typically run either for Manx ports, when fishing the Manx grounds, or for the two more northerly Northern Ireland ports. The question of sufficiency of slip-way and repair facilities is difficult to answer: some of the repairs to Kilkeel vessels, and to vessels from other ports both in County Down and in the Republic, are done in Kilkeel, some at other yards. Outside of the high season for herring there is generally no problem for Kilkeel vessels to have repairs completed within a reasonable time. During the 1980 herring high season, because of the adverse economic conditions for the fleet, much routine maintenance work was postponed or cancelled and the Kilkeel boatyard was working at less than capacity.

Ardglass. Ardglass has a much smaller indigenous fleet than the other two ports of Northern Ireland. Nevertheless, it is sometimes used as a port by Scottish vessels during the herring season, and the berthing facilities need to exceed the needs of the small number of Ardglass-registered commercial fishing vessels.

In 1979 NIFHA submitted a programme for improving Ardglass harbour to DANI's Fisheries Division. The decision was made to limit capital expenditure on the improvements to £100,000 meaning that some of the programmes proposals had to be postponed or abandoned. (The full text of the NIFHA is

reproduced as Appendix 2 to this report).

As a harbour for safe shelter Ardglass is not currently satisfactory. The existing harbour does not provide adequate safe berthing and landing facilities. When adverse weather conditions are forecast, particularly from the south, landings cease at Ardglass. A particular problem is that the fish market quay is exposed to the wave-front being 'refracted' (or "bent around") by the breakwater. Vessels which are landing their catch or are lying alongside the breakwater pier are liable to be damaged by rubbing against large fender piles whose purposes is to keep the hulls off the protruding foundation blocks. Greater detail on this is provided in Appendix 2.[1]

The conclusion of the NIFHA sub-committee was that a group of consulting engineers should be retained to 'investigate a scheme to provide adequate shelter for fishing boats using the present facilities', with the proviso that the total costs of the scheme must not exceed £500,000-£600,000. In our view this is the correct decision; the need is clearly to improve the protection offered to vessels in Ardglass harbour. We are not in a position to assess whether the cash limit imposed will prove sufficient for the work to be completed adequately.

Against the three other criteria for assessing a port (the fish market, access to oil, water and ice, and repair and maintenance facilities) we have perceived no particular problems for Ardglass nor received particular complaints. The fish-market is modern and well-lit; the ice-plant is modern and seems adequate for the needs both of fishermen and processors; and the repair and maintenance facilities available in the province and in the Republic appear to meet the needs of the fishermen.

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1. The study team has seen the problems at Ardglass even when moderate seas were running from the south. They also were told by a diver that there was evidence of wear and tear on the protective piles.

Portavogie. Of the three main fishery harbours of South Down, that of Portavogie is the least adequate. Although it is a harbour of safe refuge it is extremely congested when the entire Portavogie fleet is tied up. There is no fish market and no ice-plant. The slipway can only accommodate vessels up to 65 feet. A further slipway, which has recently been built outside the harbour, is used primarily for building new vessels. Vessels needing repair or maintenance either use local firms (if the slipway is available) or, more likely, use the facilities elsewhere. Many of the Portavogie skippers use Scottish slipways for repairs. However the port of Portavogie is currently in the process of redevelopment and extension: the deep-water basin is being considerably extended; ebbing-on facilities are being provided to facilitate inspection of and repair to those parts of vessels that are submerged; an ice-plant and fish-market will be provided, and the quayside will be supplied with electricity. This will enable the quayside to be lit at night; it will also enable power points to be provided at the quayside. This in turn will speed-up minor repairs and maintenance which currently may have to be undertaken on the slipway. Other benefits accruing to the Portavogie redevelopment will include: reduced fishing time lost (because larger vessels which currently may be kept in the basin by smaller vessels will now be able to put to sea in weather conditions unsuitable for the smaller vessels); and increased on-shore employment (by increasing the landings of the Portavogie fleet's catch in its home port above the current 10 per cent, and thereby increasing processing in Portavogie). The Portavogie redevelopment is being funded primarily by the European Commission's Regional Development Fund.

Ballycastle. An on-going concern for some years now on the North Antrim coast has been the question of whether or not to develop Ballycastle harbour. The reasons advanced by the Moyle District Council, in whose area the town lies, are two-fold:

- firstly, there is a need for a harbour of safe refuge along the north coast of the Province;
- secondly, the ferry service to and from Rathlin Island needs to be improved, particularly during the winter. It is only by enlarging and deepening Ballycastle harbour that the larger, covered vessels could be accommodated.

To its credit, Moyle District Council has backed the claim by a considerable amount of study, including a cost/benefit analysis,[1] and a wave tank scaled model of the consulting engineers' proposals.

The scheme proposed involved the extension of a breakwater and the extension and deepening of the basin. The end result would be herthing in the harbour for 28 boats of an average length of 11 metres, and for 15 boats of 11 to 16 metres. (At present only five boats can moor on the leeward side of the existing pier, and that only for short periods with safety). The scheme was costed independently at £3.75 million in 1980.[2] The expected benefits are sought from commercial and recreational fishing, tourism, and the multiplier effects of increased employment (in addition to the purely social benefits to the inhabitants of Rathlin Island).

The benefits which the cost/benefit study attributes to the extension of commercial fishing from Ballycastle include an increase in full-time jobs at sea by 35-40 and 10-15 jobs in on-shore fishing industry employment. In an unexplained and unjustified way this total of 45-55 jobs is multiplied up to 80-100 jobs. The analysts also expect that sea-angling could be developed as an activity, increasing the fishing-based employment even further.

The study implies both that more Northern Ireland skippers wish to fish along the North Ulster coast than there are currently facilities for, and that

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1. Parts of the cost/benefit study are contained in Appendix 1 to this report.

2. Department of Commerce estimate, applying their price level index to the consultant engineers estimate of £3 million at 1978 prices.

these boats wish to fish from Ballycastle. The present study team investigated these two hypotheses in some detail, and could find little evidence to support either one. The north coast fleet has always been a small vessel fleet, consisting of small vessels based on local harbours. This fleet has been declining rather than increasing over recent years. Although the catch on the North Coast has fluctuated it can be seen from Table 17 that this has always been small, and that the secular trend in catches has been downward. The figures below, which are three-year moving averages of the total North Coast catches, show the decline which would have been greater had it not been for two years of exceptionally high catches, in 1976 and 1978.

1971	1972	1973	1974	1975	1976	1977	1978
56.79	55.36	45.13	44.03	48.31	46.30	52.97	40.92

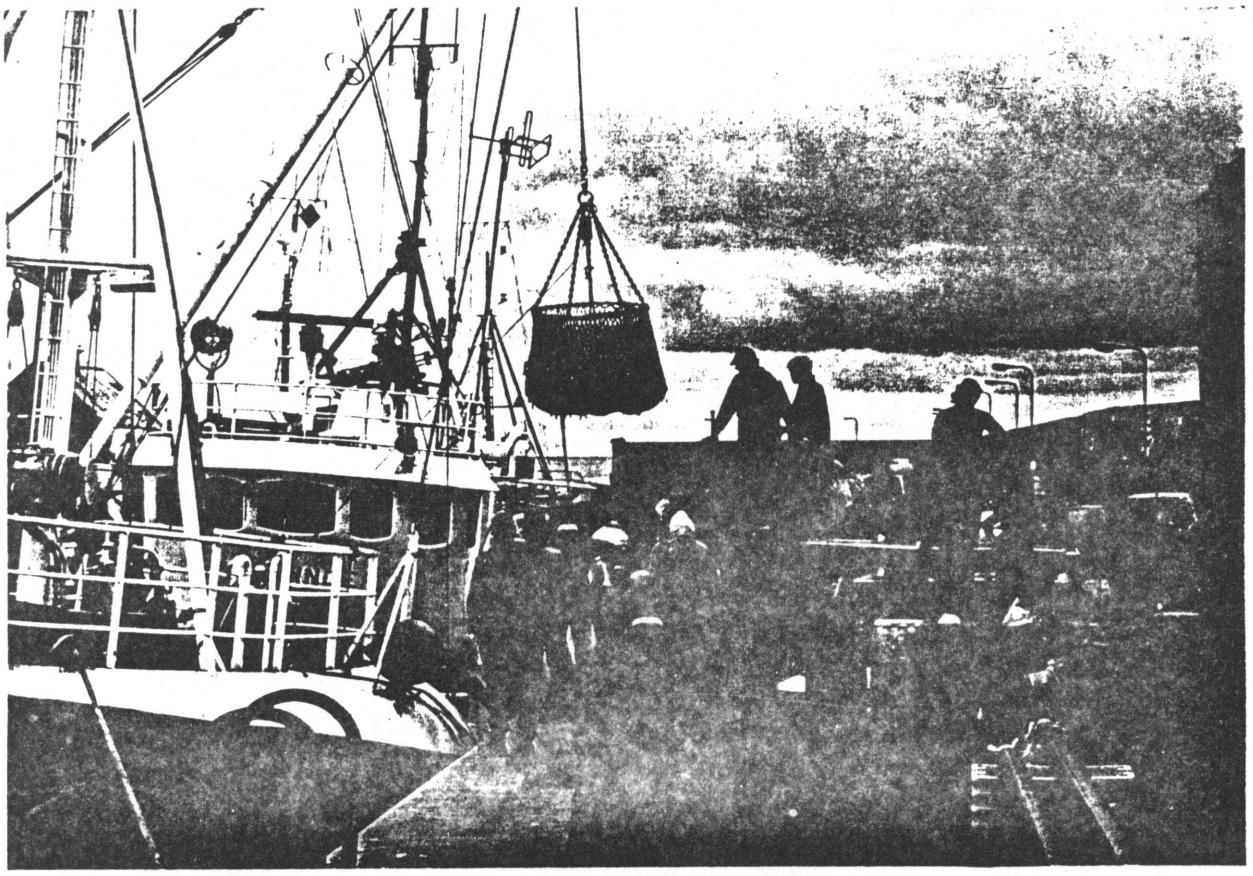
(figures in tonnes).

The fishing industry in Northern Ireland as a whole, outside the three main ports, has been declining. This can be seen from Table 10(d) (although the reservations about this survey should be recalled). In this table much of the growth in employment between 1967 and 1976 was outside the North Coast area in places such as Annalong in South Down.

As to increased demand for fishing from the North Coast being based on Ballycastle it seems that, from the point of view of the fishing vessels, a port such as Portrush, which has taken coasters for some time, is probably a more viable proposition for development. From the fish processing viewpoint the only advantage that Ballycastle offers is the presence of an established processor. There is no fish market there however.

It is our considered opinion that the conclusions of the study team are unreasonably optimistic. We must emphasise, however, that this is considering the proposal only on the basis of economic criteria. The study team can understand proposals made to improve the lot of the Ballycastle and Rathlin Island population on social rather than economic grounds, and the need to

develop the tourist potential of the region. It is not at all clear, however, that a harbour development of the type proposed would be the best means of achieving these ends. Recent proposals announced to begin exploratory drilling for oil around Rathlin Island may, however, completely change the picture.



OFFLOADING SEINE-NETTER WITH RSW - KILKEEL

3. FLEET STRUCTURE

The Northern Ireland fishing fleet has grown throughout the reference period of this study, and particularly during the past five years. This appears to reflect two facets of the Northern Ireland industry (in common with most other fishing industries): the short-sighted investment behaviour of the fishermen; and the impact of the capital aid programmes of both DANI and of the European Community. We will consider each of these in turn.

It is typically the case that fishermen follow a myopic investment policy: profits are ploughed back into fishing vessels in the expectation that the good years which produced these profits will continue. This can be seen clearly from the information in Table 22, and the discussion of this table in sub-section 2.3 above. It is shown there that the increase in the fleet has been concentrated into relatively few years, i.e. those which followed years with particularly good earnings. Whilst from a broader viewpoint this investment behaviour may appear short-sighted, from the viewpoint of the individual fishermen it is entirely rational. Fishing communities are usually isolated, with few alternative investment opportunities. Also there are other factors driving the vessel-owner to re-invest his earnings in a vessel. If the earnings are taken out of the business then they become subject to taxation at the appropriate rate; if they are re-invested then they effectively avoid taxation. A third, non-economic factor is that in fishing communities a skipper's standing is, to some extent, related to the boat that he owns; buying a vessel which is qualitatively superior may, to some extent, enhance his standing.

The capital aid programmes run both by DANI and by the European Community have also encouraged fleet expansion rather than fleet rationalisation. Capital grants in particular offer fishermen the chance of equity in a vessel over and above their own financial commitment (that is, their equity is equal to their own financial input plus the grants awarded either by DANI or by the European Commission). In other words, given a DANI grant of 25-45 per cent,

for a financial input of 55-75 per cent a skipper may be able to achieve an equity, after purchase, of 100 per cent. If the DANI grant can be geared up by a 50 per cent grant from the European Commission, then it is possible for a fisherman to achieve 100 per cent equity for a 25 per cent financial investment. This strong incentive to 'gear up' equity through the grants system is an additional cause of fleet expansion even at a time when the broader interest might be met by a reduction in the fleet. It should be emphasised, however, that this tendency is not confined to Northern Ireland; wherever there are national grants, supported by grants from the Commission (that is, in every coastal state of the Community) this tendency exists.

There is a need to question, in the context of Northern Ireland (and in the context of Ireland as a whole) the need for a subsidised restructuring programme of this kind. A final view on this subject is crucially dependent on the allocation of quotas to fleets which exploit the Irish Sea. Speaking generally, however, a restructuring programme for which all these fleets are eligible would require clear evidence of stocks in the area which are currently under-exploited. This appears to be lacking.

In its policy towards the structure of the fishing fleet, the Fisheries Division of DANI has until recently affected particular concern with the age of vessels in the fleet (in other words with the age of the vessel's hull) rather than with their fishing power, or catching capacity. As long as a vessel is seaworthy this concern is, to a large extent, misplaced. The experience, as reflected in Table 32, shows a rather more balanced picture, although certain years do have an abundance of new vessel grants, for example, 1975 and 1976. The table shows that of the 627 grants or loans made between 1970 and 1976,[1] 118 (or 19 per cent) were for new vessels. This, however, represented 72 per cent of the funds committed to either grants or loans. In

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1. The last year for which separate figures are available (due to the decision of an administrator not to separate the purpose of awarding grants or loans after 1978).

contrast 447 awards of either grants or loans were made for new engines or other vessel improvements, but this represented only 17 per cent of the total funds committed. It is clear, however, that in recent years the emphasis has changed, with funds only being awarded for new engines in 1979 and 1980.

The philosophy behind the grant hand loan policy of DANI over the past 10 years has been to assist everybody in full-time fishing. This rules out boats of less than 40 feet in length which are largely operated by people who only earn part of their living from fishing. The principal motivating factor over the past 11 years appears to have been to maximize the amount of FEOGA money attracted to the province. Thus the increased availability of FEOGA funds in 1974 and 1977 spurred the Department to find the money with which to provide the statutory 30 per cent of the grant they were required to find if FEOGA money was to be added to it.[14] The amounts of FEOGA funds awarded to assist new vessel construction in Northern Ireland since 1974 are given below:

1974	£636,945 (includes expenditure on expansion of a fish factory)
1975	-
1976	£50,907
1977	£415,676
1978	£197,259
1979	£431,151
1980	£243,652

(All figures are for the accounting year ending on March 31 of the calendar year in question).

Attempts to identify the existence of excess capacity in a fishing fleet and to quantify the degree of excess capacity are fraught with limitations, particularly the fact that the heterogeneity in vessel sizes and catching techniques makes it difficult to compare individual vessels in terms of productivity, and to measure accurately the aggregate catching power of the

Northern Ireland fleet. These limitations notwithstanding, we have attempted to measure the 'catching power' of the fleet, and, thereby, its excess capacity (given current TAC's). Table 37 shows the catch per vessel for the 10 years covered by the study, and Table 38 shows catch per vessel foot. The three-year moving average for the catch per vessel, from 1971 to 1978, is shown below (in tonnes).

	+8.7%			-23.2%				
1971	1972	1973		1974	1975	1976	1977	1978
117.16	120.78	127.43		124.48	123.43	114.84	108.11	97.93
			-16.4%					

Similarly, the 1971-1978 three-year moving average catch per vessel foot is as follows (in tonnes):

	+7.7%			-22.2%				
1971	1972	1973		1974	1975	1976	1977	1978
1.954	2.005	2.104		2.060	2.045	1.904	1.778	1.601
			-18.1%					

It can be seen clearly from these secular trend figures that both catch per vessel, and catch per vessel by foot, have declined from 1973 onwards by approximately 22% or 23%. These figures reflect the declining average productivity over the decade particularly, as in Table 38, when an attempt is made to adjust for the increased catching capacity of the fleet.

In order to estimate approximately the current excess capacity in the fleet, the reduction in total fleet length required to raise the catch per vessel foot in 1977/79 from the recorded level to the 1972/4 average (2.104) was calculated. The reduction in vessel length required for each of the years is shown below together with the implied excess capacity.

Year	Actual Total Length of Fleet	Reduction Required to raise Catch per Vessel Foot to 2.104	Fleet Reduction Required (as No. of 60' Vessel Equivalents)	Implied Excess Capacity (%)
1977	5,777.89	1,362.11	23	19
1978	5,476.49	2,153.51	36	28
1979	6,091.97	1,968.03	33	24

This approximate calculation suggests an average excess capacity of 24 per cent, or 31 boats. With vessel numbers in the fleet having risen to 152 in 1980, and catches having fallen, the implication is that catch per vessel and per vessel foot have both fallen even further in that year.

(It should be repeated that such a measure of excess capacity in a fishing fleet is only approximate. Its accuracy depends on other factors remaining unchanged. To the extent that stocks fluctuate for biological reasons, and that fishing patterns change, the accuracy of this crude measure of excess capacity will be reduced, although it is not possible to identify any persistent tendency to under or over-estimate the degree of excess capacity).

Given the existence of excess capacity in the Northern Ireland fishing fleet and therefore the likelihood of some excess capacity also in the processing sector the wisdom of continuing to encourage fleet expansion without increasing the share of the stocks to which the fleet has access must be questioned. These matters are discussed further in Section III of the report.

This discussion of excess capacity in Northern Ireland should not be taken as suggesting that Northern Ireland should be the only region bordering ICES sub-divisions VI or VII to reconsider its vessel grant aid programme. As long as fishermen in the Republic, in the Western Isles and in ports on the coast of Cumbria are receiving capital subsidies, Northern Ireland fishermen will, quite reasonably, do the same. Only if a re-structuring programme is implemented for fleets in all regions concerned should Northern Ireland be included in such a scheme.

Given the depleted state of the stocks fished by the Northern Ireland fleet there is a clear need to consider fleet size reduction as one means of developing a more healthy fishery (although, as we shall see in Part III, there are other alternatives). This is recognised by fishermen, fishermen's organisations and fisheries administrators alike in Northern Ireland. However, whilst a man's sole source of income is fishing, he is unlikely to sell his

boat and retire from the fleet. Alternative employment opportunities are extremely few within the vicinity of the South Down ports. Some sections of the industry feel that the current recession in the Northern Ireland industry, caused primarily by the extremely low prices received for Nephrops in 1980 (and the fall in demand for UK-caught white fish due to the fall in imported fish prices) will cause market forces to 'prune' the fleet. This may be so, but market forces alone are likely to lead to the laying-up, and eventual decommissioning, of the most recent vessels first, as they have to earn enough to repay the substantial and expensive loans that have been made to help finance the vessel purchase. Allowing market forces to operate unhindered would probably keep the Northern Ireland fleet at about the same size as in 1975 (that is, with about 120 vessels). The feasibility of alternative fleet sizes is discussed in section 3, under a varying set of assumptions; we would, however, reject the presumption that the long-term fishing power of the Northern Ireland fleet (or any other fleet) should be based on profitability as determined by the short-term operations of notoriously unstable local fish markets.

4. EMPLOYMENT

Total employment in the industry has increased by 93 per cent between 1967 and 1979. There is some evidence that the manpower surveys by DANI Fisheries Division have underestimated the part-time employment in fish catching away from the main ports when their figures are compared with the estimates provided by the Department of Finance Small Harbours Survey. The level of female employment has grown with the processing industry which has itself grown significantly over the past decade. Female employment in processing was 162 in 1967 (representing 18 per cent of the workforce) rose to 193 full-time and 115 part-time employees in 1976, and to 259 full-time and 167 part-time employees in 1979 (representing 25 per cent of the workforce). The falling demand for Nephrops, attributable to the general economic recession, together with the high level of catches over the past year has meant that some of the demand for part-time labour in Nephrops processing in particular has fallen off. Employment in the catching sector has also expanded from 486 full-time and 100 part-time in 1967 to 538 full-time and 271 part-time in 1976, and then further to 643 full-time and 272 part-time fishermen in 1979. In other words the number of fishermen depending for a part or for all of their income on fishing in Northern Ireland rose by approximately 58 per cent between 1967 and 1979. (There have, of course, been some interim losses of employment in the three major ports as vessels for which the crew's share of the proceeds from the catch was insufficient i.e. less than the daily 'dole' equivalent pay, were laid up to await better prices). The prospects for future employment either in catching or employment depend crucially upon the share of the TACs in the Irish Sea which is allocated to the Northern Irish fleet. The other alternative, which would only increase employment in processing, would be to process portions of the fleet's catch which are currently processed on the mainland. Whilst more of the boats coming into the fleet or going for repair could be built or 'slipped' in Northern Ireland if the capacity existed, there are no plans at the moment to increase the

number of boatyards in the province. We will see below that any attempt to 'rationalise' the Northern Ireland fleet would have adverse implications for employment, particularly in the catching sector of the Northern Ireland industry.

5. PROCESSING AND MARKETING

It is in the processing and marketing of the fish caught by the Northern Ireland fleet that there lies most room for change and improvement. The quality of fish does not bear comparison with that produced by (for example) the Scottish processing industry; standards of hygiene often leave much to be desired; prices fluctuate significantly from day to day; the flow of fish onto the market is not regulated by the fishermen, and fishing activity is not co-ordinated; and there is anectodal evidence of the monopolisation of the auctioning and marketing of fish in the ports bordering the North Irish Sea. We shall approach these problems one at a time.

The White Fish Authority, who were called in to advise the Northern Ireland Ministry of Agriculture in the late 1960s, reported that the quality of fish produced by the Northern Ireland processors was significantly poorer than that produced in other parts of the UK both in terms of grading and finish. They identified problems that started with the fish not being gutted before landing, and proceeded through to the factory. In 1980 these problems remain. Much of the fish landed is not gutted. Attempts to elicit reasons from the fishermen for this poor presentation of fish on landing always end up in a circular argument. This argument proceeds along the following lines: the processors do not want fish which have been gutted, and fish which have been gutted do not fetch a sufficient premium to justify the extra work; processors claim that the Northern Irish buyer is not sufficiently discriminating to justify improved grading and presentation. Each party's arguments are self-justifying, and the low level of fish consumption in the Province seems to lend some substance to the processors' argument. The fish is not graded or labelled (as required by the European Commission as a condition for the operation of price-support schemes); the fish fryers in Belfast prefer to import frozen blocks of white fish from Aberdeen because they are of better quality and more uniform size. Much of the white fish processed in Northern

Ireland is frozen and sold through frozen food wholesalers either to the catering trade or directly to retail food outlets.

There is another factor which contributes to the poor quality of presentation on the fish dock: as mentioned above, much of the white fish caught by the Northern Irish fleet is not caught through a fishery directed at white fish, but as by-catch from a Nephrops directed fishery. The journey back to port is, to some extent, taken up with sorting and grading the Nephrops, and sorting the miscellaneous by-catch. This probably does not leave sufficient time to gut the white fish. (The maximum steaming time from a North Irish Sea ground to landing in a Northern Ireland port is four hours). We heard anecdotal evidence from a Scottish fisherman that the high standard of presentation of white fish only applies to the directed white fishery off the east coast of Scotland. By-catch from (for example) the Manx herring fishery is not landed to such a high standard of presentation.

