SEA FISH INDUSTRY AUTHORITY
Industrial Development Unit

THE FISHING INDUSTRY OF THE SOUTH WEST OF ENGLAND
A BUSINESS STUDY

Internal Report No. 1264

August 1984
(Revised January 1986)
R.J.A. Nicholson

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SUMMARY

The SW of England Fishery is enjoying the benefits of growth due mainly to the opportunties presented by the sale of fresh fish and shellfish to the Continent. On average, prices for fresh fish are 60-70% higher than say on the NE Coast of England, which does not have the more highly valued species with the advantages for export to the Continent.

The local processing industry, however, is small and there is very little in terms of added value products.

A cloud on the horizon is the growing competition for available stocks of fish by the beamer, deep water and the inshore fleets. It is essential that effective regional management is introduced to allow a fair opportunity for all through strict quota management.

Mackerel is an important income source for the South West and a long term strategy is needed to help the industry take full advantage of this. There is an apparent willingness by all parties to try to achieve this and it is possible the SFIA can help in this matter. Other opportunities which could be developed further are dogfish, pilchards and sprats.

The facilities in the South West are generally very good with several good harbours and landing places. The market auction halls at the two main ports of Brixham and Newlyn are contrasted and clearly there is room for improvement at Newlyn if it is to maintain its present growth.

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1. INTRODUCTION

This report is intended as an information document to form part of the National picture of the industry. It is one of a series of studies carried out by the S.F.I.A. into regional fisheries in the U.K. on behalf of the Ministry of Agriculture, Fisheries and Food (M.A.F.F.) as part of the 1984-85 R&D Commission.

The terms of reference for the study were to report on the current state of the region's infrastructure covering the catching sector, the port markets and processors, distribution and organisational structure, identifying problems which, currently or in the future,could inhibit the region's development.

In carrying out the work, evidence was taken from the leading processors in this area, fishing vessel owners and trade associations, harbour authorities and Government laboratories and offices. Information has also been taken from current statistical data provided by M.A.F.F. and S.F.I.A.(FERU).

The region studied covers an area extending from Lyme Regis, Dorset through to Lands End, Cornwall and on the North Coast to Port Isaac (see Fig. 1). Within this area the fishing industry is divided commercially into two sectors centred on the two major fish markets of Brixham and Newlyn. Consequently the study analysis is based on the characteristics of these two major marketing/distribution areas.

2. REGIONAL CHARACTERISTICS

2.1 Fishing Ports

Within the major fishing ports of the South-West region (Fig. 1) are two which handle over 10,000 tonnes per annum or more, these being Falmouth (41,800 tonnes) and Plymouth (16,000 tonnes). Both these ports are geared to servicing the pelagic fleets, as over 85