Both the Department of Commerce and, more recently, the European Commission have provided capital aid to the processing industry in Northern Ireland. This money appears to have been spent on increasing processing capacity without sufficient attention being paid to the quality of product that the increased capacity could produce. As was mentioned in sub-section 4.1 above, the most recent years (1978-1980) have seen a particularly rapid expansion in processing capacity. It is difficult to isolate the particular reasons for this, but amongst the possible explanations are the European Commission Regulation 355/78 which gave aid to the processing industry.

The problem of hygiene applies mainly, but not exclusively, at Portavogie and should be overcome when the fish market is built there as part of the harbour improvement. There is, however, a need in both of the existing fish markets, and in the one to be built at Portavogie, for sufficient chilled storage space to be provided for fish which have to be stored in the fish market overnight. At Portavogie allegations were made that many of the

hawkers were processing fish in apparently unhygienic conditions, not conforming with health regulations. Only one auctioneer, who operates at Kilkeel, regularly cleans the fish boxes he supplies to boats with hot water. At Portavogie in particular, some hawkers dump fish offal over the harbour wall before using the same boxes, unwashed, to take away fish purchased at the auction. The disposal of effluent from fish processing also causes a problem on the beaches to the south of Portavogie and, to a lesser extent, Ardglass and Kilkeel.

The terms under which Producers Organisations are established in the European Community make provision for them to direct fishing activity and to regulate the flow of fish onto the market. The two producers organisations in Northern Ireland appear to be vehicles solely for the operation of the withdrawal price schemes, and fishermen do not always take advantage of these, sometimes accepting prices below the withdrawal price for immediate payment rather than having to wait for the payment of withdrawal prices (which some reported may take up to three months). The fish do not appear to be properly graded and labelled on the docks, as required to qualify for withdrawl prices, and one of the POs is based so far away from the ports that visits are only possible on an irregular basis. It has been known for buyers to pass over fish from boats associated with POs and buy from other boats at less than the withdrawal price.

The fishermen are completely at the mercy of the processors demands for fish, which is a main cause of price fluctuations. The demand for fish, whilst fairly stable, is particularly subject to changes in household's incomes and the prices of substitutes. With falling real incomes in the present recession in European economies, the demand for processed nephrops in particular, which have a high income elasticity of demand, has fallen significantly; this has a direct effect on the price of nephrops tails. The demand for whitefish, which generally has a lower / income elasticity of demand has not been similarly effected. The supply of fish in what is essentially a hunting activity in

an uncontrollable environment, can change sharply from day to day. The quayside price of fish can fall by fifty per cent or more, merely as a result of a telephone call mentioning the existence of inexpensive and plentiful supplies in another market.

The potential exists for one PO to operate in Northern Ireland (there are not sufficient vessels for two and the presence of a second PO is a disruptive influence in the fleet). A properly run, properly organised PO could encourage the fishermen to regulate their landings to maintain prices received, and, when vessel quotas were in operation (as in the Isle of Man herring and, occasionally, on the Nephrops stocks in 1980) organise a catching rota for the fleet to ensure orderly marketing and yet prevent the inefficient use of fishing vessels, particularly the large vessels on the Manx stock caused during 1980 by the 3 unit per man limit in that fishery. Attempts at giving fishermen countervailing market power would help to restore more stable prices and encourage fish processors to enter into longer term contracts with the fishermen though the producers' organisation.

The Northern Ireland fishing industry is so small that it is possible for one organisation to have a disproportionate influence on one side of the market or the other. There seems to be a gradual increase in concentration in processing and one processor has links with fishing, auctioneering and a producers' organisation. Any significant increase in such monopolistic control would be against the interests both of the Northern Ireland fishermen and of the processors in Northern Ireland.

6. SUMMARY AND CONCLUSIONS

The Northern Ireland fishing industry is a small industry by any criterion, fishing in a relatively small area of water, and heavily dependent on a few species of fish, most of which are judged to be declining and are coming currently within conservation provisions of one sort or another. The fleet and the processing sector has benefitted by grant-aid provided through DANI under the UK fisheries policy, and through the European Commission under interim provisions for a Common Fisheries Policy. This aid has not, however, been consistently beneficial. Both the catching and processing sector have expanded over the decade, and there is some evidence that the former, if not the latter, is suffering from excess capacity. We will discuss this in more detail in Part 3. Further developments in UK and European fisheries policy should consider a mutual reduction in the fleets of the regions bordering ICES Divisions VI(a) and VII(a) as a major contribution to achieving long-run stability in the fishing industries based on these regions. This could be achieved, inter alia, by cessation of government or Community aid for fleet expansion, or by the provision of scrapping premiums and retirement or retraining incentives.

Recent developments have significantly improved and are continuing to improve the harbour infrastructure of the three main ports. Some attention could be given to facilitating loading ice onto vessels in all three ports. The provision of chilled storage facilities in the three fish markets would help maintain fish in better quality if they need to be stored overnight before being taken to the processors.

There is little prospect of maintaining employment in the catching sector of the industry at its current level. However, a more stable price regime may help to stabilise part-time employment in Nephrops processing.

Fish-marketing is the main area where significant progress could be made, and needs to be made, in the Northern Ireland industry. We have outlined

above the aspects that could usefully be covered by an in-depth study of fish-marketing in Northern Ireland. We believe that a more rational approach to marketing in the province is essential for the improved health of the industry in the future.

To further clarify the particular needs for improvements in marketing and distribution we have itemised them and categorized them as follows:

- Recommendations to Fishery Administrators - 1. The E.E.C.

(i) Serious thought should be given to revising the quality requirements necessary to have applications for EEC capital aid approved for processing white fish.

(ii) The feasibility of providing sufficient chilled storage space for fish which have to be stored in the fish markets at Ardglass, Kilkeel and Portavogie overnight, should be considered in the near future.

(iii) We would recommend that further study be made in depth of the marketing of fish in Northern Ireland, including the need for improved presentation by fishermen, the potential role of the producers' organisation in regulating supply, the potential for quality and grading improvement at the processing stage, and the potential for increasing fish consumption in Northern Ireland through promotional campaigns and advertising.

- Recommendations to Fishery Administrators: 2. The U.K. Government

(iv) There is need for a significant education and training programme to improve the qualify of white fish coming from Northern Ireland processors.

(v) The enforcement of existing regulations would prevent the processing of fish in apparently unhygienic conditions by hawkers.

(vi) More care should be taken to ensure that only clean fish boxes are used.

(vii) A change in the way with withdrawal price scheme is administered could encourage fishermen to make more use of it. In particular, delays in

the fishermen receiving payment could be considerably reduced by the U.K. government paying the withdrawal price to the POs immediately and then the Government claiming direct from the European Commission.

- Recommendations to the Fishing Industry

(viii) Improved presentation and packaging of frozen white fish for retail sale would give the product a much-needed improvement in image.

(ix) The passing over of fish from boats associated with POs, to buy from other boats at less than the withdrawal price, could be prevented by not permitting any further fish of that species and grade to be sold until all from the first producers' organisation boat had been sold.

(x) Provision should be made for more adequate disposal of fish offal, either through fish silage, further treatment of effluent, or by some other means. Any further capital expenditure involved could be grant-aided by the UK government or by the European Commission, if application were made.

PART III

THE FUTURE OF THE NORTHERN IRELAND FISHING INDUSTRY

Contents

III.1 Introduction

The purpose of this section of the report is to provide illustrative examples of how fleet rationalisation may be achieved within the context of the Northern Ireland fishing industry. In the context of any fishery in the seas adjacent to North-West Europe, rationalisation must imply finding a long-term, workable and enforceable solution to the problem of overfishing and the existing excess capacity in the fleet. There are, three ways in which this can be achieved:

i) finding new fishing activities for the existing fleet;

ii) limiting the number of vessels from other fleets that fish in the area exploited by this fleet;

iii) reducing the number of vessels in the fleet under consideration.

For the Northern Ireland fleet, option (i) does not appear to offer any real chance of significant increases in fishing opportunities. The type of boat used (basically a Nephrops trawler under 25 metres in length) has a limited fishing radius from its home base. The increases in fuel prices are also tending to limit the distance skippers are prepared to travel. In addition, the results of the exploratory voyages undertaken in mid-1980 were not sufficient to encourage a redirection of fishing effort away from the North Irish Sea.

As for option (ii), the vessels from Northern Ireland, together with a few from the Isle of Man, and the Republic, rely almost exclusively on the fish stocks in the North Irish Sea. Other vessels which fish these grounds include Scottish vessels and vessels from Whitehaven. Within the context of the Hague Agreement there may be a case to be made to implement a fishing plan which gives favourable consideration to the rights of the Northern Ireland fleet in the Irish Sea (outside the Isle of Man three-mile zone). We consider this briefly in this section.

The third option is developed in this section in some detail. Attempts at restructuring would result, however, in increases in unemployment

in the South Down region. Whilst the numbers involved are small, in the context where they occur (with the Province's unemployment rate being 15 per cent and the South Down region's rate of unemployment being higher than the provincial average) they would impose a high social cost in addition to the private costs borne by the displaced fishermen for whom alternative employment opportunities are virtually nil.

We cannot emphasise strongly enough that the restructuring exercise demonstrated in this section is meant to demonstrate the potentially adverse effects of such a policy if applied mechanistically in Northern Ireland. In no way should these exercises be considered as recommendations. If a Council decision is made concerning rationalisation of the entire Community fleet then Northern Ireland can reasonably be expected to bear a fair share of this (giving due consideration to the remoteness of Northern Ireland and the severe political and social problems of the Province during the last decade). In the absence of such a decision, no region of the Community should be expected unilaterally to reduce the number of vessels in its fleet that have access to grounds which are still open. As was seen in Section II, a situation of rising costs and depressed prices will probably lead to a number of retirements from the fleet including some of the most modern and technically most efficient vessels. It is, however, highly unlikely that such an uncontrolled fleet reduction could lead to the appropriate fleet size for a particular management strategy. In no way could a fleet reduction that was brought about merely because a certain number of vessels could not cover their variable costs be considered as optimal. The need is, rather, for a contraction of or expansion of the fleet to achieve some particular long-term stock management objective.

Anticipating the effect of alternative patterns of exploitation on over-exploited fishing stocks presents a number of problems, particularly when trying to predict the future of a small industry which is almost completely dependent on a relatively small fishing area

and a limited number of stocks. The most basic difficulty relates to the problem of predicting stock levels five years ahead. Stock assessment for the major species in the Irish Sea has not yet advanced to the stage at which stock level predictions can be made with accuracy for such a period. In addition, of course, patterns of exploitation may affect future stock levels significantly.

For the purpose of this report, three alternative catching scenarios are proposed. They are grounded in reality and yet, almost certainly, represent the extreme points between which the management regime agreed upon for the North Irish Sea within the context of a Common Fisheries Policy (CFP) will fall. In all three cases the policy measures discussed are those most likely to be used as instruments of the general policy. It should also be noted that the scenarios do not depend on a radical change in fishing behaviour by the catching sector. The Northern Ireland fisherman is a conservative, middle water fisherman, whose boats and gear are suitable for fishing traditional species in traditional grounds. It is unlikely that the entire fleet and the attitudes of the fishermen, could be changed within the time horizon of this prediction exercise. The three scenarios are outlined below.

III.2 THREE SCENARIOS

III.2.1 The First Scenario. In this Scenario it is presumed that the Northern Ireland fleet is allocated its average historical share based on the 1973-1978 average total catch of the TAC as recommended by the Northern Ireland Fisheries Laboratory scientists in Coleraine. The structure of the fleet is presumed to remain unchanged, with all but a few vessels being Nephrops trawlers which can convert to herring trawling. A variation on this basic Scenario will also be introduced. Thus far it has been assumed that the Mourne stock will remain closed. However, a variant on Scenario One will be introduced in which a small catch will be

permitted from the Mourne herring stock by the South Down skiff fleet only. This is permissible within the terms of the Hague Agreement, giving special protection to local inshore fleets which are dependent on one or two stocks for their viability.

To examine the implications of this policy on both the catching and the processing sector, two alternative rates of average catch per vessel will be applied; the first will be the 1972/4 average catch per vessel; the second will be the average for 1977/9. The first figures represent catch rates at a time the fleet was expanding (and when the number of boats equalled what most people now appear to think of as the optimal number in the fleet). The second set of figures represent catch rates when there is excess capacity in the fleet, and essentially assumes that such a level of excess capacity (10-15 per cent) but no more is permissible on the grounds of social need.

III.2.2 The Second Scenario. This Scenario presumes that the Northern Ireland fleet is allocated 90 per cent of the UK quotas for the Irish Sea proposed by the European Commission in July, 1980 (see COM(80) 452 final, Brussels 16 July 1980). This Scenario is considered pessimistic because in certain instances the entire UK quota for certain species in ICES Division VIIa is less than the Northern Ireland fleet's catch during the years 1973-1978. In this case the Mourne stock will be considered closed as in COM(80) 452. Also, two catch rates will be used as in the First Scenario.

III.2.3 The Third Scenario. The third Scenario is clearly the most advantageous for the Northern Ireland fleet. The presumption is that Northern Ireland would receive 50 per cent of the proposed TACs for the Irish Sea (ICES Division VIIa) contained in COM(80) 452. There are a number of ways in which this may be foreseen, including for the purpose of illustration giving

vessels dominant preference in that part of ICES Division VII north of latitude 54°N. This would automatically give the South Down skiff fleet access to the Mourne stock in the event of that ground being opened.

III.3 Biological Data

The three scenarios depend on certain basic stock data. The information on probable stock levels was provided by the Northern Ireland Fisheries Research Laboratory in Coleraine. The estimates were made on the assumption that fishing patterns and fishing pressure would not change radically. It is on the basis of these figures that the TACs of the first scenario are calculated. Table 39 shows the basic stock information for the North Irish Sea. The same table also shows the TACs for species designated in COM(80) 452 for the Irish Sea. For the species of major concern to the Northern Ireland fleet, Table 39 shows that the estimated productive capacity of the North Irish Sea by the Commission falls between the lower and upper limits to the DANI biologists estimates for cod, plaice, and on the upper limit for whiting and herring. From Table 40, however, it can be seen that, under the First Scenario Northern Ireland receives between forty-two and forty-four per cent of the designated species under consideration plus 2,500 tonnes of Nephrops; under the Second scenario, Northern Ireland receives forty per cent of the TAC on the four species of fish plus an estimated 4,000 tonnes of Nephrops. Under the Third Scenario, Northern Ireland receives fifty per cent of the TAC on the four designated species plus 4,000 tonnes of Nephrops. It will also be seen from Table 40, however, that the share of the TAC of a particular species going to Northern Ireland varies significantly from Scenario One to Scenarios Two and Three (although the quantities are not so variable).

III.4 Size of Fleet Under Alternative Scenarios

III.4.1 The Fleet Required under Scenario One. In the years 1972/4, the three years of highest consecutive catch per vessel in the fleet, the average

annual catch per vessel was 127.42 tonnes. Using this catch rate for the total catch of between 10,290 - 13,060 tonnes under Scenario One, between 81 and 103 vessels would be required. Basing the calculations on vessel length rather than vessel numbers, the total fleet length required to maintain catch per vessel foot at the 1972/4 average of 2.1 tonnes per vessel foot would be between 4,900 and 6,219 feet. In other words, if the target for fleet adjustment in Scenario One is the size of fleet required to catch the estimated available catch at the highest average vessel productivity over the past 10 years, the calculations based on boat numbers imply a reduction in fleet size of between 28 and 50 vessels from the 1979 fleet (or between 49 and 71 vessels from the 1980 fleet). Basing the calculations on fleet length, between 27 and 49 60-foot vessel equivalents would need to be retired from the 1979 fleet. If the target level of vessel productivity is the 1977/9 average, then the calculations will be based on 97.93 tonnes per vessel per year. To take the catch allowable under Scenario One at this rate, between 105 and 133 vessels would be required. In other words, vessel retirements from the 1979 fleet to achieve this would be between 0 and 26 vessels. If the calculation is based on the 1977/9 catch per vessel foot of 1.601 tonnes per annum then between 6,431 and 8,163 vessel feet would be required, again implying a retirement of between 0 and 24 60-foot vessel equivalents. These figures are summarised in Table 41.

The calculations under Scenario One have assumed, to this point, that all catch would be taken in vessels exceeding forty feet (approximately thirteen metres) in length. It is possible, however (in a few years time) to envisage a further 1,700 to 2,000 tonnes of herring being taken on the Mourne stock if it recovers sufficiently. Under the Hague Agreement it is possible to reserve this catch for the South Down skiff fleet, based on Annalong and serving a processing factory there. As this would be in addition to the previous catch estimates, however, it would provide an extra

basis for securing employment in the south-east of the Province.

Calculations of the labour displacement that these levels of fleet adjustment represent are difficult to make. It is easier to make approximate calculations on the basis of 60-foot vessel equivalents, under the reasonable assumption that a sixty foot vessel carries a skipper and five crew i.e. six in all. Using this standardised information, and basing the calculations on 1972/4 vessel productivity, retirements would be between 168 and 300 crew-members or skippers. We have not made any allowance for job losses in the South Down skiff fleet; almost all the skiff-owners and crew members are part-time fishermen who are in no sense dependent on skiff-fishing for their employment. It is clearly possible that the absence of Mourne herring to process could lead to the permanent closure of the Annalong fish processing factory and the loss of jobs in this way. However, we do not yet know whether this would happen as, since the closure of the Mourne fishery the factory has been kept working with imported herring. Several factors, including the movement of exchange rates, and the provisions made in any fisheries policy agreement about fish imports, will help to determine this.

III.4.2 The Fleet under Scenario Two. The fleet under Scenario Two shows a similar variation to that under Scenario One, although the number of vessels is consistently higher. To the extent that it encompasses existing vessel numbers it also serves as the scenario most nearly representing the status quo. Using 1972/4 vessel productivity the required number of vessels is 118. On the lower catch per vessel figures for 1977/9, 153 vessels would be required. If the calculations are made on a catch per vessel foot basis using the earlier average productivity figures, then 7,157 vessel feet are required representing 119 60-foot vessel equivalents. Using the 1977/9 catch per vessel foot figures, the total fleet length necessary would be 9,394, or 157 60-foot vessel equivalents. Thus, using

1972/4 productivity, there would need to be between 12 and 13 retirements from the 1979 fleet, or 33 to 34 retirements from the 1980 fleet. Using 1977/9 vessel productivity data there would need to be an increase of between 22 and 26 vessels over the 1979 fleet to catch the postulated 15,030 tonnes of fish, and , effectively, a 'standstill' on the 1980 fleet. (In fact the numbers suggest an increase of between 1 and 5 60-foot vessel equivalents). These are shown in Table 41.

Under Scenario Two the adverse effects on the labour force, using the higher average productivity figures, are smaller. A retirement of 12 or 13 boats from the fleet represents a loss of between 72 and 78 jobs. Using the lower productivity figures employment would increase marginally, by between 6 and 30 jobs. This is shown in Table 43.

We shall comment further at a later stage in this report on the significance of this Scenario. For the time being we will simply note that, using productivity levels which the fleet has been displaying over the past few years, the assumption that the Northern Ireland fleet receives 25 per cent of the UK quota in ICES Division VIIa appears to be sufficient to maintain the fleet at its existing level. However, any increase in productivity would, under a management regime directed towards catching the quota as efficiently as possible, lead to vessel retirement and redundancies amongst the fishermen.

III.4.3 The Fleet under Scenario Three. We noted above that this is the most optimistic of the three scenarios as it gives the Northern Ireland 30 per cent more of the four designated species than under the most optimistic abundance prediction for Scenario One, and 25 per cent more than under Scenario Two. This is inevitably reflected in the fleet size figures. Using the 1972/4 levels of productivity, 139 vessels are required if the calculations are made on a catch per vessel basis, and 141 60-foot vessel equivalents if the calculations are made on the basis of desired

fleet length. This represents a total fleet length of 8,452 feet. Using the lower vessel productivity figures of 1977/9, between 181 and 185 vessels would be required to catch the quota allocation of 11,030 tonnes of designated species plus the estimated 4,000 tonnes of Nephrops. The latter figure is presented as usual in terms of 60-foot vessel equivalents and represents a total fleet length of 11,094 feet.

The desired fleet size under Scenario Three, using 1972/4 levels of productivity, would involve an increase of between 8 and 10 vessels over the 1979 fleet, but would still involve a reduction of the 1980 fleet by between 11 and 13 vessels. Using the lower productivity levels of 1977/9, the desired fleet size of between 181 and 185 vessels would represent an increase of between 50 and 54 vessels over the 1979 fleet, and of 29 to 33 vessels over the 1980 fleet. These figures are shown in Table 41. Table 43 shows the effects of Scenario Three on the labour force; at the higher productivity levels of 1972/4, there would be an increase of between 48 and 60 in the catching sector. At the lower 1977/9 levels of productivity the increase over the 1979 labour force in the catching sector of the Northern Ireland fleet would be between 300 and 324. This is shown in Table 43.

It must be emphasised that these calculations are explicitly meant to indicate orders of magnitude only. It would not be appropriate to undertake a restructuring exercise on the basis of such crude calculations. For the purposes of illustration, however, we develop below an estimate of the costs of restructuring the fleet on the basis of the Commission's draft Regulation for restructuring the fishing industry in COM(80) 420, and the proposal for a revised Directive for adjustment of fishing capacity in COM(80) 787.

III.5 Fleet Restructuring: the Commission's Proposals

The Commission has stated the main objective of a restructuring policy,

which is 'to ensure competiveness, so that the industry can compete at an international level, and to help ensure a fair standard of living for people who depend on fishing, and regular supplies at reasonable prices for consumers'. (COM (80) 420, p.2). The means to achieve this can be investments implemented at a national and community level, and these should help avoid 'maintaining or creating over-capacity in the fleet or shore-based industries'. Further effort should also be expended on the 'diversification of catch possibilities and co-ordination of research'. Within the Northern Ireland context, however, the prospects for the diversification of fishing effort are limited and would involve the Irish fleet increasing the fishing pressure in areas such as ICES Division VI(d), or Divisions VII (f) and (g).

The Commission's draft Regulation for restructuring, modernizing and developing the fishing industry and for developing aquaculture has three objectives:

- constantly to adapt production facilities in the industry;
- to improve the competitiveness of the industry;
- to improve the standard of living of those working in the industry.

The methods suggested by the Commission to achieve these objectives include:

- a proposed Directive on capacity adjustment (discussed below);
- the definition by each Member State of an outline industry development programme;
- an annual review procedure;
- the establishment of projects at the initiative of producers for restructuring and development.

The draft Regulation is of particular interest to the Province as it is particularly directed, inter alia, '...to the development of more efficient vessels in Ireland and Greenland, where inshore fishing has limited capacity'. (COM (80) 420, p.35).

The general maximum aid under the draft Regulation is 25 per cent,

but Northern Ireland (and certain other relatively disadvantaged regions of the Community) may receive 50 per cent. The total estimated cost of the scheme is 200 million units of account, spread over a proposed five year period.

In addition to the proposals made in COM(80) 420' a proposal for a revised Directive for the adjustment of fishing capacity, the Commission subsequently proposed a further series of measures in COM (80) 787, brought forward in December, 1980. The proposal concerns:

'- the temporary or permanent reduction in production capacity;
- information and promotion campaigns to encourage the consumption of fishery products and in particular fish or lesser-known species or fish of stocks which are under fished at present;
- social measures to benefit the fisherman affected by the reduction in production capacity' (COM (80) 787, Explanatory Memorandum).

We summarise the specific provisions relating to the temporary and permanent laying-up of fishing vessels, and to social measures, below.

1. (a) Provision is made for a temporary reduction in production capacity by temporarily withdrawing from operation vessels whose length... is between 18-24 metres or whose gross registered tonnage is between 50-130 GRT, and whose principal motor was installed after 1/1/1966.

   (b) Provision is also made for the temporary withdrawal from production of vessels greater than 24 metres in length, or whose registered tonnage is greater than 130 GRT, and which were commissioned between 1/1/1966 and 1/1/1978.

For each vessel which is eligible under these criteria and which is laid up for 60 days each year (either separately or consecutively) the draft directive mandates the Member countries to pay a laying-up premium at a fixed

rate related either to the construction cost or purchase value (plus the cost of any modernisation work carried out on the vessel).

2. In order to achieve a permanent reduction in production capacity for vessels between 12m. and 25m. in length, fishing vessels may be:

- sold for scrap;
- permanently assigned to activities other than fishing
- sold to non-member countries.

For each vessel thus struck off the national register of fishing vessels, and which has fished for at least 90 days during the 12 months prior to the boat being struck off, the owner will receive a 'cessation premium' calculated as a fixed amount per GRT.

3. For fishermen aged 50-65 years who are affected by the permanent laying-up of a vessel, an early retirement scheme should be introduced.

For the prupose of implementing the proposals in 1(a) and 1(b) above, the draft directive suggests that the annual premium should be calculated on the basis of 12 per cent per year of the construction cost or purchase value, and on the basis of an average value of 1,900 EUA per gross registered tonne. The Community would bear 50 per cent of the cost of any scheme.

For the purpose of the permanent cessation of fishing, using a similar formula to that for the temporary withdrawal of boats from fishing, the draft directive recommends that a payment of 250 EUA per GRT be made, the Community again contributing 50 per cent of the total payment.

The early retirement scheme for fishermen is expected to cost, on average, 1,125 EUA per person per year. The draft directive calculates the total commitment to the Community and the member states on the basis that the average duration of a pension in the 50-65 year old age group is 10 years. The calculations below are made on the same basis. The Community is again expected to contribute 50 per cent of the total sum involved.

III.6 A Sample Calculation

The purpose of this section is to demonstrate the direct costs to the Community of a fleet restructuring programme as represented in the three scenarios. The figures used are drawn from the scenarios and from COM (80) 787, although it must be emphasised that these figures have not been passed by Council.

Table 41 shows the changes in fleet numbers under the three scenarios, using four different bases from which to calculate the figures. Table 42 shows the cost of the Community of the programme to lay-up vessels permanently in Northern Ireland, assuming that all vessels are 60-foot long with a gross registered tonnage of 130. In this Table and all other tables in which costs are discussed, the figures are presented in undiscounted 1980-value pounds sterling.[1] It should be remembered in each case that the total cost is double the amount shown in the relevant table.

It can be seen from Table 42 that depending on the Scenario and the basis for calculating productivity, the capital costs of laying up could reach a maximum of £1,772,875 (2 x £886,437.50). The opposite extreme is shown under Scenario 3 under which, if vessels were only expected to maintain current levels of average productivity, an extra 50 to 54 vessels would be required to capture Northern Ireland's 50 per cent share of the United Kingdom quota, at a cost of approximately £13,000,000.

Table 43 shows the labour displaced or recruited under the three scenarios. On the assumption that 30 per cent of these are over 50, and therefore eligible for early retirement compensation, Table 44 calculates the cost of an early retirement scheme. The sums involved are modest compared with the laying up compensation for vessels, the former representing

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1. Calculated on the basis of £1 = 1.83 EUA.

between 13 per cent and 32 per cent of the latter. Table 45 shows that for a fleet restructuring (i.e. reduction) programme, the maximum cost to the Community would be £1,1167,153, whereas the greatest feasible expenditure for expansion, assuming that the Community provided a 50 per cent grant, would be £6,750,000.

The Third Scenario offers a more attractive prospect for the Northern Ireland fleet and for the economy of South Down. Of the increase of 50-54 boats to be added to the fleet, it would be reasonable to expect 10 to be built in Northern Ireland over a five-year period. At 1980 prices this would represent an investment of £2,500,000 which in turn would lead to a multiplier effect of a further £2,500,000 if the regional multiplier was 2. The extra jobs generated in the catching sector could also be expected to have an expansionary effect, if only at a local level.

The fish processing sector in the Northern Ireland economy has not been discussed yet in this section. We suggested above that there is excess capacity in the Northern Ireland fish-processing industry, but there is not a one-to-one correspondence between the fortunes of the catching sector and the fortunes of the processing sector. A significant part of the catch by the Northern Ireland fleet is landed outside the Province, either into the Isle of Man, Cumbria, and, to a lesser extent in Scotland and the Republic. The purse-seiners, of course, also land from the Minches and the South-west approaches into Ullapool and Plymouth, respectively, and into surrounding ports. In addition to this there is a significant trade of fish between Northern Ireland and France. However, to the extent that the catches by the home fleet are the mainstay of the processing industry's supply, the fortunes of the two sectors are related.

The discussions in this Part have been directed towards discussions of the vessels and associated manpower required to catch a certain quantity of fish. Two crucial factors have not thus far been mentioned: the problems of adjusting to a new fleet size; and the social costs of

unemployment in Northern Ireland.

The question of adjustment problems will not arise if a decision is made to allocate the Northern Ireland fleet a share of the UK quota in excess of 25 per cent. at 1980 TAC levels. However, in the event of a decision being made to restructure the Northern Ireland fleet on the basis of a smaller number of vessels, then questions regarding the number of vessels to be retired, the administration of the scheme to ensure that these vessels do not re-enter the fishery at a later date, and the length of time over which the restructuring will occur all present problems.

Overshadowing these adjustment problems, however, is the problem of the unemployment that would be created by a restructuring scheme. The problem that arises relates to the need to compare the social costs of extra unemployment with the social costs of excess capacity in the Northern Ireland fishing industry. We do not wish to enter into a long discussion of this problem at this point, but we simply wish to make the point clear. The share of the UK quota implicitly or explicitly awarded to the Northern Ireland fleet will have ramifications far beyond the health of the fish stocks in the Irish Sea.

PART IV

SUMMARY AND CONCLUSIONS

The Northern Ireland fishing industry is a small industry in a small province of the United Kingdom. Northern Ireland has a long history of social and political unrest. These troubles have been particularly acute over the past ten years, and it is against this background that any study of a Northern Ireland industry during the 1970s must be seen. In addition, the standard of living is lower in Northern Ireland than elsewhere in the United Kingdom, and by any index of social welfare (level of employment, rate of government subsidy, health care provisions per 1000 people, for example) the Northern Ireland population is worse off than any of the other regions in the country.

The fishing industry in Northern Ireland seems to have been neglected (compared, for example, to the agricultural sector). In the post-war period, there have been three major Westminster parliamentary enquiries into the UK fishing industry: the Fleck Committee (1961), the House of Commons Select Committee on Expenditure (1978) and the House of Lords Committee on the Fishing Industry (1980). In none of these was any explicit attempt made to solicit the views of the Northern Ireland catching or processing sectors. The only major study of the industry was undertaken within Northern Ireland in the late 1960s (Hughes, 1970). Many of the recommendations emanating from this thorough and comprehensive report have still not been implemented.

The history of the Northern Ireland fleet during the 1970s is one of fluctuating fortunes. The fleet has continued to fish mainly in the Irish Sea, although up to five purse-seiners now fish herring and mackerel in the Minches and the South-West Approaches. With the help both of UK Government aid and aid from the European Community, the fleet has expanded (up to 152 in 1980 from 98 in 1970). The years 1972/4 were years of high vessel productivity. 1978/9 were also years of high total catches, although by this time average catch rates had fallen below the 1972/4 level. In addition, most of the stocks in the North Irish Sea (excluding Nephrops, which is not a designated species) were subject to more or less stringent quota controls by the

European Commission. The administration of the North Irish Sea fisheries on a pro tempora basis (in the absence of a Council agreement on a comprehensive Community Fisheries Policy) was proving unsatisfactory.

Employment in the catching and processing sectors increased over the decade from an estimated 896 (in 1967) to an estimated 1729 in 1979. This 93 per cent increase occurred more in the processing sector (128 per cent) than in the catching sector (56 per cent). The importance of these increases can be better appreciated when it is realised that the province-wide unemployment rate increased from a low point of 5.4 per cent in June 1974 to 15.0 per cent in November 1980. The increase in fishing industry employment by 833, although small, is of particular importance along the South Down coast.

The future of the Northern Ireland fishing industry depends largely on the management regime to be implemented in the North Irish Sea and the underlying productivity objective to be achieved by the management scheme. The worst possibility foreseen would result, in our estimation, in a loss of vessels and employment. The best foreseeable possibility would give Northern Ireland vessels rather more than 25 per cent of the UK quota of the agreed TACs in the ICES Division VIId. This would create employment, expand the Northern Ireland fishing fleet, and give an admittedly small and local but nonetheless necessary economic stimulus to the South Down region.

We strongly recommend that further, serious consideration be given to this during future Community-level TAC discussions and during UK fisheries policy discussions. The strongest case that can be made rests on the social benefit accruing to jobs created or maintained in the Northern Ireland fishing fleet. To adopt any other policy and cause vessel lay-ups and increase unemployment along the South Down coast is unthinkable given the experience of the province in the past ten years.

In the current state of the Northern Ireland fishing industry there is a clear need for improvements in fish marketing. These improvements relate

to every stage in the marketing process, starting at point of landing right through to the retailing of fresh and, more particularly, frozen fish. The proportion of white fish gutted on landing is lower in Northern Ireland than in other parts of the United Kingdom; the producer organisations are either unable to supervise fish marketing closely, or are unprepared to do so; the buyers have considerable market power in the three major fish markets of Northern Ireland, and this is increasing rather than decreasing; a considerable quantity of fish is imported into the province each day, largely to satisfy the demands of the Belfast market; and the quality of frozen fish marketed by the Northern Ireland processors (evaluated in terms of grading and presentation) is lower than fish marketed by the larger mainland processors. The immediate needs of the Northern Ireland industry lie largely in fish marketing, and it is in this sector that we feel further, more detailed work should be undertaken.

Notes

1. Much of the information in this section is taken from HMSO, 1980.

2. Including the armed forces.

3. This does not say anything about male/female earnings ratios in Northern Ireland, however.

4. The method of election is the single transferable vote system of proportional representation. This is in contrast to the "first-past-the-post" system for electing members to the Westminster Parliament.

5. Although not necessarily disbursements directly from the Westminster Parliament.

6. See N.I.E.C., Annual Report 1978/79, pp.4-5.

7. The comparisons between the proportions of the labour force in the Newtownards, Downpatrick and Kilkeel areas dependent on fishing and related industries in 1967 and 1979 are inexact, for at least two reasons: firstly, the areas included in the Kilkeel, Ardglass and Portavogie fishing industries are not the same; and, secondly, the boundaries of the areas defined by the Ministry of Health and Social Security as Kilkeel, Downpatrick and Newtownards do not coincide with the 1979 Kilkeel, Downpatrick and Newtownards Employment Service Office areas of the Department of Manpower Services. The qualitative conclusions of the comparison, that the Downpatrick and Newtownards areas have become marginally more dependent on the fishing industry and that the Kilkeel area has become significantly more dependent on the fishing industry, still hold, however.

8. In 1970, landings of certain shellfish were recorded by number, hence comparisons of total catch by weight for that year cannot be made.

9. The grade of nephrops tails is evaluated by the 'count', that is, by the number of tails to the pound. The higher the number, the poorer the grade. Arbitrary minimum acceptable standards are implemented from time to time. This standard is usually in the range of 70-80 tails per pound.

10. Detailed catch data in the form of Tables 10-15 are not currently to hand for Division VIIa nephrops catches. They are being sought from ICES.

11. The following summary statistics are derived from DANI (1979).

12. These are likely to underestimate the magnitude of the whitefish by-catch in the Nephrops fishery. This is because Table 17 shows only white fish caught as by-catch and landed. By-catch discarded at sea will not be reflected in Table 17.

13. We are grateful for information provided for this section in communication 001349 XIV/B/2 'Structural Policy', dated August 1, 1980 from the Commission.

14. Whilst the proportion of the grant provided by the home country may be as low as 5 per cent, the legislation under which grants are awarded for the construction of vessels in Northern Ireland requires that the grant be 30 per cent.

15. The figures given in the 1974 Annual Report give the number of keels laid as 10, but the number of new vessels for which FEOGA aid was given as 14.

16. The total amount of money allocated over this period has little meaning when given in nominal terms. Unfortunately, the date of payment of individual project grants is not available: this would have enabled the total paid to be expressed in a more meaningful, real value terms.

HERRING TRAWLERS : ARGLASS

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"Council declaration of 30 May 1980 on the common fisheries policy" Official Journal of the European Communities C158 (Vol. unknown) 27/6/1980, p.2.

Table 1 : Population of Northern Ireland, 1951-1977*

	1951	1956	1961	1966	1971	1976	1977
Population ('000)	1,373	1,397	1,427	1,476	1,538	1,538	1,537
Proportion of total UK Population (%)	2.73	2.729	2.702	2.708	2.766	2.75	2.752

* Source: Department of Finance, Northern Ireland.

Table 2 : Distribution of the Population of Northern Ireland between urban and rural areas, 1901-1971*

Area	1901 (%)	1966 (%)	1971 (%)
Urban	42.9	53.2	55.1
Rural	57.1	46.8	44.9

* Source: H.M.S.O. 1980, p.9.

Table 3 : Distribution of manpower in Northern Ireland during the month of June, 1972 - 1978 (thousands)*

Industry	1972	1973	1974	1975	1976	1977	1978**
Agriculture, forestry and fishing	60.4	59.5	58.1	56.9	57.6	56.6	55.8
Mining and quarrying	2.4	2.4	2.4	2.6	2.5	2.2	2.2
Engineering	49.4	51.1	53.0	51.0	45.8	43.9	42.6
Clothing, textiles and footwear	64.6	62.6	62.0	55.8	52.1	51.0	49.2
Construction	49.4	50.3	47.3	48.4	47.9	46.2	46.5
Energy and Transport	32.4	32.5	33.5	34.3	33.1	31.7	31.7
Distributive trades	62.5	62.5	62.4	62.1	62.4	61.6	64.6
Finance	13.9	14.9	15.5	15.9	16.3	17.5	18.3
Professional, scientific & miscellaneous services	122.4	126.4	133.2	144.5	150.3	157.0	164.2
Public administration and defence	38.6	42.1	45.7	49.5	50.6	50.2	51.6
Others	54.5	54.2	54.7	51.1	51.5	49.7	50.5
Total in civil employment	550.3	558.5	567.9	572.1	570.1	567.2	577.2
Proportion Unemployed	7.8	6.1	5.4	7.0	9.3	10.0	10.6

* Source: HMSO, 1980, p.192 and p.200

** 1978 figures provisional

Table 4 : Rates of unemployment in standard regions of the United Kingdom and in the Republic of Ireland*

	Annual Average (Per cent)				
	1974	1975	1976	1977	1978
United Kingdom	2.6	4.1	5.7	6.2	6.1
Great Britain	2.6	4.1	5.6	6.0	6.0
England	2.4	3.9	5.3	5.7	5.6
Wales	3.7	5.6	7.2	7.9	8.4
Scotland	4.0	5.2	6.9	8.1	8.2
Northern Ireland**	5.4	7.0	9.3	10.0	10.6
Republic of Ireland	n.a.	12.2	12.3	11.8	10.7

* Source: Trewsdale, J.M. : A Report on Unemployment in Northern Ireland, 1974-1979, Northern Ireland Economic Council, May, 1980, p.2 (abstracted originally from the Annual Abstract of Statistics, Economic Review and Outlook, Dublin 1980).

** The figures for Northern Ireland are adjusted down to agree with those in Table 3. The figures reported by Trewsdale for Northern Ireland are:

1974	1975	1976	1977	1978
5.7	7.9	10.0	11.0	11.5

Table 5 : Monthly unemployment figures, Northern Ireland, January 1979 to July 1980*

	Total unemployed (per cent)
1979	
January	11.1
February	11.1
March	10.8
April	10.5
May	10.6
June	10.9
July	12.5
August	12.4
September	12.1
October	11.2
November	10.9
December	11.0
1980	
January	11.5
February	11.6
March	11.5
April	11.8
May	11.8
June	12.7
July	14.7

* Source: Department of Manpower Services, Press Notice, Belfast, August 1980.

Table 6 : Unemployment rates in Northern Ireland by travel-to-work areas, June 1974, June 1979 and July 1980*

Travel-to-work area	Proportion of labour force unemployed		
	1974	1979	1980
Armagh	8.2	12.1	15.0
Ballymena	4.0	10.7	15.1
**Belfast	3.5	9.0	12.1
***Coleraine	7.3	12.4	16.9
Cookstown	7.8	21.3	25.0
Craigavon	4.0	9.5	13.4
**Downpatrick	5.1	10.1	17.0
Dungannon	11.3	19.3	25.6
Enniskillen	9.5	13.8	18.5
Londonderry	9.7	15.2	20.0
Newry	11.7	19.5	25.6
Omagh	7.8	12.4	18.9
Strabane	14.9	24.4	27.5
Northern Ireland (total)	5.4	11.1	14.7

* Source: Trewsdale, p.71 and Department of Manpower Services, Press Release August, 1980.

** The areas in which Portavogie(Belfast), and Ardglass and Kilkeel(Downpatrick) lie.

*** The areas in which the small ports on the Antrim Coast in the north of the Province lie.

Table 7* : Index of industrial production,** Northern Ireland, 1967-1978

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
All industries	134	141	143	150	159	159	167	154	157	160	160	162
Manufacturing	124	134	139	148	157	156	168	156	156	157	156	156

* Source: H.M.S.O., 1980, p.133.

** 1963 = 100.0

Table 8 : Average earnings of men over 21 and women over 18 in Northern Ireland relative to those in Great Britain, 1972-1978*

		1972(%)	1975(%)	1978(%)
(a) Males				
Manual	Manufacturing	89.4	92.0	94.92
	All Industries	86.4	89.2	81.84
Non-manual	Manufacturing	87.6	94.9	92.04
	All Industries	92.7	93.7	94.24
(b) Females				
Manual	Manufacturing	94.5	93.8	97.46
	All Industries	93.4	95.0	93.38
Non-manual	Manufacturing	86.9	93.5	108.98
	All Industries	94.5	97.2	97.2

* Source: Derived from H.M.S.O., 1980, p.194.

Table 9 : Assistance to selected categories of individuals, industries and local authorities in Northern Ireland, 1974/5 to 1977/8*

Expenditure	1974/5	1975/6	1976/7	1977/8
	(£000's)			
Subsidies				
Housing	38,000	37,700	65,900	54,200
Agriculture	7,200	8,900	18,600	39,900
Transport and communication	4,200	2,800	4,100	4,500
Other industry and trade	56,700	54,200	53,300	57,100
Other services	100	200	200	100
Total subsidies	106,200	103,800	142,100	155,800
Grants				
Industry and trade	8,500	15,300	18,200	25,500
Local authorities	56,585	84,445	98,076	121,186
Other	1,200	1,600	4,100	5,100
	66,285	101,345	120,376	151,786

*Source: derived from H.M.S.O. (1980) p.216.

TABLE 10(a) : Employment in the fishing industry, Kilkeel district, 1967, 1976 and 1979*

Enterprise	1967							1976							1979						
	Full-Time			Part-Time			Grand Total	Full-Time			Part-Time			Grand Total	Full-Time			Part-Time			Grand Total
	Male	Female	Total	Male	Female	Total		Male	Female	Total	Male	Female	Total		Male	Female	Total	Male	Female	Total	
Catching	217	-	217	←	n.a.	→	217	305	-	305	80	-	80	385	350	-	350	170	-	170	520
Processing	9	1	10	←	n.a.	→	10	56	98	154	15	32	47	201	56	145	201	8	40	48	249
Wholesalers**	-	-	-	←	n.a.	→	-	12	4	16	-	1	1	17	4	-	4	7	1	8	12
Boatbuilding	-	-	-	←	n.a.	→	-	12	2	14	1	1	2	16	14	2	16	-	-	-	16
Harbour staff/others	12	-	12	←	n.a.	→	12	15	4	19	-	-	-	19	14	2	16	-	-	-	16
Retail Outlets	-	-	-	←	n.a.	→	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	238	1	239	-	-	-	239	400	108	508	96	34	130	638	438	149	587	187	41	226	813
Proportion of Kilkeel area labour force employed	← 10% →			← n.a. →			10%	← n.a. →					15.7%		← 9% →					24.7%	

* Source: Hughes, pp.37-38, and Fisheries Division, DANI, Manpower Surveys 1976 and 1979.

** Including merchants and hawkers.

TABLE 10(b) : Employment in the fishing industry, Ardglass, 1967, 1976 and 1979*

Enterprise	1967							1976							1979						
	Full-Time			Part-Time			Grand Total	Full-Time			Part-Time			Grand Total	Full-Time			Part-Time			Grand Total
	Male	Female	Total	Male	Female	Total		Male	Female	Total	Male	Female	Total		Male	Female	Total	Male	Female	Total	
Catching	13	-	13	←	n.a.	→	13	17	-	17	4	-	4	21	36	-	36	23	-	23	59
Processing	32	27	59	←	n.a.	→	59	60	11	71	17	1	18	89	71	36	107	24	7	31	138
Wholesalers**	-	-	-	←	n.a.	→	-	6	-	6	-	-	-	6	8	-	8	2	-	2	10
Boatbuilding	-	-	-	←	n.a.	→	-	-	-	-	3	-	3	3	-	-	-	-	-	-	-
Harbour staff/others	2	-	2	←	n.a.	→	2	6	1	7	-	1	1	8	6	1	7	1	1	2	9
Retail outlets	-	-	-	←	n.a.	→	-	3	-	3	-	1	1	4	3	1	4	-	-	-	-
TOTAL	47	27	74	-	-	-	74	92	12	104	24	3	27	131	124	38	162	50	8	58	220
Proportion of Downpatrick area labour force employed	← 1% →			← n.a. →				← n.a. →							← 2.7% →			← 1.0% →			3.7%

* Source: Hughes, pp.37-38, and Fisheries Division, DANI, Manpower Surveys 1976 and 1979.

** Including merchants and hawkers.

TABLE 10(c) : Employment in the fishing industry, Portavogie, 1967, 1976 and 1979*

Enterprise	1967							1976							1979						
	Full-Time			Part-Time			Grand Total	Full-Time			Part-Time			Grand Total	Full-Time			Part-Time			Grand Total
	Male	Female	Total	Male	Female	Total		Male	Female	Total	Male	Female	Total		Male	Female	Total	Male	Female	Total	
Catching	145	-	145	←	n.a.	→	145	178	-	178	-	-	-	178	251	-	251	22	-	22	273
Processing	32	104	136	←	n.a.	→	136	15	2	17	-	64	64	81	22	2	24	2	74	76	100
Wholesalers**	-	-	-	←	n.a.	→	-	44	-	44	6	84	90	134	23	-	23	-	*** 30	30	53
Boatbuilding	-	-	-	←	n.a.	→	-	23	1	24	2	-	2	26	36	3	39	-	1	1	40
Harbour staff/others	20	-	20	←	n.a.	→	20	8	1	9	-	-	-	9	3	-	3	-	-	-	3
Retail outlets	-	-	-	←	n.a.	→	-	-	-	-	-	-	-	-	-	1	1	-	1	1	2
TOTAL	197	104	301	-	-	-	301	268	4	272	8	148	156	428	335	6	341	24	106	130	471
Proportion of New-townwards area labour force employed	← 2% →			← n.a. →				← n.a. →							← 2.3% →			← 0.7% →			3.0%

* Source: Hughes, pp.37-38, and Fisheries Division, DANI, Manpower Surveys 1976 and 1979.

** Including merchants and hawkers.

*** Estimate only.

TABLE 10(d) : Employment in the fishing industry, other ports, 1967, 1976 and 1979*

Enterprise	1967							1976							1979						
	Full-Time			Part-Time			Grand Total	Full-Time			Part-Time			Grand Total	Full-Time			Part-Time			Grand Total
	Male	Female	Total	Male	Female	Total		Male	Female	Total	Male	Female	Total		Male	Female	Total	Male	Female	Total	
Catching	*** 111	-	111	*** 100	-	100	211	38	-	38	187	14	201	239	6	-	6	57	-	57	63
Processing	41	30	71	←	n.a.	→	71	42	82	124	5	18	23	147	17	76	93	3	46	46	142
Wholesalers**	-	-	-	←	n.a.	→	-	54	36	90	3	1	4	94	2	-	2	2	-	2	4
Boatbuilding	-	-	-	←	n.a.	→	-	31	3	34	9	4	13	47	-	-	-	5	-	5	5
Harbour staff/others	-	-	-	←	n.a.	→	-	6	-	6	3	-	3	9	1	-	1	1	-	1	2
Retail outlets	-	-	-	←	n.a.	→	-	2	1	3	3	1	4	7	4	3	7	-	1	1	8
TOTAL	152	30	182	100	-	100	282	173	122	295	210	38	248	543	30	79	109	68	47	115	224

* Source: Hughes, pp.37-38, and Fisheries, DANI, Manpower Survey 1976 and 1979. Comparisons between the years in this table are inexact, because of changes in the ports and other towns included from year to year. For example, the 1979 survey included only Country Antrim and Belfast in the 'Other Ports' category.

** Includes merchants and hawkers.

TABLE 10(e) : Employment in the fishing industry, all ports, Northern Ireland, 1967, 1976 and 1979*

Enterprise	1967							1976							1979****						
	Full-Time			Part-Time			Grand Total	Full-Time			Part-Time			Grand Total	Full-Time			Part-Time			Grand Total
	Male	Female	Total	Male	Female	Total		Male	Female	Total	Male	Female	Total		Male	Female	Total	Male	Female	Total	
Catching	*** 486	-	486	*** 100	-	100	586	538	-	538	271	-	271	809	643	-	643	272	-	272	915
Processing	114	162	276	←	n.a.	→	276	173	193	366	37	115	152	518	166	259	425	37	167	204	629
Wholesalers**	-	-	-	←	n.a.	→	-	116	40	156	9	86	95	251	37	-	37	11	31	42	79
Boatbuilding	-	-	-	←	n.a.	→	-	56	6	62	15	5	20	82	50	5	55	5	1	6	61
Harbour staff/others	34	-	34	←	n.a.	→	34	35	6	41	3	1	4	45	24	3	27	1	3	4	31
Retail outlets	-	-	-	←	n.a.	→	-	5	1	6	3	2	5	11	7	5	12	-	2	2	14
TOTAL	634	162	795	100	-	100	896	923	246	1169	338	209	547	1716	927	272	1199	326	204	530	1729

* Source: Hughes, pp.37-38, and Fisheries, DANI, Manpower Survey 1976 and 1979.

** Including merchants and hawkers.

*** Employment in catching in the minor ports was estimated for 1967.

**** Comparisons between years are inexact because of variations in the ports included in the 'minor ports' category.

Table 11 : Quantity and estimated value of different kinds of fish landed into Northern Ireland, 1970-1979*

	1970		1971		1972		1973		1974	
	Quantity cwt	Value (£)	Quantity cwt	Value (£)	Quantity cwt	Value (£)	Quantity cwt	Value (£)	Quantity (Tonnes)	Value (£)
Pelagic:										
Herring	85,697	129,876	73,205	132,067	80,178	167,040	114,289	412,481	8,707.03	679,025
Mackerel	4,777	4,344	6,206	5,587	1,122	1,359	1,829	2,685	74.80	2,929
Demersal:										
Brill	309	1,999	300	2,242	248	1,877	202	2,559	6.50	1,626
Cod**	20,796	76,424	18,274	70,870	21,862	107,724	22,088	158,741	934.77	184,844
Haddock**	2,977	8,406	1,331	4,383	1,057	4,410	1,412	8,744	40.40	5,505
Hake**	2,969	15,017	3,323	13,715	3,076	18,437	2,449	19,625	108.49	13,052
Ling	-	-	-	-	268	332	313	702	3.91	222
Megrims	1,048	2,284	535	706	78	104	88	192	3.40	222
Monk	-	-	-	-	7,726	8,871	7,436	21,685	239.09	14,439
Plaice	3,432	15,593	2,651	11,990	2,299	11,464	2,459	17,105	84.91	15,524
Ray (Skate)	1,733	3,090	1,550	2,947	1,348	2,156	1,631	4,488	53.10	3,555
Saithe**	10,899	11,187	7,118	11,977	5,544	11,721	9,513	25,658	337.78	28,378
Soles	416	3,736	726	9,539	605	8,955	706	14,400	20.28	10,274
Whiting	22,967	48,318	33,212	62,765	34,544	93,291	42,608	181,430	1,816.65	182,816
Other Demersal Fish	7,518	8,242	7,710	11,929	3,148	7,423	4,816	15,659	175.42	16,160
TOTAL FISH (excl. shellfish)	165,538	328,516	156,141	340,717	163,103	445,164	211,839	886,154	12,606.53	1,158,571
Shellfish										
Crabs**	[a] 5,066	245	8,205	282	4,831	282	6,037	311	2.13	579
Escallops	[b] 13,731	5,782	29,651	13,421	17,926	8,440	54,792	32,855	15.46	23,509
Lobsters	[a] 19,631	12,745	19,419	13,986	33,277	21,877	32,642	27,471	27.44	43,384
Nephrops	55,301	401,459	57,474	414,743	78,683	718,400	71,722	855,781	2489.87	528,267
Periwinkles	3,129	6,308	3,719	7,990	3,323	7,958	2,950	7,009	150.93	7,701
Queenies	8,786	21,264	9,248	30,301	11,506	47,619	10,109	50,424	148.94	15,341
Squids	58	171	492	2,030	215	664	1,135	32,855	12.25	1,756
Shrimps	-	-	-	-	-	-	-	-	-	-
Total Shellfish	-	448,064	-	482,753	-	805,240	-	981,603	2,847.02	620,537
Total: All Fish	-	776,580	-	823,470	-	1,250,404	-	1,867,757	15,453.55	1,779,108

* Source: DANI: Report on the Sea and Inland Fisheries of Northern Ireland (1971-1979).

** Until 1976, Cod, Haddock, Hake and Saithe were recorded in landed weight. From 1977 figures are for rounded weight. 1976 rounded weight figures are in brackets.

(a) Crab and Lobster catches for 1970-73 are for numbers landed. From 1974 onwards landings are converted from numbers to weight equivalents.

(b) Escallop catches for 1970-73 are for dozens landed. From 1974 onwards landings are converted from numbers to weight equivalent.

Table 11 contd.

	1975		1976		1977		1978		1979	
	Quantity (Tonnes)	Value (£)	Quantity (Tonnes)	Value (£)	Quantity (Tonnes)	Value (£)	Quantity (Tonnes)	Value (£)	Quantity (Tonnes)	Value (£)
Pelagic:										
Herring	5,620.07	587,908	5769.58	741,501	2982.05	1,092,399	1274.02	426,823	1,721.69	499,001
Mackerel	29.93	1,289	95.33	4,521	97.02	7,067	45.85	3,979	25.43	1,910
Demersal:										
Brill	8.94	2,807	12.14	5,279	20.17	13,397	14.90	9,066	12.75	10,562
Cod**			(1187.72)							
	962.98	176,620	989.72	274,006	1413.78	487,654	1069.92	389,314	1,900.37	716,304
Haddock**			(5.28)							
	13.11	2,425	4.71	1,265	6.57	1,727	7.99	2,139	7.33	2,600
			(130.21)							
Hake**	175.22	30,569	116.31	51,952	74.19	33,691	74.50	39,728	85.39	65,641
Ling	9.20	796	27.50	2,700	41.04	8,657	43.24	9.459	39.26	10,654
Megrims	5.54	421	6.17	696	9.88	1,092	12.04	1,675	9.13	1,635
Monk	272.23	26,059	327.24	54,114	228.13	46,798	235.81	45,726	217.02	55,202
Plaice	115.71	21,304	128.06	31,675	168.79	43,990	176.96	48.500	162.32	51,514
Ray (Skate)	46.40	4,007	59.60	6,487	100.82	12,990	93.89	12,601	119.78	24,193
			(342.12)							
Saithe**	293.92	27,221	305.46	39,991	432.38	90,679	369.82	73,032	286.73	68,539
Soles	21.50	11,296	49.37	26,140	49.04	39,427	57.46	57,245	46.88	41,519
Whiting	2,025.34	249,953	3,289.59	475,365	2691.81	582,337	3,087.59	682,491	2,946.35	713,230
Other Demersal Fish	174.76	11,347	172.01	19,273	198.16	32,040	278.01	52,552	484.42	91,004
TOTAL FISH			(11,601.98)							
(excl. shellfish)	9,774.85	1,156,614	11,352.84	1,738,064	8513.93	2,493,945	6,842.00	1,854,330	8,064.85	2,353,508
Shellfish	(1.83)									
Crabs**	2.04	733	2.25	816	1.95	687	1.85	1,012	6.08	2,507
Escallops	(41.75)									
	250.60	71,815	117.53	50,480	84.07	44,746	164.55	122,582	67.26	45,509
Lobsters	(22.66)									
	14.13	38,636	13.09	61,008	12.01	58,845	14.54	74,532	17.76	71,300
Nephrops	3440.03	745,509	3,216.73	1,283,061	3,163.43	1,569,811	4,146.89	2,698,458	4395.95	4,071,563
Periwinkles	116.73	8,281	287.88	32,600	184.67	25,933	173.18	28,892	266.77	44,508
Queenies	134.26	16,792	554.22	74,121	6.51	812	61.05	16,145	42.67	20,146
Squids	65.15	24,625	119.40	64,943	230.22	129,559	118.46	53,048	16.17	7,772
Shrimps	-	-	-	-	0.01	6	0.01	11	-	-
Total Shellfish	(3,822.41)									
	4,022.94	906,391	4311.10	1,567,029	3,682.87	1,830,399	4,680.53	2,994,680	4,752.66	4,263,305
Total All Fish	(13,597.26)		(15,913.08)							
	13,797.97	2,063,005	(15,663.94	3,305,093	12,196.70	4,324,344	11,522.53	4,849,010	12,817.51	6,616,813

Table 12 : Total catch of herring, by stock, in the Irish Sea, 1970-1979* (Tonnes)

	1970		1971		1972		1973		1974	
	1	2[b]	1	2	1	2	1	2	1	2
France	558	-	1815	-	1224	-	254	-	3194	-
Ireland	-	3933	-	3131	-	2529	-	3614	1783	4111
Netherlands	-	-	-	-	260	-	-	143	1116	-
U.K.	15629	2283	18758	3103	19308	4029	13071	5561	23639	3850
U.S.S.R.	-	-	-	-	-	-	-	-	945	-
Total Manx	16187		20573		20792		13325		30677	
Total Mourne	6216		6234		6558		9273		7961	
Total North Irish Sea	22403		26807		27350		22598		38638	

* Source: ICES (1979) p.122.

(a) Manx stock

(b) Mourne stock

(c) Preliminary

Table 12 continued.

	1975		1976		1977		1978		1979[c]	
	1	2	1	2	1	2	1	2	1	2
France	813	-	651	-	85	-	87	87	-	-
Ireland	2406	2384	1816	1389	2009	1322	610	1761	748	1054
Netherlands	630	-	989	-	500	-	98	-	-	-
U.K.	15408	2836	12831	3570	9837	1661	7663	700	9832	696
U.S.S.R.	26	-	-	-	-	-	-	-	-	-
Total Manx	19283		16287		12431		8458		10130	
Total Mourne	5220		4959		2983		2548		1735	
Total North Irish Sea	24523		21246		15414		11006		11883	

*Source: ICES (1979), p.122.

(a) Manx stock

(b) Mourne stock

(c) Preliminary

Table 13 : Nominal Catch of Cod in ICES Division VIIa, 1970-1979* (Tonnes)

Country	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979[b]
Belgium	332	390	348	276	409	282	257	135	144	173
France	1,282	2,575[a]	2,024	2,507	2,601	2,623	1,938	1,370	1,022	1,090
Ireland	1,574	2,800	2,275	4,224	3,276	3,477	4,815	3,862	3,128	3,746
Netherlands	4	148	58	35	113	53	87	32	15	12
UK (England and Wales)	1,710	2,451	2,856	3,158	2,463	2,132	1,815	1,186	875	980
UK (Northern Ireland)	1,267	1,112	1,522	1,537	1,279	1,153	1,175	1,409	1,064	1,898
UK (Isle of Man)	-	-	-	-	-	-	-	-	-	354
UK (Scotland)	88	64	90	50	49	70	91	60	79	118
TOTAL	6,257	9,540	9,173	11,787	10,190	9,790	10,178	8,054	6,328	8,371

* Source: ICES (1979) p.153.

(a) Includes ICES Division VII(f).

(b) Preliminary.

Table 14 : Nominal Catch of Whiting in ICES Division VIIa, 1970-1979* (Tonnes)

Country	1970	1971	1972	1973	1974	1975	1976	1977	1978[a]	1979
Belgium	159	154	38	102	94	99	68	63	51	42
France	1,312	3,172	2,805	3,101	2,700	2,784	2,985	1,952	1,198	1,897
Ireland	1,282	2,306	2,188	3,414	4,184	3,946	5,055	4,821	4,562	3,847
Netherlands	-	23	5	12	52	52	56	24	12	11
UK (England and Wales)	706	810	639	1,224	685	617	635	1,008	1,105	842
UK (Northern Ireland)	1,314	1,899	1,976	2,437	2,045	2,280	3,290	2,692	3,089	2,946
UK (Scotland)	31	19	29	47	52	54	104	161	152	154
UK (Isle of Man)	-	-	-	-	-	-	-	-	-	372
U.S.S.R.	-	-	-	-	-	-	-	-	-	-
TOTAL	4,804	8,383	7,680	10,337	9,819	9,832	12,193	10,721	11,069	10,111
Industrial catches (Ireland only)	2,198	2,531	1,231	74	283	353	425	760	927	

* Source: ICES (1979), p.154.

(a) Preliminary.

Table 15 : Annual Landings by Nephrops Trawlers in Northern Ireland 1975-1979 (tonnes)*

Species	1975	1976	1977	1978	1979**
Nephrops	3440	3216	3163	4119	3911
Cod	963	989	1178	1070	1807
Hake	175	116	66	75	81
Plaice	116	128	169	177	136
Whiting	1928	3284	2674	3088	2196
Others	924	1086	1364	1173	1144
Total	7546	8819	8614	9702	9275
By-catch as proportion of total, by weight (%)	119	174	172	136	137

Table 16a : Harbours of North Derry and North Antrim*

Name	Owner	Capacity (Vessels)	Fishing Vessels Berthed	Employment in Fishing	Features of the Port
Portstewart	Coleraine Borough Council	24	6 part-time commercial 2 sea-angling Charters (20 pleasure cabin cruiser)	4 part-time 2 full-time (summer)	Seaside town, summer demand for harbour accommodation exceeds capacity. Priority to pilot boat, fishing boats, then pleasure craft. Commercial boats berthing fee 15p per foot length. Pleasure craft charged on scale approx. equal to £1.00 per foot length. Slipway and winch in good condition.
Portrush	Coleraine Borough Council	200-400	5 part-time fishing (100 pleasure boats)	10 part-time	Seaside town. Only harbour of safe refuge on N.Antrim coast. Commercial harbour but use declining. Room to take excess demand for pleasure craft from Coleraine and Portstewart.
Portballintrae	Coleraine Borough Council	40-50	10 part-time commercial (30 pleasure craft)		Close to Causeway Bank - very good sea-angling. Heavy seasonal demand for pleasure boating. Harbour extension proposed, including private slipway for public use.
Dunseverick	Moyle District Council	n.a.	1 full-time, April-Sept. 3 part-time 7 recreational	2 full-time 6 part-time	Difficult to enter and for mooring. Boats moored on land.
Ballintoy	Moyle District Council	n.a.	10 full-time April-Sept.	20-40	Primarily smaller summer fishing harbour. Recreational boating not encouraged.

Table 16a contd.

Name	Owner	Capacity (Vessels)	Fishing Vessels Berthed	Employment in Fishing	Features of the Port
Ballycastle	Moyle District Council	n.a.	7 April-Sept.	20	Base for Rathlin Island ferry service. Ocean swell often makes it inaccessible. Has only processing facility on N.Antrim coast. Some sea-angling. Summer tourism to Rathlin Island. Ferry run by 4 x 10 metre open motor boats.
Rathlin Is.	Unknown	n.a.	15	35-38	Safer harbour than Ballycastle. Island end of ferry on which Rathlin Island is totally dependent. Summer tourism.

*Source: Department of Finance (Note, data refer to 1975/1976).

Table 16b : Harbour of East Antrim*

Red Bay	Moyle District Council	n.a.	5 (some recreational boating)	10-15	Roll-on, roll-off ramp for ferry service, (no longer operating). Safe refuge for small craft.
Carnlough	Larne Borough Council	50-60	6 (50 reerea-tional)	12-16	Free harbour. Sea angling. Tourist boating. Possibility of extension, mainly for recreational craft.
Glenarm	Antrim Estates Co. (leased by Eglington Tone Group Ltd.)	n.a.	None	None	Primarily commercial. No fishing or recreational boating.

Table 16c : North Belfast Harbours

Name	Owner	Capacity (Vessels)	Fishing Vessels Berthed	Employment in Fishing	Features of the Port
Ballylumford	Larne Borough Council	n.a.	3 part-time	C. 6 part-time	Built in 1967. Terminal for Island Magee ferry. Slipway. Centre for recreational boating and sea-angling for Belfast.
Portmuck	Larne Borough Council	n.a.	20 small dinghies in Summer	30-40 33 rowing boats	Recreation port for greater Belfast area. Recommended to be kept as amenity for local population and not extended.
Whitehead	Carrickfergus Borough Council	n.a.	42 recreational boats	None	Of limited use for recreation only.
Carrickfergus	Carrickfergus Borough Council	95	82 recreational boats	None	Commercial and recreation port. Potential for marina development.

*Source: Department of Finance.

Table 16d : Harbours of County Down

Donaghadee	Unknown	80 craft mainly pleasure	5 full-time 2 part-time 4 summer sea-angling vessels	20 full-time 4 part-time	Mainly accommodates recreational craft owned by Belfast residents. Excess demand for mooring. Potential for development for recreational boating.
Killyleagh	Unknown	50 boats	4	8-10	Mainly recreational, but fishing is year round.

Table 16d contd.

Name	Owner	Capacity (Vessels)	Fishing Vessels Berthed	Employment in Fishing	Features of the Port
Strangford	Baroness de Ros and Department of the Environment	40 (30 recreational)	7-8 part-time	14-18 part-time. (2 crews work from Portavogie)	Small port, little potential for development.
Newcastle	Unknown	100 (90 recreational)	10 part-time	20-50 part-time	Mainly pleasure boating with some part-time fishing. Excess demand for moorings. No proposals to extend.
Annalong	Unknown	Unknown	53 (1974) 40(1978)	120-150	Fleet fishing lobster and mackerel (May-August) and herring (August-October). Closure of Mourne fishery has suspended herring fishing and associated curing.
Greencastle	W.J. Cunningham	30 recreational craft	Few family vessels for lobster fishing.		

Table 17 : Total Catch on the North Ulster Coast, 1970/1979, by Weight (Tonnes) and Value

	1970		1971		1972		1973		1974	
	Weight	Value	Weight	Value	Weight	Value	Weight	Value	Weight	Value
PELAGIC										
Herring	0.46	14	-	-	-	-	2.95	213	3.51	343
Mackerel	13.51	554	14.22	530	13.77	624	13.26	871	6.96	476
DEMERSAL										
Cod	1.02	60	1.47	88	1.12	110	2.13	290	2.49	427
Haddock	9.82	472	0.97	62	0.61	58	0.05	3	-	-
Plaice	10.62	1,138	17.07	1,901	14.53	1,921	11.43	2,374	4.06	956
Ray	-	-	-	-	0.05	2	-	-	-	-
Saithe	16.00	479	21.13	808	5.84	264	11.18	880	2.39	167
Soles	-	-	-	-	0.10	17	-	-	-	-
Turbot	-	-	-	-	-	-	-	-	-	-
Whiting	-	-	-	-	0.05	8	-	-	-	-
SHELLFISH										
Crabs	1.12	203	1.68	271	1.07	279	2.29	302	1.98	522
Lobsters	7.06	5,165	7.21	6,036	9.40	8,303	12.04	14,630	11.68	17,115
Nephrops	-	-	-	-	-	-	-	-	-	-
Periwinkles	-	-	-	-	0.46	-	-	-	-	-
TOTAL	59.61	8,085	63.75	9,696	47.00	11,614	55.33	19,563	33.07	20,006

Table 17 (continued.)

	1975		1976		1977		1978		1979	
	Weight	Value	Weight	Value	Weight	Value	Weight	Value	Weight	Value
PELAGIC										
Herring	5.94	608	1.40	118	1.22	96	6.11	1,440	1.83	440
Mackerel	8.03	544	12.50	1,131	4.13	804	13.09	1,725	2.18	686
DEMERSAL										
Cod	2.69	457	14.16	2,628	4.25	1,588	4.99	1,873	2.09	1,225
Haddock	-	-	-	-	-	-	-	-	-	-
Plaice	4.78	1,143	10.76	2,496	3.88	1,527	4.35	1,872	1.67	1,074
Ray	-	-	-	-	-	-	-	-	-	-
Saithe	10.11	775	13.36	1,205	8.16	1,758	26.57	4,871	10.96	4,589
Soles	0.15	209	-	-	-	-	-	-	-	-
Turbot	0.10	24	-	-	-	-	-	-	-	-
Whiting	-	-	-	-	-	-	-	-	-	-
SHELLFISH										
Crabs	1.63	637	1.51	565	1.38	410	1.54	757	4.17	2,047
Lobsters	10.26	16,086	14.21	36,016	4.04	18,114	7.03	29,743	9.11	29,600
Nephrops	-	-	0.26	955	-	-	-	-	-	-
Periwinkles	-	-	-	-	-	-	-	-	-	-
TOTAL	43.69	20,483	68.16	45,114	27.06	24,297	63.68	42,281	32.01	39,661

Table 18 : Boats over 40 ft. registered length classified annually according to home port as of December 31st, Northern Ireland, 1970-1980*

Year	Ardglass	Kilkeel	Portavogie	Others	Total
1970	3	53	40	2	98
1971	3	54	47	2	106
1972	2	52	53	-	107
1973	2	55	58	-	115
1974	1	55	64	-	120
1975	3	55	64	-	122
1976	3	60	59	-	122
1977	4	57	57	-	118
1978	6	69	49	-	124
1979	10	71	50	-	131
1980**	14	78	60	-	152

* Source: DANI (Annual, 1970-1980).

** April, 1980.

Table 19 : Boats over 40 ft. classified according to registered length, Northern Ireland, 1970-1980*

Year	40-49.9 ft.	50-59.9 ft.	60-69.9 ft.	70-79.9 ft.	Over 80 ft.	Total
1970	13 (13)***	33 (34)	43 (44)	9 (9)	-	98
1971	16 (15)	35 (33)	46 (43)	9 (8)	-	106
1972	15 (14)	30 (28)	54 (50)	7 (7)	1 (1)	107
1973	15 (13)	32 (28)	58 (50)	9 (8)	1 (1)	115
1974	17 (14)	31 (26)	62 (52)	9 (8)	1 (1)	120
1975	20 (16)	31 (25)	62 (51)	9 (7)	-	122
1976	21 (17)	28 (23)	58 (48)	15 (12)	-	122
1977	21 (18)	27 (23)	54 (46)	16 (14)	-	118
1978	15 (12)	32 (26)	58 (47)	19 (15)	-	124
1979	17 (13)	36 (27)	56 (43)	21 (16)	1	131
1980	22 (14)	45 (30)	60 (39)	20 (13)	5	152

* Source: DANI (Annual, 1970-1980).

** April 1, 1980.

*** Percentage of total fleet in parentheses.

Table 20 : Age and Size Structure of the Northern Ireland Fleet, 1980*

Year	Principal Port			Size					Total
	Kilkeel	Portavogie	Ardglass	40'-49.9'	50'-59.9'	60'-69.9'	70'-79.9'	>80'	
1980	1	3	0	1	2	1	-	-	4
1979	6	1	0	1	3	1	1	1	7
1978	2	0	0	-	-	1	1	-	2
1977	0	0	0	-	-	-	-	-	0
1976	3	2	0	1	-	2	2	-	5
1975	7	7	0	2	2	3	4	3	14
1974	0	0	0	-	-	-	-	-	0
1973	0	0	1	1	-	-	-	-	1
1972	0	0	1	-	1	-	-	-	1
1971	0	1	1	1	-	3	-	-	4
1970	0	1	1	-	1	1	-	-	2
1969	1	1	0	1	-	1	-	-	2
1968	4	1	0	-	1	2	2	-	5
1967	3	0	0	-	-	3	-	-	3
1966	4	0	0	-	1	-	3	-	4
1965	4	2	0	-	-	4	2	-	6
1964	1	1	0	-	-	1	-	-	1
1963	0	0	0	-	-	-	-	-	0
1962	1	1	0	-	2	-	-	-	2
1961	4	3	0	-	4	1	2	-	7
1960	3	3	1	1	4	1	1	-	7
1959	2	1	0	1	1	1	-	-	3
1958	3	0	1	1	1	2	-	-	4
1957	2	3	2	1	5	3	-	-	5
1956	6	3	1	2	4	4	-	-	10
1955	2	1	0	1	-	2	-	-	3
1954	2	4	2	1	-	6	1	-	8
1953	0	3	1	1	-	3	-	-	4
1952	2	0	0	-	-	2	-	-	2
1951	1	0	0	-	2	-	-	-	2
1950	1	4	0	1	-	4	-	-	5
1949	3	5	0	-	3	5	-	-	8
1948	3	4	1	1	2	5	-	-	8
1947	3	4	0	1	3	3	-	-	7
1946	1	1	0	-	1	1	-	-	2
1945	1	1	0	1	-	1	-	-	2
1944	1	0	0	-	-	1	-	-	1
1943	1	0	0	-	1	-	-	-	1
1942	0	0	0	-	-	-	-	-	0
1941	0	0	0	-	-	-	-	-	0
1940	0	0	0	-	-	-	-	-	0
1939	0	0	1	-	1	-	-	-	1

* Source: Calculated from unpublished DANI data.

Table 21 : Boats over 40 ft. in the Northern Ireland fleet classified according to age, 1970-78*

Year	Average Age	Under 10 Years	10-20 Years	Over 20 Years
1970	17	19	30	49
1971	18	20	27	59
1972	20	20	24	63
1973	20	20	27	68
1974	21	20	24	76
1975	21	26	23	73
1976	20	30	26	66
1977	19	29	27	62
1978	19	31	30	63

* Source: DANI (Annual, 1970-1978).

Table 22 : Northern Ireland Fleet, 1980, Gross Registered Tonnage Versus Horsepower*

GRT \ HP	0-99	100-199	200-299	300-399	400-499	500-599	600-699	700-799	800-899	900-999	≥ 1000
10 - 19.99	1	1									
20 - 29.99	4	15	2								
30 - 39.99		17	8								
40 - 49.99		19	10	5							
50 - 59.99		3	6	4	2						
60 - 69.99		1	4	6	5						
70 - 79.99		1	1	4	2						
80 - 89.99				1	5						
90 - 99.99				3	2	2					
100 -109.99				1		2					
110 -119.99			1	1							
120 -129.99											
130 -139.99											
140 -149.99											
150 -159.99											
160 -169.99											
170 -179.99											
180 -189.99							2				
190 -199.99											1
≥ 200										1	3

* Calculated from unpublished DANI data. (Note: vessel numbers do not sum to 152 as some vessels GRT or HP is not specified).

Table 23 : Quantity and estimated value of all fish landed in Northern Ireland, 1970-1979*

Year	ARDGLASS		KILKEEL		PORTAVOGIE		OTHER PORTS		TOTAL	
	Tonnes	£	Tonnes	£	Tonnes	£	Tonnes	£	Tonnes	£
1970	3111.61	176,092	6315.99	414,001	2177.79	160,945	267.22	25,542	11872.61	776,580
1971[a]	6070.56	406,407	3065.97	210,534	2116.92	182,684	313.28	23,845	11566.73	823,470
1972[a]	7238.89	634,964	2688.20	262,136	2360.13	266,894	795.33	86,410	13082.55	1,250,404
1973[a]	55269.98	642,549	6414.59	750,577	2542.11	357,756	694.05	116,875	15177.73	1,867,757
1974	7123.23	667,137	5555.48	678,027	2347.99	338,361	426.86	95,583	15453.56	1,779,108
1975	4953.05	689,750	5833.35	855,305	2469.08	379,184	341.69	138,765	13597.17	2,063,004
1976	4902.42	990,560	7471.79	1,462,310	2743.31	680,263	795.56	171,960	15913.08	3,305,093
1977	3610.64	1,321,353	5013.17	1,863,533	3147.68	970,907	425.21	168,551	12196.70	4,324,344
1978	2954.30	1,320,044	4896.79	2,044,857	3230.41	1,252,140	441.03	231,969	11522.53	4,849,010
1979	2390.44	1,181,582	6317.27	3,309,119	3792.27	1,949,250	317.53	176,862	12817.51	6,616,813

* Source: DANI (annual, 1974-1979)

a. Landings at Ardglass and Kilkeel in 1971/2/3 were distorted due to closure of Kilkeel Harbour for reconstruction work.

Table 24 : Quantity and estimated value of fish landed by Northern Ireland vessels outside Northern Ireland, 1970-1979*

Year	Scotland		England & Wales		Isle of Man		Total	
	Tonnes	£	Tonnes	£	Tonnes	£	Tonnes	£
1970	2113.54	186,188	2398.23	118,541	3050.27	93,686	7562.04	398,415
1971	2300.57	192,758	3794.69	218,312	3262.03	117,810	9357.29	528,880
1972	2295.95	213,982	3553.15	204,724	3255.27	145,547	9104.37	564,253
1973	3215.78	383,134	3274.58	343,393	2508.01	198,564	8998.37	925,091
1974	3235.25	349,295	2693.74	244,860	2466.19	188,262	8395.18	782,417
1975	754.63	132,213	1487.00	224,050	3751.14	424,490	5993.03	780,753
1976	1595.44	275,238	4152.68	375,062	2256.30[a]	320,231	8004.42	970,531
1977	1068.40	448.650	11215.00	851,292	3421.00[a]	1,521,696	15704.40	2,821,638
1978	3344.23	546,944	14698.92	1,394,606	2964.72[a]	1,428,109	21007.87	3,369,659
1979	4909.99	606,774	13060.37	1,545,632	2518.00[a]	885,406	20488.36	3,037,812

* Source: DANI (annual, 1974-1979).

a. Herring only.

SKIFF : SPEEDWELL (RED BAY)

OWNER : ARCHIE MURRAY

Table 24a

NIFPO/USFA VESSEL SAMPLINGS - GROSS LANDINGS/COSTS (Percentage increase/decrease in 1979 and 1980 against 1978 datum)

Sample	Reg. length feet	h.p.	Gross landings 1978 £	Gross landings 1979 %	Gross landings 1980 %	Costs 1978 £	Costs 1979 %	Costs 1980 %	Fuel costs 1978 £	Fuel costs 1979 %	Fuel costs 1980 %	Remarks
01	48.60	240	42,000	-14.25	-38.00	20,500	+21.95	+02.34	7,000	+37.14	+71.42	Loan reduced.
02	42.00	112	8,500	+07.00	+20.35	9,400	-11.38	+14.78	9,400	+21.05	+57.89	Loan cleared 1979.
03	43.30	200	45,565	+12.30	-05.96	28,647	+37.67	+60.27	4,776	+41.00	+85.00	New loan 1977.
04	(65.00)	(180)	(80,000)			(30,800)			(8,000)			
	56.40	365		-25.00	-06.25		-01.30	+103.00		same	+155.00	New vessel 1979.
05	59.90	152	45,129	+02.00	-21.79	9,794	+94.00	+31.40	3,265	+48.00	+92.98	DoT survey & work 1979.
06	52.09	114	32,112	+36.27	-17.94	10,633	+109.83	+54.49	2,160	+41.48	+85.27	Major repairs 1979.
07	64.45	415	45,500	+07.25	+04.25	19,274	+57.75	+46.62	9,658	+32.94	+73.95	
08	68.00	152	70,500	+33.33	+16.25	14,980	+25.00	+65.50	5,200	+38.46	+125.96	
09	67.00	270	68,000	+03.00	-11.75	28,994	+22.65	+79.50	8,584	+57.50	+84.06	
10	61.05	240	25,000	+76.00	+08.00	23,200	+19.39	+56.68	9,900	+39.00	+89.00	
11	62.50	230	43,135	-08.00	-22.37	5,713	+42.25	+57.50	2,416	+53.27	+72.27	No loan re-payments.
12	67.00	(114)	38,000			(13,600)			(2,100)			
		200		+06.25	-11.89		+58.50	+67.00		+114.29	+138.09	Re-engined 1979.
13	79.50	585	88,100	+04.99	-33.25	71,300	+14.86	+20.00	32,000	+20.63	+25.63	
14	74.00	500	92,283	+47.80	+12.24	37,180	+29.50	+65.60	6,623	+82.09	+176.31	
15	72.00	430	46,352	+07.50	+01.15	39,390	+08.32	+08.27	9,000	+33.33	+73.50	Loan cleared 1979.
16	70.90	500	51,300	+19.29	-34.89	27,962	+23.50	+38.09	5,200	+18.69	+94.13	
AVERAGE			51,342.25	+13.48	- 8.87	24,460.44	+34.35	+48.19	7,824.50	+42.43	+93.78	

NOTES:

1. Sources of information: random samplings within length categories from 51 questionnaires completed by Members of the N.I.Fish Producers' Organisation and the Ulster Sea Fishermen's Association, late-February, 1980, specimen attached. Balance discarded because of similarity within length/h.p., categories or lack of precision in completion.

2. Fuel costs are also included in figures under "Costs".

TABLE 25: LANDINGS OF MAIN SPECIES BY PORT, 1976-9

	1976				1977				1978				1979			
	Ardglass	Kilkeel	Porta-vogie	Total	Ardglass	Kilkeel	Porta-vogie	Total	Ardglass	Kilkeel	Porta-vogie	Total	Ardglass	Kilkeel	Porta-vogie	Total
WHITING																
Tonnes	905.11	1335.08	1044.23	3284.42	752.18	866.42	1073.26	2691.86	666.66	1184.81	1236.12	3087.59	452.84	1238.18	1255.33	2946.35
Value £	141,145	163,304	170,916	475,365	172,307	160,147	250,040	582,493	157,662	241,400	283,429	682,491	116,281	278,012	318,939	713,232
Average Price/Tonne	155.94	122.32	163.68	144.73	229.07	188.65	232.97	216.39	236.50	203.75	229.29	221.04	256.78	224.53	254.07	242.07
COD																
Tonnes	210.08	585.59	183.43	979.10	230.79	694.04	249.07	1173.90	161.91	705.09	197.93	1064.93	110.71	1420.73	366.84	1898.28
Value £	61,557	154,703	55,237	271,447	89,289	309,142	87,632	186,063	58,362	263,547	65,534	387,443	44,086	539,053	131,940	715,079
Average Price/Tonne	293.02	264.18	301.13	277.29	286.88	445.42	351.83	414.05	360.46	373.78	331.10	363.82	398.21	379.41	359.67	376.70
PLAICE																
Tonnes	35.21	51.68	33.09	119.98	50.00	74.82	40.09	164.91	50.73	75.00	46.87	172.60	21.07	90.66	48.92	160.65
Value £	8,374	11,985	8,814	29,178	12,247	18,368	11,907	42,522	13,702	20,100	12,797	46,599	6,363	27,765	16,312	50,440
Average Price/Tonne	237.97	231.91	266.36	243.19	244.94	245.49	297.00	257.84	270.10	268.00	273.03	269.98	301.99	306.25	333.44	313.97
SOLES																
Tonnes	-	-	-	-	12.41	10.33	26.30	49.04	15.07	18.39	24.00	57.46	8.94	14.14	23.80	46.88
Value £	-	-	-	-	11,559	9,131	18,734	39,424	19,359	19,410	18,479	57,248	4,582	17,715	19,227	41,524
Average Price/Tonne	-	-	-	-	931.42	883.93	712.31	803.91	1284.61	1055.46	769.96	996.31	512.53	1252.83	807.86	885.75
SAITHE																
Tonnes	92.91	112.81	86.38	292.10	91.22	104.43	182.24	377.89	62.49	126.37	154.39	343.25	26.03	125.89	123.85	275.77
Value £	11,721	17,938	9,127	38,786	23,698	27,009	28,214	88,921	13,105	29,661	25,393	68,159	7,348	32,051	24 [illegible]3	63,952
Average Price/Tonne	126.15	159.01	105.66	132.78	259.78	258.63	209.69	235.30	209.71	234.72	164.47	198.57	282.29	254.60	196.25	231.90
HAKE																
Tonnes	49.33	28.39	35.59	116.31	23.41	16.02	26.81	66.24	24.73	22.31	27.46	74.50	15.39	41.80	28.20	85.39
Value £	23,378	11,690	16,884	51,952	11,785	8,524	13,382	33,691	15,263	13,415	11,052	39,730	13,758	34,070	17,817	65,645
Average Price/Tonne	473.91	411.76	437.52	446.67	503.41	532.08	499.14	508.62	617.19	601.30	402.48	533.29	893.96	815.07	631.81	768.77
HADDOCK																
Tonnes	1.86	1.33	1.52	4.71	3.40	1.36	1.11	5.87	1.51	1.48	4.99	7.98	0.45	3.19	3.69	7.33
Value £	437	351	477	1,265	990	398	341	1,729	657	408	1,077	2,142	162	1,212	1,231	2,605
Average Price/Tonne	234.95	263.91	313.82	268.58	291.17	292.64	307.20	294.54	435.10	275.68	215.83	268.42	360.00	279.94	333.60	355.39
HERRING																
Tonnes	2475.90	3226.55	59.38	5761.83	1307.82	1135.46	418.41	2861.69	609.26	623.83	27.03	1260.12	889.15	806.89	20.84	1716.88
Value £	345,332	385,587	10,023	740,942	512,950	470,166	67,514	1050,630	228,060	186,107	9,779	423,946	272,613	215,347	7,588	495,548
Average Price/Tonne	139.48	119.50	168.79	128.59	392.21	414.07	161.35	367.13	374.32	298.33	361.78	336.43	306.60	266.89	364.11	288.63
MACKEREL																
Tonnes	9.55	40.48	2.99	53.02	31.32	42.21	5.14	78.67	10.55	11.67	10.54	32.76	6.30	7.92	8.83	23.05
Value £	477	1,671	216	2,334	2,149	2,286	940	5,375	1,060	595	605	2,260	444	304	466	1,214
Average Price/Tonne	46.81	41.28	72.24	44.02	68.61	54.15	182.87	68.32	100.47	50.98	57.40	68.99	70.48	38.38	52.77	52.67

continued...

Table 25 (continued)

	1976				1977				1978				1979			
	Ardglass	Kilkeel	Porta-vogie	Total	Ardglass	Kilkeel	Porta-vogie	Total	Ardglass	Kilkeel	Porta-vogie	Total	Ardglass	Kilkeel	Porta-vogie	Total
NEPHROPS																
Tonnes	842.43	1605.56	754.65	3202.64	813.77	1563.59	786.07	3163.53	1105.65	1819.68	1221.43	4146.76	721.03	2137.21	1537.71	4395.95
Value £	350,574	638,059	289,083	1277,716	409,361	763,380	397,070	1569,811	754,834	1176,275	767,199	2698,308	679,122	2064,497	1327,943	4071,562
Average Price/Tonne **	416.15	397.41	383.07	398.96	503.04	488.22	505.13	496.23	682.71	646.42	628.12	650.70	941.88	965.88	863.58	926.21
QUEENIES																
Tonnes	198.54	6.75	342.81	548.10	0.05	0.74	-	0.79	-	-	0.01	0.01	-	0.05	0.25	0.30
Value £	24,912	810	47,915	73,637	12	362	-	374	-	-	8	8	-	5	28	33
Average Price/Tonne *	125.48	120.00	139.77	134.35	240.00	489.19	-	473.42	-	-	800.00	800.00	-	100.00	112.00	110.00
OTHER																
Tonnes	220.73	327.67	254.74	803.14	233.94	367.87	264.15	865.96	245.73	308.98	279.64	834.35	165.53	430.61	373.85	969.99
Value £	47,590	76,212	88,917	212,719	75,006	94,621	85,133	254,760	57,992	93,944	56,785	208,721	36,831	99,088	83,202	219,121
Average Price/Tonne	215.60	232.59	349.05	264.86	320.62	257.21	322.29	294.19	236.00	304.05	203.06	250.16	222.50	230.11	222.55	225.90
TOTAL (Tonnes)	5041.65	7321.89	2801.81	15165.35	3550.31	4859.75	3072.65	11482.71	2954.29	4897.61	3230.41	11082.31	2417.44	6317.27	3792.27	12526.98
TOTAL (£)	1015,472	1462,310	697,609	3175,391	1321,353	1863,533	970,907	1155,793	1320,056	2044,862	1252,137	4617,055	1181,582	3309,119	1946, 50	6439,951

Source: D.A.N.I.

* For 1976, landings of soles are included with 'other'.

** Average price of Nephrops is the price per tonne of whole fish.

TABLE 26: LANDINGS OF MAIN SPECIES BY PORT, 1979

	WHITING			COD			PLAICE			SOLES			SAITHE			HAKE		
	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne
JAN.																		
Ardglass	29.98	9,111	303.90	8.52	3,750	440.14	1.78	631	354.49	0.61	724	1186.89	1.49	509	341.61	0.03	8	166.67
Kilkeel	107.53	30,786	286.30	41.30	17,999	435.79	20.17	7,798	386.61	1.95	2,726	1397.95	5.21	1,792	343.95	0.25	102	408.00
Porta-vogie	120.52	41,341	243.02	60.90	23,532	386.40	8.42	3,217	382.07	3.29	2,365	718.84	15.98	2,594	162.33	0.22	97	440.91
Total	258.03	81,238	314.84	110.72	45,280	408.96	30.37	11,646	383.47	5.85	5,815	994.02	22.68	4,895	215.83	0.50	207	414.00
FEB.																		
Ardglass	20.45	6,146	300.54	10.15	4,014	395.47	1.03	394	382.52	0.23	244	1060.87	3.91	1,202	307.42	0.03	27	900.00
Kilkeel	85.66	24,375	284.56	91.93	40,023	435.36	5.69	2,526	443.94	1.52	2,071	1362.50	21.08	6,589	312.57	1.03	905	878.64
Porta-vogie	76.69	21,687	282.79	34.96	12,778	365.50	2.48	847	341.53	1.37	1,128	823.36	16.52	3,539	214.23	0.34	121	355.88
Total	182.80	52,208	285.60	137.04	56,815	414.59	9.20	3,767	409.46	3.12	3,443	1103.53	41.51	11,330	272.95	1.40	1,053	752.14
MARCH																		
Ardglass	57.26	15,192	265.32	33.72	12,553	372.27	0.93	299	321.51	0.62	386	622.58	8.50	2,238	263.29	0.33	275	833.33
Kilkeel	158.68	41,020	258.44	565.55	225,705	399.09	19.55	5,207	266.34	0.88	710	806.82	69.41	15,902	229.10	1.77	1,296	732.20
Porta-vogie	198.38	53,236	268.35	99.31	35,938	361.88	5.65	1,649	291.87	2.37	2,113	891.56	42.52	8,301	195.25	0.70	350	500.00
Total	414.32	109,438	264.14	698.58	274,196	392.50	26.13	7,155	237.82	3.87	3,209	829.20	120.43	26,441	219.55	2.80	1,921	686.07
APRIL																		
Ardglass	92.42	19,056	206.19	22.48	8,380	372.78	1.29	395	306.20	0.70	458	654.29	5.30	1,362	256.98	0.53	439	828.30
Kilkeel	236.66	40,488	171.08	555.72	192,350	346.13	11.93	2,740	229.67	1.39	2,070	1489.21	14.12	3,642	257.93	3.90	5,761	1477.18
Porta-vogie	219.36	38,987	177.73	59.48	18,037	303.24	2.63	1,092	415.21	2.46	2,062	838.21	27.11	5,261	194.06	1.91	952	498.43
Total	548.44	98,531	179.66	637.68	218,762	343.07	15.85	4,227	266.69	4.55	4,590	1008.79	46.53	10,265	220.61	6.34	7,152	1128.08
MAY																		
Ardglass	55.73	17,022	350.44	10.48	4,520	431.30	0.95	375	394.74	0.99	789	796.97	2.24	829	370.09	1.44	1,634	1134.72
Kilkeel	93.13	25,794	276.97	72.44	29,772	410.99	3.68	1,341	364.40	1.72	2,276	1323.26	3.11	941	302.57	6.41	6,488	1012.17
Porta-vogie	181.20	52,239	288.29	40.57	15,820	389.94	4.55	1,723	378.68	4.03	2,573	638.46	13.58	3,525	259.57	4.12	2,723	660.92
Total	330.06	95,055	287.99	123.49	50,112	405.80	9.18	3,439	374.62	6.74	5,638	836.50	18.93	5,295	279.71	11.97	10,845	906.02
JUNE																		
Ardglass	5.18	2,113	407.92	3.32	1,519	457.53	0.78	281	360.26	0.28	174	621.43	1.02	244	239.22	0.78	862	1105.13
Kilkeel	15.87	4,473	281.85	17.64	7,029	398.47	2.62	721	275.19	1.62	2,255	1391.98	0.62	224	361.29	3.06	1,737	567.65
Porta-vogie	22.27	9,741	437.40	8.56	3,909	456.66	3.10	1,158	373.55	1.12	1,007	899.11	0.90	303	336.67	2.84	1,989	700.35
Total	43.32	16,327	376.89	29.52	12,457	421.99	6.50	2,160	332.31	3.02	3,436	1137.75	2.54	771	303.54	6.68	4,588	686.83

continued....

TABLE 26 (continued)

	WHITING			COD			PLAICE			SOLES			SAITHE			HAKE		
	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne
JULY																		
Ardglass	8.78	3,127	356.15	2.78	1,363	490.29	0.75	224	298.67	0.51	483	947.06	0.32	64	200.00	239	2,030	849.37
Kilkeel	15.95	3,560	223.20	2.64	1,283	252.47	1.69	332	196.45	0.95	859	904.21	0.18	35	194.44	152	698	459.21
Porta-vogie	14.96	5,291	353.68	4.75	2,185	460.00	1.45	498	343.45	0.71	487	685.92	0.57	115	201.75	556	3,065	551.26
Total	39.69	11,978	301.79	11.17	4,831	432.50	3.89	1,054	270.95	2.17	1,829	842.86	1.07	214	200.00	947	5,793	611.72
AUGUST																		
Ardglass	15.77	4,060	257.45	2.26	895	396.02	4.07	785	192.87	4.21	249	59.14	0.43	33	74.42	226	1,406	62.12
Kilkeel	33.42	9,861	295.06	4.15	1,273	306.75	6.76	917	135.65	0.90	516	573.33	0.74	136	183.78	222	865	389.64
Porta-vogie	34.22	8,714	254.65	2.74	936	341.61	7.19	1,300	180.81	1.82	1,218	669.23	0.92	191	207.61	263	1,638	622.87
Total	83.41	22,635	271.37	9.15	3,104	339.23	18.02	3,002	166.59	7.23	1,983	274.27	2.09	359	171.77	711	3,909	549.79
SEPT.																		
Ardglass	13.67	4,990	365.03	1.28	672	525.00	0.65	304	467.70	0.15	144	960.00	0.23	89	386.96	374	3,506	937.43
Kilkeel	24.23	8,058	332.56	4.91	2,091	425.87	0.56	195	348.21	0.36	362	1005.56	0.36	81	225.00	665	5,969	897.59
Porta-vogie	44.36	14,526	327.46	5.14	2,209	429.77	4.09	1,734	423.96	2.60	2,096	806.15	0.28	88	314.29	410	3,149	768.05
Total	82.26	27,574	335.21	11.33	4,792	438.83	5.30	2,233	421.32	3.11	2,602	836.66	0.87	258	296.55	14.49	12,624	871.22
OCT.																		
Ardglass	44.09	12,001	272.19	5.25	2,262	449.90	3.65	1,129	309.32	0.46	733	1593.48	0.91	296	325.27	339	3,225	951.33
Kilkeel	82.70	18,960	229.26	18.36	7,119	387.75	3.91	1,380	352.94	1.15	1,860	1617.39	0.79	249	315.19	12.22	8,149	666.86
Porta-vogie	86.84	21,334	245.67	12.74	5,091	399.61	2.52	763	302.78	1.72	1,879	1092.44	1.18	241	204.24	4.91	3,169	645.42
Total	213.63	52,295	244.79	36.35	14,572	400.88	10.08	3,272	324.60	3.33	4,472	1342.94	2.88	786	272.92	20.52	14,543	708.72
NOV.																		
Ardglass	77.32	15,738	203.54	6.19	2,191	353.96	2.74	646	235.77	0.07	70	1000.00	0.73	267	365.75	0.46	329	715.22
Kilkeel	210.66	35,162	166.91	22.10	7,616	344.62	6.81	1,715	251.84	1.12	1,475	1316.96	4.85	1,329	274.02	2.47	1,949	789.07
Porta-vogie	163.91	33,146	202.22	19.83	6,626	334.14	3.66	1,074	293.44	1.34	1,266	944.78	0.61	129	211.48	0.64	412	643.75
Total	451.89	84,046	185.99	48.12	16,433	341.50	13.21	3,435	260.03	2.53	2,811	1111.07	6.19	1,725	278.68	3.57	2,690	753.50
DEC.																		
Ardglass	32.19	7,725	239.98	4.28	1,867	436.21	2.45	900	367.35	0.11	128	1163.64	0.56	216	285.71	0.01	17	1700.00
Kilkeel	173.69	35,485	204.30	22.99	6,794	295.52	7.29	2,893	396.84	0.58	535	922.41	3.53	1,131	320.40	0.30	151	503.33
Porta-vogie	92.62	18,697	201.87	17.86	4,879	273.18	3.18	1,257	395.28	0.97	1,033	1064.95	1.36	266	195.59	0.23	152	690.91
Total	298.50	61,907	207.39	45.13	13,540	300.02	12.92	5,050	390.87	1.66	1,696	1021.69	5.45	1,613	295.96	0.53	320	603.77

continued ....

TABLE 26 (continued.)

	HADDOCK			HERRING			MACKEREL			NEPHROPS			QUEENIES			OTHER			TOTAL	TOTAL
	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	*Av. Price/ Tonne	Tonnes	£	*Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	TONNES	£
JULY																				
Ardglass	0.01	3.00	300.00	111.60	44,833	401.73	0.46	21.00	45.65	141.40	141,575	1001.24	-	-	-	4.95	1,743	352.12	273.95	195,466
Kilkeel	0.01	5.00	500.00	66.15	21,116	319.21	-	-	-	212 08	183,742	866.38	-	-	-	5.48	1,344	245.26	307.65	212,974
Porta-vogie	0.11	36.00	327.27	6.22	2,685	431.67	0.07	40.00	571.43	109.53	109,190	996.90	-	-	-	5.41	2,290	401.05	149.64	125,882
Total	0.13	34.00	338.46	183.97	68,634	373.07	0.53	61.00	115.09	463.01	434,507	938.44	-	-	-	16.14	5,377	233.15	731.24	534,322
AUGUST																				
Ardglass	0.03	8	266.67	320.80	105,938	330.23	0.42	26	61.90	208.47	187,240	898.16	-	-	-	8.09	1,976	244.25	566.81	302,607
Kilkeel	0.01	5	500.00	217.33	56,691	260.85	-	-	-	409.06	386,378	944.55	-	-	-	12.60	2,050	162.70	687.19	458,692
Porta-vogie	0.02	7	250.00	3.48	789	226.72	0.16	22	137.50	384.02	364,560	949.33	-	-	-	16.53	4,342	262.67	453.73	383,717
Total	0.06	20	333.33	541.61	163,418	301.73	0.58	48	82.76	1001.55	938,178	936.73	-	-	-	37.22	8,368	224.83	1707.73	1145,016
SEPT.																				
Ardglass	-	-	-	249.20	87,884	352.66	0.88	80	90.91	60.21	55,576	923.04	-	-	-	14.74	4,963	336.70	344.75	156,208
Kilkeel	-	-	-	291.60	100,892	345.99	2.27	111	48.90	166.18	144,210	867.79	-	-	-	13.48	3,912	290.21	510.60	265,881
Porta-vogie	0.78	226	289.74	0.42	140	333.33	2.65	187	70.57	159.39	93,306	585.39	-	-	-	16.25	4,601	283.14	240.06	122,262
Total	0.78	226	289.74	541.22	188,916	349.06	5.80	378	65.17	385.78	293,092	759.74	-	-	-	44.47	13,476	303.04	1095.41	546,351
OCT.																				
Ardglass	-	-	-	-	-	-	2.34	177	75.64	53.88	48,115	898.57	-	-	-	23.75	5,069	213,43	137.72	73,407
Kilkeel	0.11	39	354.55	0.53	190	358.49	3.95	127	32.15	224.24	212,850	949.21	-	-	-	53.57	9,607	179,34	401.53	260,530
Porta-vogie	0.28	96	342.86	0.34	113	332.35	5.00	156	31.20	143.35	113,674	792.98	0.25	28.00	112.00	27.47	6,472	235,60	286.60	153,016
Total	0.39	135	346.15	0.87	303	348.28	11.29	460	40.74	421.47	374,939	889.60	0.25	28.00	112.00	104.79	21,148	201,81	825.85	486,953
NOV.																				
Ardglass	0.11	48	436.36	115.50	15,841	137.15	0.42	52	123.81	36.90	33,732	914.15	-	-	-	24.00	5,677	236,54	264.44	74,591
Kilkeel	0.40	100	250.00	154.32	24,197	156.80	1.56	62	39.74	193.05	183,400	950.01	-	-	-	47.40	11,015	232,38	644.74	263,020
Porta-vogie	0.49	175	357.14	0.37	85	229.73	1.02	38	37.25	100.36	82,764	820.58	-	-	-	34.72	8,288	238,71	327.45	134,003
Total	1.00	323	323.00	270.19	40,123	148.50	3.00	152	50.67	330.81	299,896	906.55	-	-	-	106.12	24,980	235,39	1236.63	476,614
DEC.																				
Ardglass	0.12	49	408.33	766.60	14,877	194.22	-	-	-	19.29	17,323	898.03	-	-	-	9.36	2,567	274,25	144.97	45,669
Kilkeel	0.27	112	414.81	73.62	11,268	153.06	0.14	4	28.57	91.17	93,784	1028.67	-	-	-	39.85	8,362	209,84	413.43	160,519
Porta-vogie	0.27	82	303.70	0.04	5	125.00	-	-	-	42.53	35,635	837.88	-	-	-	28.52	6,034	211,57	187.57	68,040
Total	0.66	243	368.18	150.26	26,150	174.03	0.14	4	28.57	152.99	146,742	959.16	-	-	-	77.73	16,963	218,23	745.97	274,228

TABLE 26 (continued)

	HADDOCK			HERRING			MACKEREL			NEPHROPS			QUEENIES			OTHER			TOTAL	TOTAL
	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	Tonnes	£	*Av. Price/ Tonne	Tonnes	£	*Av. Price/ Tonne	Tonnes	£	Av. Price/ Tonne	TONNES	£
JAN.																				
Ardglass	0.03	5	166.67	2.60	248	95.38	-	-	-	31.84	23,546	739.51	-	-	-	12.26	2,757	224.88	89.14	41,289
Kilkeel	0.68	337	200.60	1.13	344	304.42	-	-	-	175.11	140,453	802.08	0.05	5	100.00	44.54	10,007	224.67	397.92	212,348
Porta-vogie	1.49	525	1071.43	-	-	-	-	-	-	128.73	89,496	695.22	-	-	-	51.35	9,256	180.25	390.90	172,423
Total	2.20	667	394.09	3.73	592	158.71	-	-	-	335.68	253,495	755.17	0.05	5	100.00	108.15	22,020	203.61	877.96	426,060
FEB.																				
Ardglass	0.06	22	366.67	-	-	-	-	-	-	19.51	17,026	872.68	-	-	-	7.28	1,809	248.49	62.65	30,884
Kilkeel	0.26	94	361.54	0.58	180	310.34	-	-	-	112.78	108,255	959.88	-	-	-	38.01	9,287	244.33	358.54	194.305
Porta-vogie	0.12	41	341.67	-	-	-	-	-	-	96.07	80,477	837.69	-	-	-	30.57	7,053	230.72	259.12	127,671
Total	0.44	157	356.82	0.58	180	310.34	-	-	-	228.36	205,758	901.02	-	-	-	75.86	18,149	239.24	680.31	352,860
MARCH																				
Ardglass	0.05	11	220.00	6.30	640	101.59	-	-	-	18.76	17,244	919.19	-	-	-	10.11	2,449	242.24	136.58	51,287
Kilkeel	0.67	237	353.73	0.25	82	328.00	-	-	-	81.13	86,023	1060.37	-	-	-	70.50	19,444	275.80	968.39	95,621
Porta-vogie	0.01	17	1700.00	0.09	51	566.67	-	-	-	75.37	69,063	916.32	-	-	-	47.46	9,423	198.55	471.82	180,1 1
Total	0.73	265	363.01	6.64	773	116.42	-	-	-	175.26	172,335	983.31	-	-	-	128.07	31,316	244.52	1576.83	627,049
APRIL																				
Ardglass	0.03	13	433.33	-	-	-	-	-	-	36.83	38,838	1054.52	-	-	-	37.28	2,734	73.34	196.86	71,675
Kilkeel	0.51	212	359.32	0.50	141	282.00	-	-	-	139.00	156,251	1124.11	-	-	-	68.97	14,468	209.77	1032.78	418,123
Porta-vogie	0.01	1	100.00	-	-	-	0.03	4	133.33	106.74	101,694	952.73	-	-	-	46.92	10,380	221.23	466.65	178,470
Total	0.63	226	358.73	0.50	141	282.00	0.03	4	133.33	282.57	296,783	1050.30	-	-	-	153.17	27,582	180.07	1696.29	668,268
MAY																				
Ardglass	0.01	3	300.00	-	-	-	-	-	-	51.19	50,511	986.74	-	-	-	9.17	3,098	337.84	132.20	78,781
Kilkeel	0.16	62	387.50	0.40	89	222.50	-	-	-	186.38	192,913	1035.05	-	-	-	26.72	7,396	276.80	394.15	267,072
Porta-vogie	0.01	2	200.00	-	-	-	-	-	-	115.14	108,592	493.13	-	-	-	56.96	10,512	184.55	420.16	197,709
Total	0.18	67	372.22	0.40	89	222.50	-	-	-	352.71	352,016	998.03	-	-	-	92.85	21,006	226.24	946.51	543,562
JUNE																				
Ardglass	-	-	-	6.55	2,352	359.08	1.78	88	49.44	42.75	48,096	1125.05	-	-	-	4.54	1,989	483.11	66.98	57,718
Kilkeel	0.02	9.00	450.00	0.48	157	327.08	-	-	-	147.03	176,233	1198.72	-	-	-	9.49	2,196	231.40	198.45	195,031
Porta-vogie	0.09	23.00	255.56	9.88	3,720	376.52	0.06	23	383.33	75.98	79,492	1046.22	-	-	-	11.39	4,551	399.56	136.92	105,916
Total	0.11	32.00	290.91	16.91	6,229	368.36	1.84	111	60.33	256.76	303,821	1143.22	-	-	-	25.42	8,736	343.67	401.62	358,668

continued...

TABLE 27 : THROUGHPUT OF PROCESSING PLANTS IN NORTHERN IRELAND IN TONNES; 1972-9

	1972	1973	1974	1975	1976	1977	1978	1979
Herring	4,100	5,700	8,500	5,600	5,770	2,980	1,270	2,220
Whitefish	4,200	4,880	3,850	4,000	6,000	5,240	5,290	6,620
Shell Fish	4,700	3,750	2,525	3,500	4,000	3,680	4,680	4,500
TOTAL	13,000	14,330	14,875	13,100	15,770	11,900	11,240	13,340

Source: D.A.N.I. (Unpublished).

Note: The increase in herring processing in 1979 was facilitated by increased imports of wholefish from the Irish Republic.

TABLE 28 : EMPLOYMENT IN BOAT BUILDING AND REPAIRING, 1976 and 1979

	Full-Time			Part-Time			Total Full-Time
	Male	Female	Total	Male	Female	Total	and Part-Time
Ardglass 1979	-	-	-	-	-	-	-
1976	-	-	-	3	-	-	3
Kilkeel 1979	14	2	16	-	-	-	16
1976	12	2	14	1	1	2	16
Portavogie 1979	36	3	39	-	1	1	40
1976	23	1	24	2	-	2	26

Source: D.A.N.I. (Unpublished).

Table 29 : Grants awarded for new vessels, re-engining and vessel improvements, Northern Ireland, until 31/12/1980*

Category	Proportion covered by grant (%)
New sea fishing vessels:	
Under 40 ft. registered length	30
40 ft. or more but less than 80 ft.	
(i) if built in Northern Ireland	45
(ii) if built elsewhere	35
80 ft. or more registered length	25
New engines:	
for sea fishing vessels under 40 ft. registered length	30
for sea fishing vessels 40 ft. or more but less than 80 ft. registered length	35
for sea fishing vessels more than 80 ft. registered length	25
Improvements	
to sea fishing vessels under 80 ft. registered length	30
to sea fishing vessels 80 ft. or more registered length	25

* Source: Stokes Kennedy and Crowley (1979) p.91.

New Rates of grant applicable since 1/1/1981**

	Proportion covered by grant (%)
New sea fishing vessels under 80ft. registered length	30
New engines for sea fishing vessels under 80ft. registered length	30
Improvements to sea fishing vessels	25

** Information provided by Fisheries Division, DANI.

Table 30 : Grant-aid for the establishment of fisheries co-operatives, Northern Ireland, 1979*

Category	Proportion covered by grant (%)
Buildings and fixed equipment	40
Other equipment and vehicles	30
Administrative and training expenses:	
1st Year	60
2nd Year	40
3rd Year	20
Acquisition of stock-in-trade, and running expenses (first three years only)	20
Provision of new vessels and vessel improvement	30

* Source: Stokes Kennedy and Crowley (1979) p.92.

Table 31 : Loans for sea fishing vessel purchase or improvement, Northern Ireland,* (until 7/11/1980)

Category	Proportion eligible for loan
Fishing boats, engines and equipment	
Where purchase or improvement is being grant-aided	not exceeding 55%
if not grant-aided	not exceeding 75%
purchase of second-hand vessel under 15 years old	not exceeding 75%
purchase of second-hand vessel 15-20 years old	not exceeding 60%

* Source: Stokes Kennedy and Crowley (1979) p.92.

Table 32 : Allocation of Grants and Loans to Northern Ireland Fishermen, 1970-1980*

Type of Investment	1970 Grants No.	1970 Grants Amount	1970 Loans No.	1970 Loans Amount	1971 Grants No.	1971 Grants Amount	1971 Loans No.	1971 Loans Amount	1972 Grants No.	1972 Grants Amount	1972 Loans No.	1972 Loans Amount
New Vessels	4	52,938	3	44,078	6	25,579	3	27,387	4	13,845	5	10,725
New Engines	8	7,451	5	6,270	7	6,640	3	6,657	8	21,110	7	21,415
Other Improvements	15	3,158	3	662	22	7,500	5	3,277	35	11,269	6	2,121
Second-hand Vessels	-	-	11	64,109	-	-	12	102,850	-	-	12	86,442
TOTAL	27	63,547	22	115,119	35	45,945	23	140,171	47	46,224	30	120,703

	1973 Grants No.	1973 Grants Amount	1973 Loans No.	1973 Loans Amount	1974 Grants No.	1974 Grants Amount	1974 Loans No.	1974 Loans Amount	1975 Grants No.	1975 Grants Amount	1975 Loans No.	1975 Loans Amount
New Vessels	8	27,424	5	22,199	10	115,893	2	39,054	27	739,147	10	183,931
New Engines	4	18,392	4	22,504	11	41,275	7	34,206	15	75,594	11	60,602
Other Improvements	34	11,643	4	3,593	48	43,395	3	8,862	81	33,387	13	21,310
Second-hand Vessels	-	-	9	44,638	-	-	9	70,750	-	-	4	42,400
TOTAL	56	57,459	22	92,934	69	200,563	21	152,872	123	848,128	38	308,243

* Source: DANI, annual (Note, figures are for the accounting year ending on March 31st of the year stated.

Table 32 (continued)

Type of Investment	1976 Grants No.	1976 Grants Amount	1976 Loans No.	1976 Loans Amount	1977 Grants No.	1977 Grants Amount	1977 Loans No.	1977 Loans Amount	1978 Grants No.	1978 Grants Amount	1978 Loans No.	1978 Loans Amount
New vessels	22	697,398	9	903,415		217,973		605,855		162,257		159,379
New Engines	13	35,407	4	38,227	n.a.	29,273	29	31,594	n.a.	28,249	31	33,409
Other Improvements	57	52,555	14	62,880		76,615		68,912		71,211		53,387
Second-hand Vessels	-	-	5	34,435		-		219,000		-		237,594
TOTAL	92	785,360	32	1,038,957	n.a.	318,861	29	925,361	n.a.	261,717	31	488,769

	1979 Grants No.	1979 Grants Amount	1979 Loans No.	1979 Loans Amount	1980 Grants No.	1980 Grants Amount	1980 Loans No.	1980 Loans Amount
New vessels								
New Engines	n.a.	1,023,867	n.a.	609,102	n.a.	1,018,986	n.a.	787,721
Other Improvements								
Second-hand Vessels								
TOTAL		1,023,867		609,102		1,018,986		787,721

* Source: DANI, annual (Note, figures are for the accounting year ending on March 31st of the year stated.

Table 33 : Real Value of Grants and Loans Allocated to Northern Ireland Fishermen, 1970-1979*

Year	Real Value of Grants(£)	Real Value of Loans(£)
1970	135,206	244,934
1971	108,106	329,814
1972	104,108	271,854
1973	97,119	157,133
1974	231,063	176,120
1975	848,128	308,243
1976	618,394	818,076
1977	218,998	635,550
1978	180,991	338,015
1979	610,899	471,194

*Source: derived by deflating the total grants and loans for each year in Table 32 by the Wholesale Price Index.

Table 34 : Proportion of DANI Grants and Loans Allocated to New Vessel Construction, 1970-1978*

Year	Grants	Loans
1970	83	38
1971	56	20
1972	30	9
1973	48	24
1974	58	26
1975	87	60
1976	89	87
1977	68	65
1978	62	33

*Source: calculated from Table 30.

Table 35 : Quantities of Fish Caught by Northern Ireland Vessels and Withdrawn from the Market (tonnes)*

Species	1976		1977		1978		1979	
	Withdrawn in Northern Ireland	Withdrawn in Great Britain	Withdrawn in Northern Ireland	Withdrawn in Great Britain	Withdrawn in Northern Ireland	Withdrawn in Great Britain	Withdrawn in Northern Ireland	Withdrawn in Great Britain
Herring	59.36	-	-	-	0.80	-	-	-
Mackerel	9.00	262.48	-	3764	1.47	1078	-	37
Whiting	48.51	-	17.07	-	-	-	-	-
Total	116.87	262.48	17.07	3764	2.27	1078	-	37

* Source: DANI (annual) 1976-1979.

Table 36 : Grant Allocations to the Fish Processing Industry, Northern Ireland, 1970-1979*

Source of Finance	1970	1971	1972	1973	1974**	1975	1976	1977	1978	1979
Department of Commerce	4,743	3,711	3,695	2,553	2,553	9,720	19,093	28,328	76,908	47,000
Department of Agriculture	-	15,000	4,840	-	-	-	-	-	-	-
Fishing Industry Act	-	-	-	1,598	1,598	1,122	-	-	-	-
LEDU	-	-	-	-	-	-	-	-	66,927	96,000
	4,743	18,711	7,535	4,151	4,151	10,842	19,093	28,328	143,835	143,000
	(11,654)	(44,026)†	(16,971)	(7,060)	(4,782)	(10,842)	(15,034)	(19,456)	(99,471)	(85,322)

* Source: DANI (annual) and unpublished statistics.

** An unspecified amount of FEOGA aid was also awarded during this year.

† Figures in parentheses show the nominal totals deflated by the Wholesale Price Index

Table 37 : Catch per Vessel, Northern Ireland, 1970-79

Year	Number of Vessels	Total Catch tonnes	Catch Per Vessel Per Annum (Tonnes)
1970	98	11,828.48	120.70
1971	106	11,536.95	108.84
1972	107	13,048.76	121.95
1973	115	15,126.55	131.54
1974	120	15,453.55	128.78
1975	122	13,797.97	113.10
1976	122	15,663.94	128.39
1977	118	12,156.70	103.02
1978	124	11,522.53	92.92
1979	131	12,817.51	97.84

Table 38 : Catch per Vessel Foot, Northern Ireland, 1970-79

Year	Total Length of Fleet	Total Catch	Catch Per Vessel Foot (Tonnes)
1970	5,870	11,828.48	2.015
1971	6,310	11,536.95	1.828
1972	6,460	13,048.76	2.020
1973	6,980	15,126.55	2.167
1974	7,275	15,453.55	2.124
1975	7,310	13,797.97	1.888
1976	7,380	15,663.94	2.122
1977	7,140	12,156.70	1.703
1978	7,630	11,522.53	1.510
1979	8,060	12,817.51	1.590

Table 39 : Available Catch in the Irish Sea under Alternative Scenarios. ('000 Tonnes)

	TAC Under Scenario 1[1]	TAC Under Scenarios 2[2] and 3
Nephrops	-[3]	-
Whiting	8.5 - 10.0	10.0
Plaice	2.0 - 3.0	2.5
Cod	6.0 - 8.0	5.0
Herring[4]	7.0 - 10.0	10.0
Total[4]	23.5 - 31.0	27.5

1. Obtained from N.I. Sea Fisheries Laboratory, Coleraine.

2. From COM(80) 452.

3. Under the interim Community fisheries proposals, Nephrops are not included as a designated species, and are not subject to quota regulation.

4. This does not include 1.7-2.0 tonnes of herring which may be reserved for the Mourne skiff fleet under Scenario 1.

Table 40 : Northern Ireland Catch under the Three Scenarios

Species	Scenario 1 '000 tonnes	Scenario 2[2] '000 tonnes	Scenario 3[3] '000 tonnes
Nephrops	2.5	4.0	4.0
Whiting	2.1 - 2.5(25)[1]	2.133	5.0
Plaice	0.08- 0.12(4.0)	0.630	1.25
Cod	0.84- 1.12(14.0)	1.575	2.50
Herring	4.77- 6.82(68.0)	6.687	5.00
Total	10.29-13.06(44-42)	15.03(40)	17.75(50)

1. Figures in parentheses under scenario show historic proportion of total North Irish Sea catch.

2. Under which Northern Ireland receives 90 per cent of the UK quota allocation for the four major designated species.

3. Under which Northern Ireland receives 50 per cent of the EEC TAC for ICES Division VIIa for the four major designated species.

Table 41 : Vessel Retirement/Recruitment from 1979 Fleet under Three Alternative Scenarios

	Scenario 1	Scenario 2	Scenario 3
1. 1972/4 average catch per vessel	-28 to -50[a]	-13	+8
2. 1972/4 average catch per vessel foot	-27 to -49[b]	-12[b]	+10[b]
3. 1977/9 average catch per vessel	0 to -26	+1	+50
4. 1977/9 average catch per vessel foot	0 to -24[b]	+3[b]	+54[b]

a. A "-" sign indicates a reduction in fleet numbers, and a "+" sign indicates an increase.

b. All figures are expressed in terms of 60-foot vessel equivalents when the productivity measure is based on catch per vessel foot.

Table 42 : Total Costs to the E.E.C. of the Vessel Retirement/Recruitment Scheme under Three Alternative Scenarios[a] (£)

Productivity Base[b]	Scenario 1	Scenario 2	Scenario 3
1	496,405.00-886,437.50	230,473.75	1,000,000.00
2	478,676.25-868,708.75	212,745.00	1,250,000.00
3	0 to 460,947.50	125,000	6,250,000.00
4	0 to 425,490.00	375,000	6,750,000.00

a. Assuming that all vessels retired or introduced are 60ft., 130 GRT 'representative' vessels, and that the EEC gives a 50 per cent grant of each new representative vessel (which costs £250,000).

b. See Table 41 for key.

Table 43 : Labour Displacement/Recruitment under Three Alternative Scenarios[a]

Productivity Base[b]	Scenario 1	Scenario 2	Scenario 3
1	-68 to -300	-78	+48
2	-62 to -294	-72	+60
3	0 to -156	+6	+300
4	0 to -144	+30	+324

a. Presuming each vessel carries a skipper and five crew-members.

b. See Table 41 for key

Table 44 : Costs of Indemnity for Cessation of Fishing[a] (£)

Productivity Base[b]	Scenario 1	Scenario 2	Scenario 3
1	63,628.88 to 280,715.63	72,986.00	-[c]
2	58,014.56 to 275,101.31	67,371.75	-
3	0 to 145,972.13	-	-
4	0 to 134,743.50	-	-

a. Assuming that 30 per cent of the number displaced under each Scenario are over 50 and therefore eligible.

b. See Table 41 for key.

c. No attempt has been made to calculate a benefit per extra job where employment in the fleet rises.

Table 45 : Total Costs to the European Community of Fleet Restructuring in Northern Ireland under Three Alternative Scenarios (£)

Productivity Base[a]	Scenario		
	1	2	3
1	560,033.88 to 1,107,153.13	303,459.81	1,000,000.00
2	536,690.81 to 1,143,810.06	280,116.75	1,250,000.00
3	0 to 606,919.63	125,000	6,250,000.00
4	0 to 560,233.50	375,000	6,750,000.00

a. See Table 41 for key.

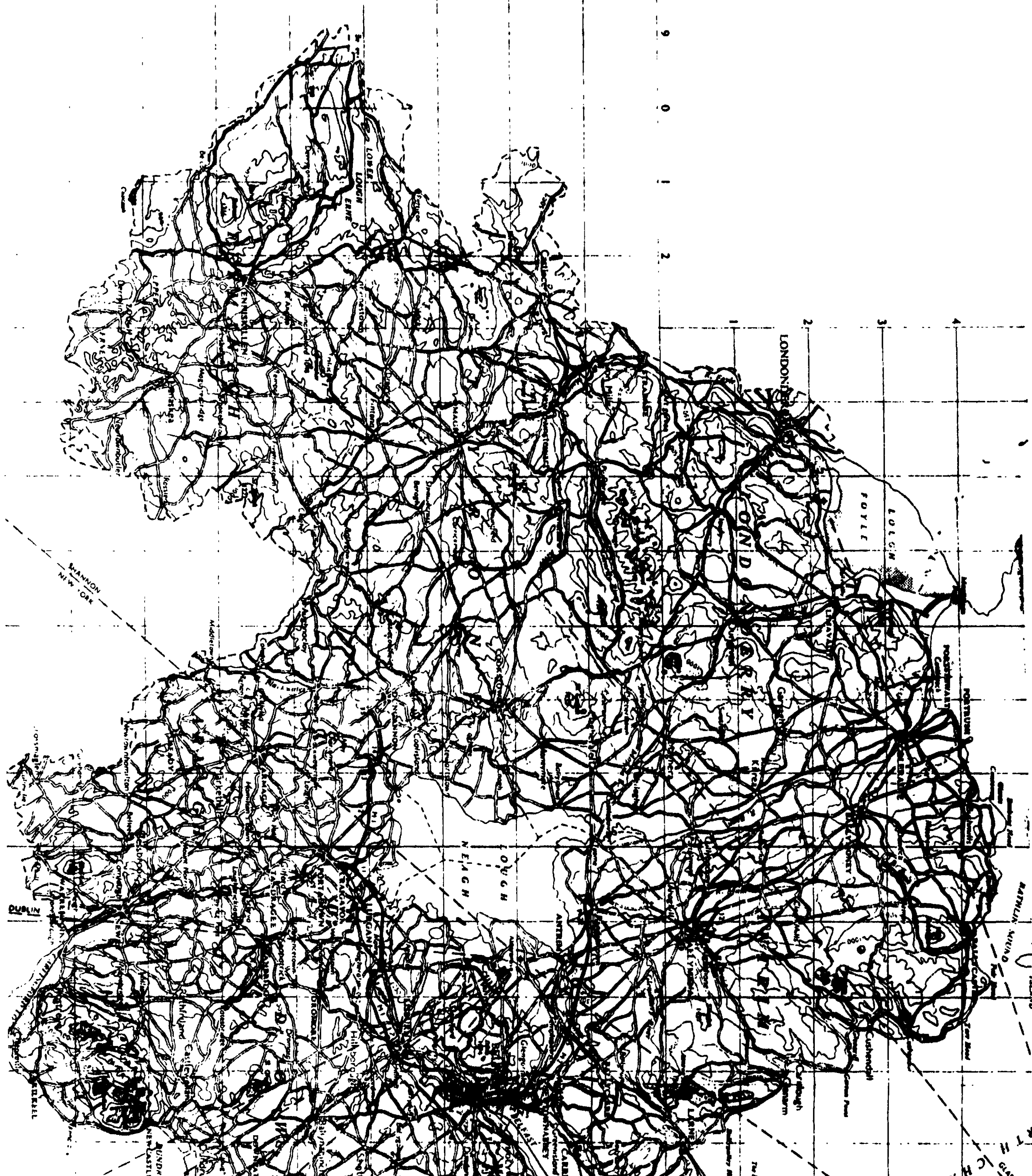


FIGURE 1 : NORTHERN IRELAND

FIGURE 2

FISHING REGIONS N.W. EUROPE AND PORTS AT WHICH NORTHERN IRELAND BOATS LAND FISH

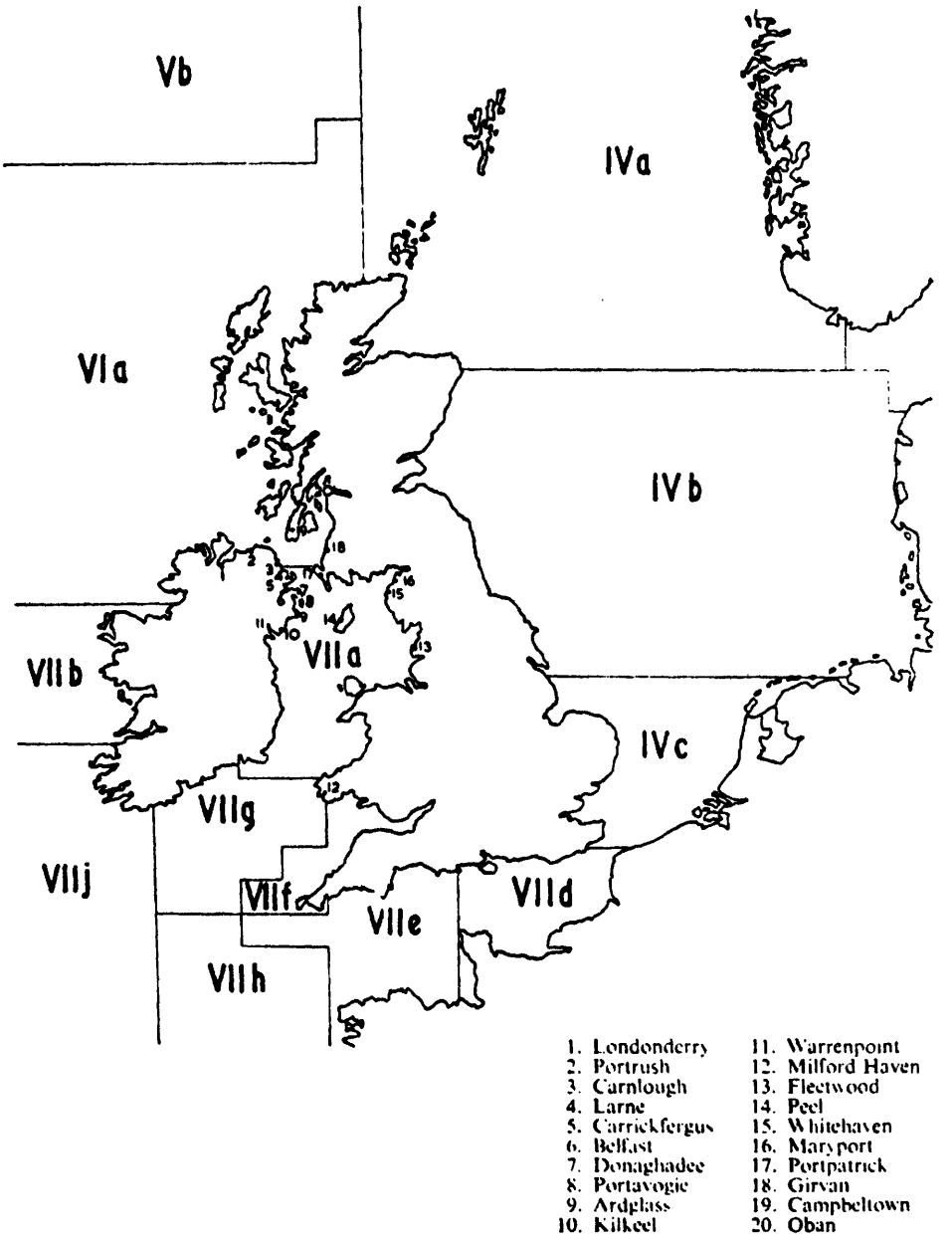
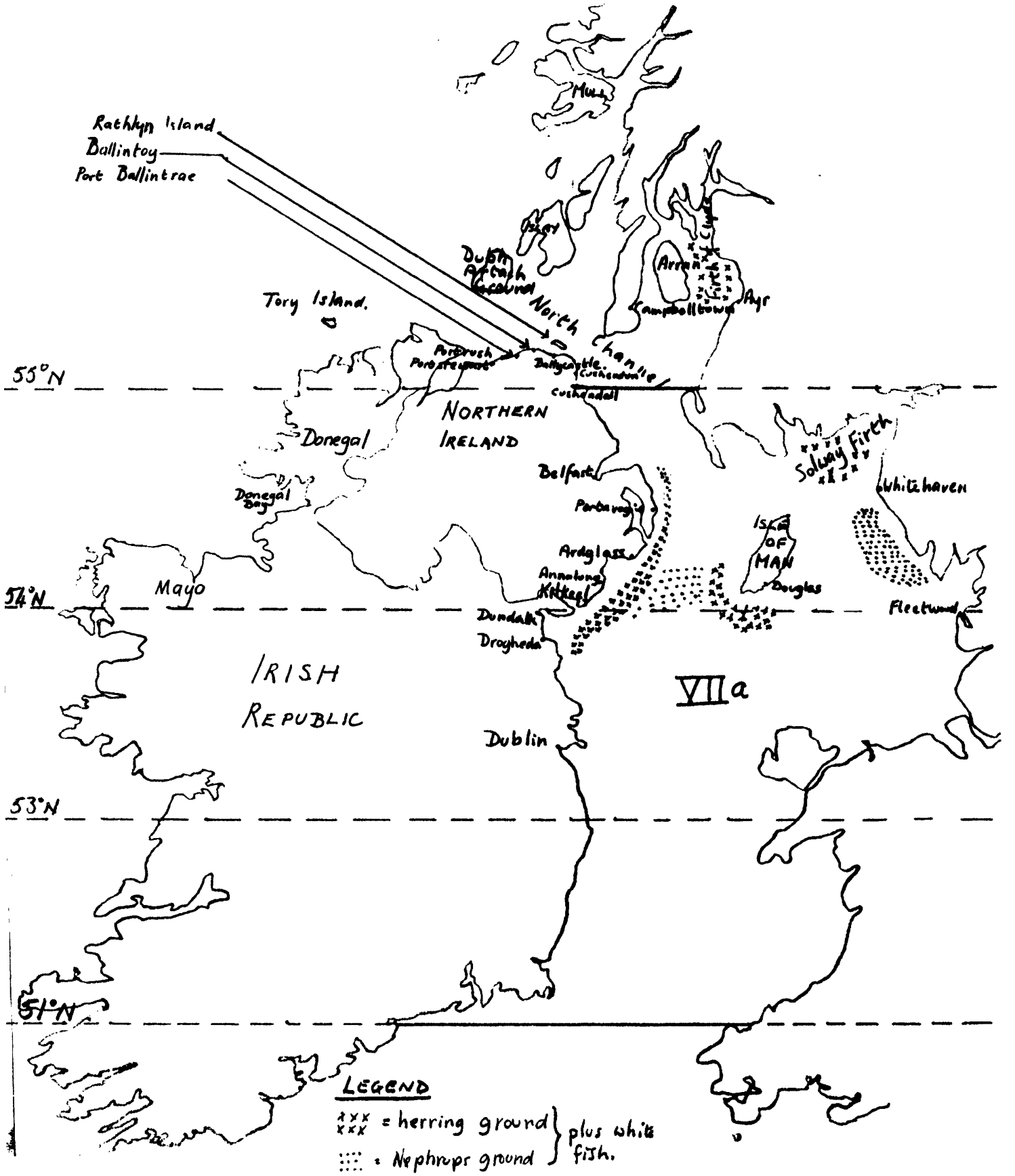


FIGURE 3 : North Irish Sea : Fishing Grounds and Main Ports



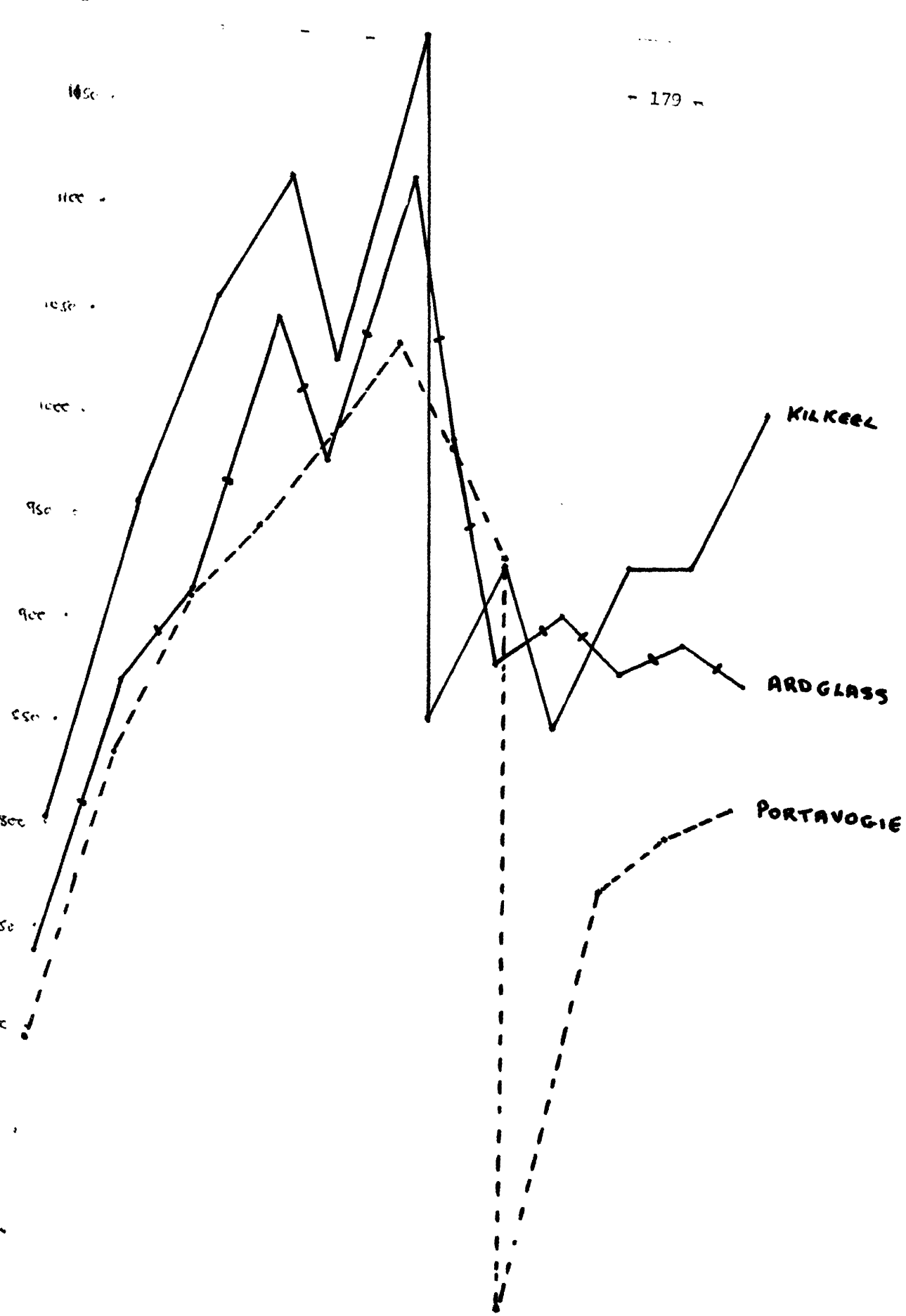


FIGURE 4 - Nephrops Prices 1979 (£/tonne)

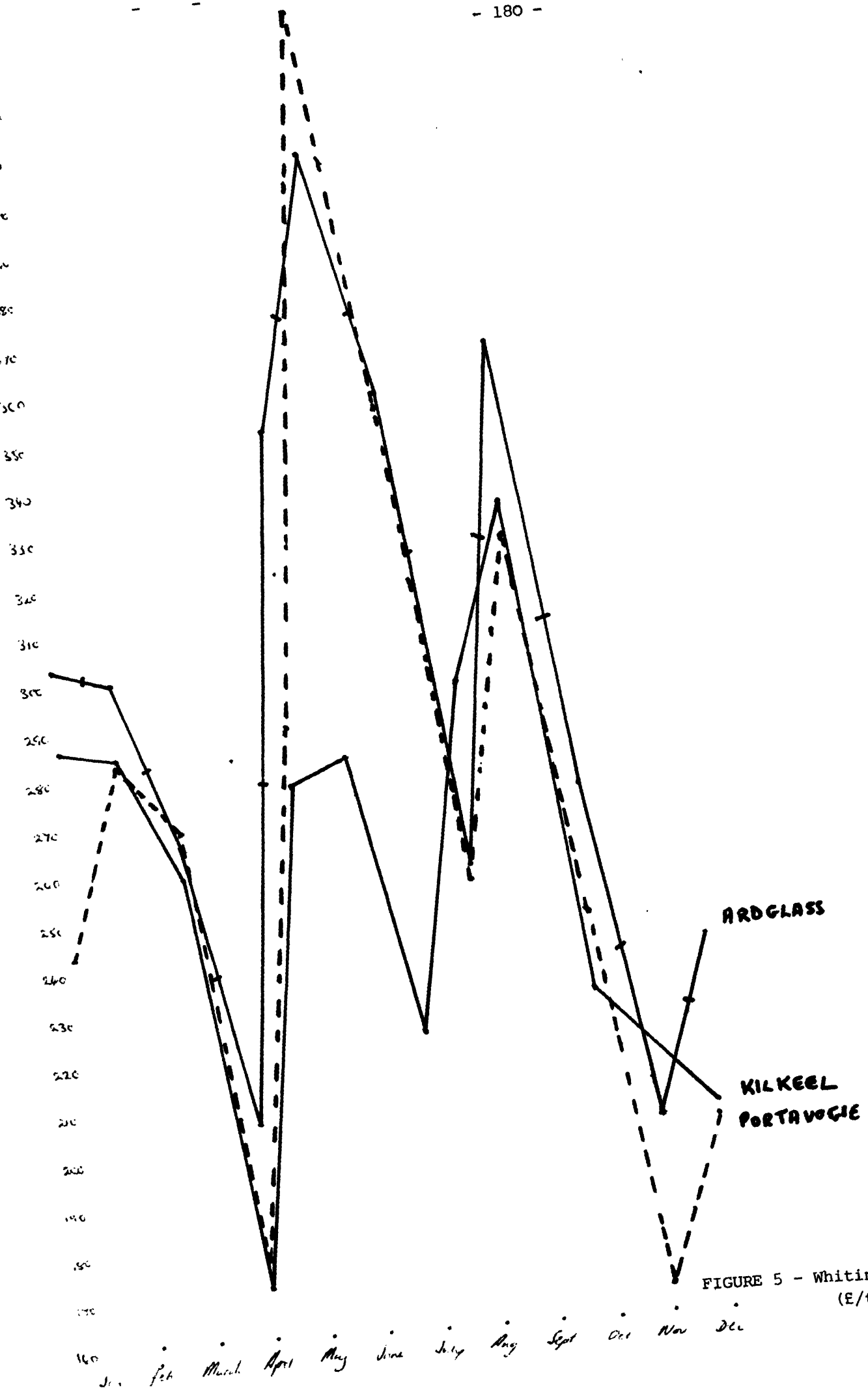


FIGURE 5 - Whiting Prices 19
(£/tonne)

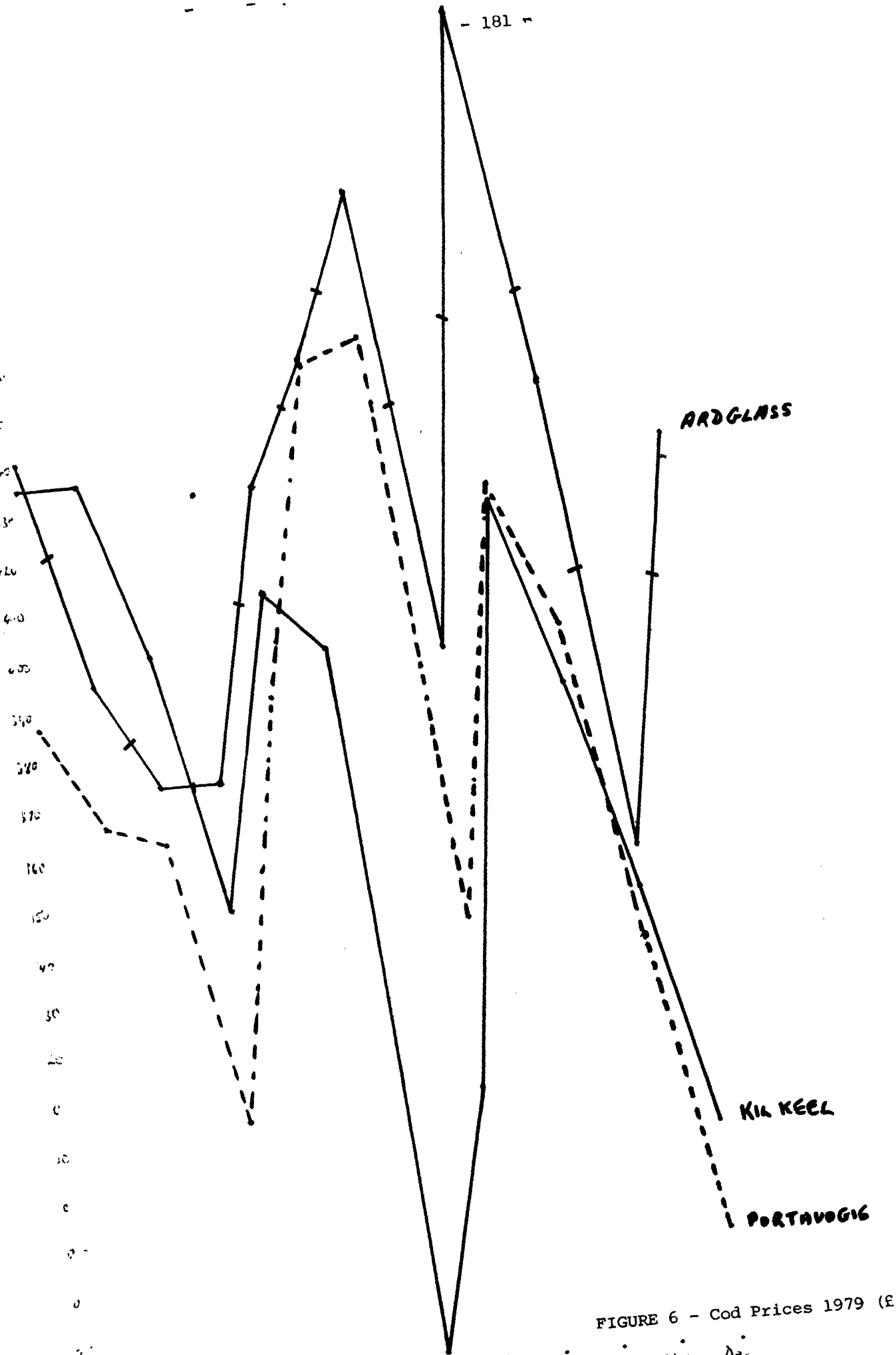


FIGURE 6 - Cod Prices 1979 (£/tonne)

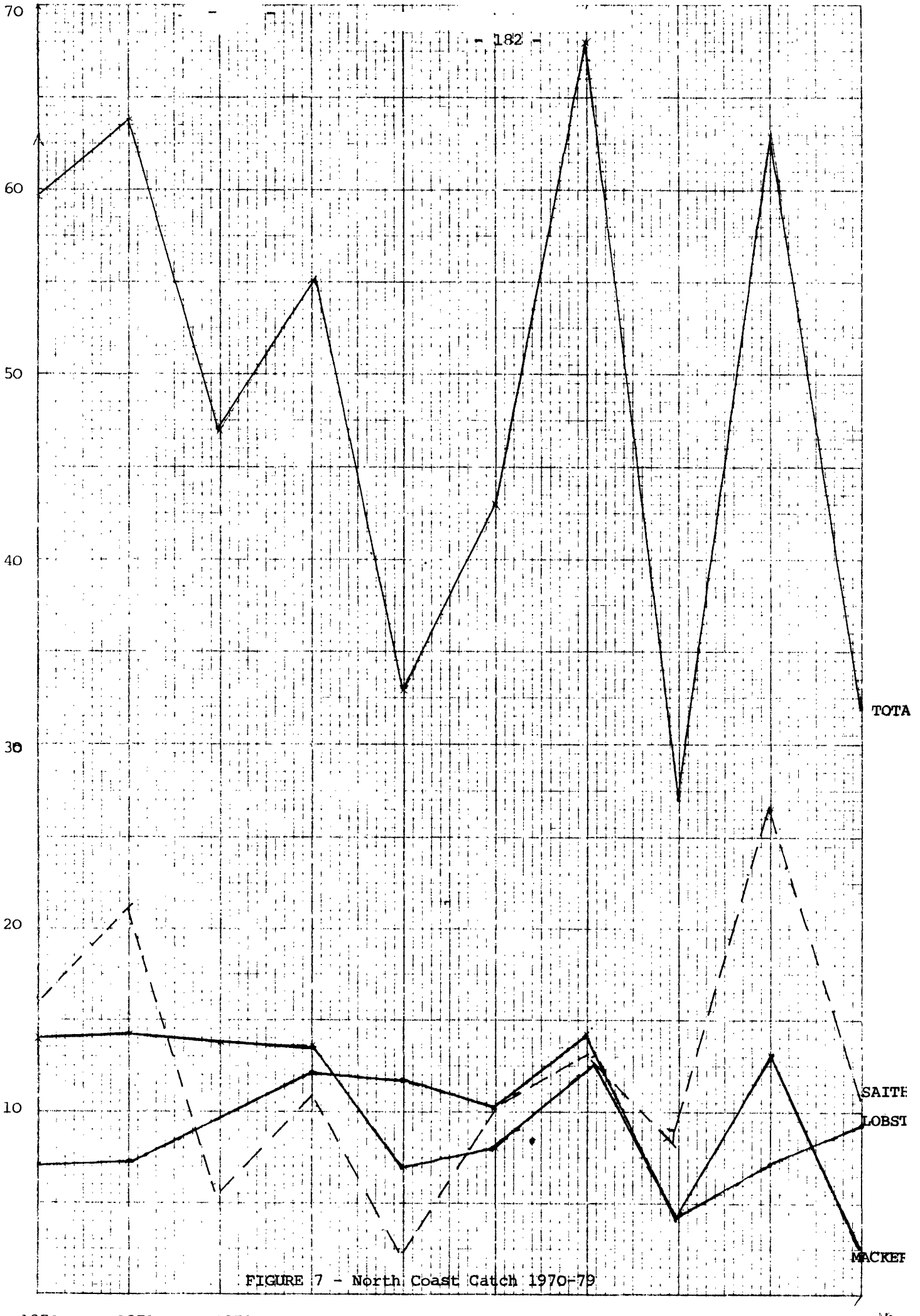


FIGURE 7 - North Coast Catch 1970-79

APPENDIX I

Extracts From

BALLYCASTLE HARBOUR DEVELOPMENT PROJECT

2. PROPOSAL

2.1 We have assumed as the basis of the proposal the North Breakwater Scheme prepared by the C.E.B., Department of Finance, in June 1978. This proposal would provide 'alongside berthing' for 28 boats of an average 11 metres, and 'mooring off' for 15 boats of 11 to 16 metres. 'Trot mooring' to the proposed breakwater should be tenable all year round and 'berthing alongside' should be subject only to very occasional disruption. This is a vast improvement on the present situation where the existing pier offers only 5 lee berths and it is seldom safe to leave boats for any length of time.

2.2 The order of cost for this development was estimated in the region of £3 million at June, 1978 prices. The Project Engineer has confirmed that this is based on a reasonably detailed estimate of prevailing costs. According to Department of Finance indexing this would infer a current cost, March 1980, of som £3.75 million. We do not intend to project the cost inflation on the basis that the benefits should accrue in proportion, but it may be as well to bear in mind that the eventual development cost, and corresponding grant assistance sought, will be far greater in actual terms then £3 million.

2.3 We have not considered it necessary to confirm the technical detail of the project, which has been the product of considerable expert opinion. The end result will not be simply to improve the harbour, but to provide meaningful facilities where none existed before. Such a project would open up a whole new range of opportunities in the areas of commercial fishing, promotion of tourism and development of Rathlin.

3. STRATEGY

3.1 Our argument for a positive decision to assist the harbour project in Ballycastle is based on three main themes - creation of employment from increased fishing, commercial boating and ancillary activity; increase in

tourist revenue and employment through improved amenity; and the outstanding social need to support and expand the population of Rathlin.

3.2 In the 'Regional Physical Development Strategy 1975 to 1995' published by the N.I. Department of Environment, Ballycastle is designated as a District Town. This is termed as a centre 'suitable for concentrated population growth', and the means to achieve this is stated as follows; 'the strategy must have as a major objective the creation of conditions in which existing industry can flourish and expand and in which new industry can become established and prosper'.

3.3 It is surely a logical progression from the above statement to concentrate on development of marine facilities in regard to Ballycastle, given its location, its traditional and current occupational pattern and the unique aspects of Rathlin Island.

3.4 It is unlikely that any of the projected benefits - employment, tourism, social amenity - would justify in isolation the expenditure of £3 million of public funds in Ballycastle, but taken in conjunction we consider that a strong economic and social argument can be advanced. Accordingly the remainder of the report outlines our projection of benefits in the various categories and summarises the main themes of argument.

4. EMPLOYMENT

4.1 Employment creation costs have varied widely for different industrial projects in recent years with De Lorean Motor Cars setting a record figure of £26,000 investment for each projected new job. With such a background it would not be unreasonable to take an average figure of £10,000 per capita as a basis of calculation for grant assistance geared to promotion of employment. Therefore to substantiate each £1 million of subsidy it would be necessary to project the creation of 100 new jobs.

4.2 Commercial fishing in Ballycastle and Rathlin is very much a seasonal occupation with few men earning a full-time living from the sea. Rathlin supports one 12 metre trawler and about 12 small boats, while Ballycastle has two 9 to 10 metre boats and 5 smaller boats, all of which require to be winched up on the beach because of the lack of protection. Approximately 20 men depend on fishing as a principal source of income.

4.3 The main catches are lobster, mackerel, cod, plaice, coley and salmon in season. There is a consistent demand for all these products, which could be increased and an unexploited demand for line fish such as dogfish, conger and skate. The absence of harbour facilities seriously limits fishing activity in the period from March to September and virtually precludes it during the winter. Presently the processing factory in Ballycastle is significantly employed for 4/5 months of the year and is only kept going in winter by fish bought in from Portavogie and Greencastle.

4.4 Provision of adequate landing facilities to allow the existing fishing activity to be fully exploited is projected to generate between 35 and 40 full time jobs in fishing and 10 to 15 jobs in secondary employment such as processing, maintenance and distribution. This is based on current experience of markets, existing fishing grounds and traditional catches. However, the experience of the West coast of Scotland would suggest that the potential development could be far greater and more diverse.

4.5 Recent years have seen significant increases in fishing activity from ports in the West of Scotland and islands. The Fisheries Division of the Highlands and Island Development Board forecasts that the trend over the next 20 years will be a movement of the concentration in fishing activity to Western Scotland.

Campbeltown supports a fleet of 65 boats, mainly 5 man 16 metre class, which lands high quantities in Ayr where processing facilities have been

established. Stornoway has built up a fleet of 60 boats employing over 200 fishermen.

4.6 The forecast of a geographical shift in fishing activity has been and will be supported by extensive investment in improved facilities in Western Scotland. Among recent developments are the following:-

A deep-water jetty at Braesclete, Western Lewis;

A projected deep water jetty at Barra and a fuel oil facility for anticipated increase in landings;

A fish processing factory at Braesclete;

Projected expansion of the fish processing factory on Barra;

Projected establishment of a fish meal and oil factory on Barra;

A prawn processing factory at Campèltown;

Shellfish processing factories at Kirkcudbright and Annan.

4.7 The indications are that development of facilities in the more remote ports has not affected progress in the established landing points and indeed is felt to have complemented the overall structure of the industry. In view of the Scottish experience it is surely not unreasonable to project similar opportunities for development on the North Antrim coast. Ballycastle is indeed better placed than the more remote Scottish ports in terms of access to fishing grounds and communications with markets and services. Therefore if Ballycastle were to extend its range of operations into new fishing grounds and expand high value catches such as shellfish it could support a fleet much larger than presently considered.

4.8 We would propose that full development of fishing opportunities dependent on adequate landing and harbour facilities at Ballycastle could produce long term up to 100 full time jobs in fishing and ancillary occupations in Ballycastle and Rathlin.

4.9 Therefore a primary justification for public financial support to the Ballycastle Harbour Project would be the creation of 80 to 100 new jobs

in the well-established fishing industry and supporting services. Other new employment opportunities arising from improved facilities are detailed under separate headings.

7. SUMMARY

7.1 The argument for public assistance towards the harbour development project at Ballycastle is basically a social one. The development is directed towards maintaining the population of Moyle District, both on the mainland and Rathlin Island. The intention is to do this not by attempting to import new industry, but to build on the natural advantages of the area and expand the traditional industries.

7.2 The social case can be well defined and is in line with the strategy established by the Department of the Environment. Economic justification can be found in the provision of up to 100 new jobs, an increase in tourist revenue of up to £1 million per annum and a significant increase in the economic activity of Rathlin.

7.3 Unlike many recent development projects in Northern Ireland the benefits are not linked to one product, concept or individual but would be the sum of many small independent concerns. As such the risks of failure are widely spread, and a shortfall in one area may well be compensated for by another.

7.4 As a capital project the construction of the North Breakwater would also provide its own stimulus to the domestic economy as by far the greater part of the cost is locally generated with little import content. Equally it is a project with a lifetime far in excess of the normal industrial development and without the depreciation costs associated with projects dependent on high technology and expensive plant and equipment.

7.5 There are of course two sides to every argument, and various

objections could be raised against the projections used in this report. However, our assumptions are based as far as possible on statistical evidence, comparative analysis and informed observation. There is inevitably a speculative element involved in forecasting benefits arising from capital projects. We consider that although involving a significant increase in overall activity, the benefits are forecast as accruing from the sum of a wide spread of small individual contributions.

7.6 The project does not rely upon any significant industrial development which could have been detrimental to the character of the area. Indeed we are sure that proper control of the development would enhance the locality, particularly by increasing the commercial activity of Ballycastle where many premises are currently vacant.

7.7 The social aspects of this project are very much in accord with the provisions of the E.E.C. Social Fund. It is therefore doubly unfortunate that the Northern Ireland Department of Commerce who must support such applications, has adopted to date a negative position on the project.

8. THE WAY FORWARD

8.1 This report summarises the key points of the argument for support of the project. It is our intention to compile an outline submission with the relevant supporting statistics for informal discussion with the appropriate officer- of the government departments responsible for allocation of grant assistance. We would then be in a position to report back on the official attitude towards our submission and the possibility of gaining acceptance for the project in the future.

8.2 We would also take this opportunity of thanking those people whose assistance and co-operation has contributed to the assignment to date.

APPENDIX 2

REPORT OF THE SUB COMMITTEE OF THE NORTHERN IRELAND FISHERY HARBOUR AUTHORITY INTO A CASE FOR THE IMPROVEMENT OF BERTHS IN ARDGLASS HARBOUR

Submitted

1979

1. INTRODUCTION

1.1 The Authority was established by the Northern Ireland Fishery Harbour Authority Order (N.I.) 1973 which came into operation on 16th April 1973.

1.2 The Authority, in carrying out its responsibilities under the Order to improve the harbours, has adopted the concept of the Northern Ireland inshore fishing fleet being serviced by a single harbour authority operating three adequate harbours providing appropriate facilities for the fleet.

1.3 The Authority has, as a consequence, accepted as policy the need to bring the harbours up to a standard expected of modern fishing ports.

1.4 A five year programme of improvement works, including provision of a breakwater at Ardglass, was submitted to the Department of Agriculture on 26th February 1974. Various important items in this programme had to be postponed as there were insufficient funds available to carry out the work envisaged. Subsequently a ceiling was placed on the annual amount of grant aid for minor capital works at £100,000.

1.5 The Authority has considered the future of Ardglass Harbour and concluded that, in order to permit the efficient working of the port and its facilities, it would be necessary to provide adequate shelter for the safe accommodation of vessels using the harbour.

2. THE HARBOUR: ITS FACILITIES AND INDUSTRY

2.1 Description

Ardglass is a fishing port situated in a small bay on the East Coast of County Down in Latitude 54° 54'N Longitude 5° 37'W. The bay breaks a high straight coast running North East - South West with deep water close off the harbour entrance. The configuration of the coastline offers

no natural protection to the harbour from any direction between South South East and East North East. The harbour consists of an outer main breakwater pier enclosing quays known as the South Harbour and an inner quay and Dock known as the North Harbour. The facilities for landing are situated on the South Harbour where the length of usable quay space at low tide has been increased from 18 metres to 178 metres on completion of a recent programme of deepening to 3 metres. Only part of the South Harbour, known as the Sawpit, provides moderate shelter but dries out at low tide. The North Harbour dries out completely at low tide but offers good shelter to boats of up to about 3 metres draught when the tide is suitable for entry.

2.2 Facilities

There is a modern well-lighted fish market building fronting the quay in the South Harbour 58 metres in length into whcih boats land their catches for auction. An ice plant has recently been provided on the South Harbour for the supply of ice to the fishing fleet and local processors. The offices of the Harbour Master, Fisheries Officer, Customs Officer and Fish Salesmen are all situated on the South Harbour.

2.3 Landings and Processing

Ardglass has a long tradition of being a main port of landing for vessels fishing the North Irish Sea and the Manx fishing grounds. There is a substantial local fish processing industry to deal with the landings which in 1978 amounted to £1.3 million and the industry now employs some 150 people in the Ardglass area.

2.4 There are eight processing firms, five of which are located within the harbour. The Ardglass industry also buys in approximately 50% of Portavogie landings and 20% of Kilkeel landings for processing locally. At first sale value these imports amounted to approximately £1 million in 1978.

3. THE NEED FOR IMPROVEMENT OF BERTHS

3.1 The loss of traditional fishing grounds to the British deep sea fishing fleet and the need to conserve fish stock within the nearwater areas has enhanced the economic importance of the inshore fishing industry. The measures taken to conserve stock and regulate the industry now undoubtedly demand a high level of efficiency on the part of the Northern Ireland fishermen.

3.2 The Authority is conscious of the need to contribute to the effectiveness of the local processing industry by providing an adequate harbour not only to maintain the landings at their present level but also thereby to encourage the local community to retain the skills and experience of the industry thus providing the foundations for possible expansion in the future. The Authority is also aware of the increasing value of catches being landed by Northern Ireland boats outside Northern Ireland and is concerned that a considerable percentage of this trade is being lost owing to the inadequacy of Ardglass harbour.

3.3 One of the most important requirements of any fishing harbour is the provision of a safe haven with adequate berths for the landing of catches and the accommodation of the fleet. At Ardglass insufficient shelter is given by the present breakwater to permit the efficient working of the facilities and provide safe accommodation for vessels using the harbour in adverse weather conditions. During these conditions or the imminent forecast of such conditions, landings cease at Ardglass disrupting the input through the processing plants. To a limited extent shortages are made up from possible higher landings at Portavogie at the expense of fuel and transportation costs. Moreover in adverse weather conditions some of the boats which traditionally land at Ardglass choose to divert to Peel, where there is shelter from Southerly winds and catches are then completely lost to the local market.

3.4 The catches landed by Northern Ireland boats in the Isle of Man average about 3000 tons per annum, with a value of £1.5 million in 1977.

3.5 Another important requirement of a fishing harbour is the ability for the boats to land the catch quickly and safely into a market and immediately proceed to a safe berth for the night.

3.6 In Ardglass the lack of shelter from Southerly winds, even in moderate conditions, causes difficulties in landing as the fish market quay is exposed to the wave front being refracted around the breakwater pier. Vessels having landed their catch and lying at the breakwater pier suffer from chafing damage to the hull by large fender piles placed for the purpose of fending boats off protruding foundation blocks.

3.7 Frequently in marginal weather conditions boats which normally land at Ardglass are reluctant to risk being damaged and will often, after landing their catches, proceed to a more sheltered port to lie up for the night. This results in an increased consumption of fuel which in turn affects the economy of the fishing effort.

3.8 During adverse weather conditions local Ardglass boats, of which there are eight, seek shelter in the North Harbour or Sawpit where, because of the lack of water, their departure to the fishing grounds being governed by the tides can result in the loss of fishing time.

4. THE SCHEMES EXAMINED

The Authority, at its meeting on 21st April 1978, appointed a sub committee to continue the study of the problem of how to remedy the situation. In addition to the cost limitation, the sub-committee was requested to take into consideration the effectiveness of the various schemes; the need to keep the harbour operational during construction and the amount of financial flexibility which could be built into each scheme. The following schemes were considered by the sub committee.

4.1 Deepening of the Sawpit

This was rejected in that it would provide only moderate shelter for a limited number of boats. In a prolonged south easterly gale the height of the wave entering the Sawpit is as much as four feet and could not be reduced to an acceptable level of one foot or less without further major works.

4.2 Deepening of the North Harbour

Although offering an acceptable level of shelter, the idea was rejected on the grounds that it would entail a costly dredging operation in rock and would be distant from the main harbour facilities located in the South Harbour.

4.3 Whole South Harbour enclosed and fitted with lock gates

This would have made a completely sheltered dock and would eliminate the need for major deepening works. A continuing drawback would be the time consumed locking vessels through the gates required by this type of system. It was however rejected on the grounds that the estimated cost of between £4/5 million (1974) could not be justified.

4.4 Removal of fender piles on South Pier

This was suggested to relieve the chafing problem until such times as a breakwater was built. It was rejected on the grounds that the estimated cost in 1978 at £86,000 was prohibitive and the work would be unnecessary if adequate shelter could be provided.

4.5 Landing Jetty

To alleviate the problems caused by lack of quay space, particularly during the herring landing season, the Authority investigated the provision of a landing jetty and found it to be a practicable short term solution to this lack of quay space although not solving the problem of inadequate shelter. Funds for the project were sought in the Authority's list of Optimum Requirements submitted to the Department of Agriculture in 1976 at an

estimated cost of £144,000. (Updated in 1978 to £200,000), but, because of curtailment of funds, the propsal was deferred.

4.6 South Pier Extension

This was included in the Authority's five year minor works programme submitted in February 1974. Owing to the curtailment of funds it had to be omitted from that programme. The sub committee has, however, concluded that the provision of adequate shelter within the South Harbour, by means of an extension, is the essential factor necessary in fulfilling this objective.

The feasibility of extending the pier in such a manner not only to provide the required shelter but to fulfill any need for increased quay space as in scheme 4.5 was found to be practicable and the Authority considered this scheme to be worthy of more comprehensive investigation.

The sub committee then studied the report prepared in 1963 by Department of Finance engineers (Report on Model Investigations of Ardglass Harbour). It concluded that it would be desireable to seek consultants advice, not only on the extent of works required but also the phasing of such works and the pro rata benefit achieved by each phase.

Dr. I.G. Doran & Partners, Consulting Civil and Structural Engineers were appointed and briefed as follows:-

(a) The work to include the investigation of a scheme to provide adequate shelter for fishing boats using the present facilities in the South Harbour and not exceeding say £500/600,000 including all fees.

(b) The scheme should be sufficiently flexible to allow the progress of works to be adjusted so that expenditure could be extended over a three year period if necessary.

(c) Works should be so planned to achieve a reasonable pro rata ratio between expenditure and any reduction of the proposed works which may become necessary owing to financial limitations.

5.1 Dr. Doran & Partners report concluded that the Model Investigation proved that extensions to the South Pier gave a greater degree of shelter over expenditure than other schemes studied. The effectiveness is greatly dependent on the length of extension but is not significantly affected by different angles of alignment.

The sub committee took into consideration the recent deepening of the harbour, the method of berthing, the method of landing catches, the fendering, the size of vessels using the harbour and attendance on the boats during lie up periods. It was concluded that an acceptable height of wave in the harbour should not exceed one foot during gale conditions and it was evident this could be achieved by an extension to the pier as stated in The Report.

5.2 The most effective solution would be an extension of 300 feet so constructed to permit vehicular access and fitted out to provide additional berths. However, the sub committee recommends that funds be sought only for an extension of 100 feet in the first instance. The reasoning behind this recommendation being as follows:-

(a) The benefits of the 100 foot extension could be closely monitored. Wave heights could be compared with those in the model experiment and an assessment made of the extent of necessary future work to achieve the ultimate desired effect.

(b) The cost of 100 feet extensions would fall within the grant allowances for the annual minor works programme.

(c) The sub committee feels that in justifying these improvements the Authority should be financially involved as is the case in all minor works projects.

5.3 In making this recommendation the sub committee is aware of the fact that the method of construction will be either concrete blockwork or piled construction costing approximately £200,000 per 100 foot length.

The concrete blockwork method has the advantage in having the flexibility of being progressed both in summer and winter work.

5.4 Although the first 100 foot extension will not satisfy fully the need for more berths and a wave height of less than one foot, it will nevertheless, improve conditions to a considerable extent. The pro rata benefits will accrue as works progress and when the ultimate desired effect is reached boats will no longer be obliged to seek berths in other ports or run the risk of being 'neaped' in the North Harbour when the weather forecase demands this action. This should result in a considerable saving of fuel and an increase in fishing time. The risk to life and limb and the present hazards resulting in damage to boats moored in the harbour will be substantially reduced. In moderate weather conditions boats will be able to enter the port and safely land their catch at the Fish Market. An important additional benefit would be the increase in quay length which will ensure safe overnight berths within the deepened part of the harbour for 31 boats.

5.5 It is estimated that on average Ardglass is at present unusable for 11% of the fishing year because of weather conditions and in addition to this there is a reluctance to make use of the port during unfavourable weather forecasts.

5.6 The landings at Ardglass have, over the years, shown a healthy increase in both value and tonnage. This is an indication of the popularity of the port with its long established traditions and connections with the fishermen and the fishing industry. If the proposed works are undertaken, it is anticipated that landings will increase by attracting part of the catch now landed at Peel during adverse weather conditions. The improved landings and conditions should also stimulate further investment in the local processing industry by ensuring a constant supply o- fish landings. There would also be benefits derived from savings in operating and main-

tenance costs. Expansion of the local fleet would be encouraged by providing adequate and secure berthing facilities.

6. CONCLUSIONS

The sub committee recommends that this report should be read in conjunction with the Model Investigation Study and Dr. Doran's report. The proposed initial expenditure could be considered as the foundation on which confidence in the future of Ardglass as a fishing port can be built.

It should be made known to the industry that the Authority is aware of the need to continue to improve Ardglass as circumstances permit so as to encourage expansion and provide the necessary stimulant in attracting new business to the harbour and the industry.

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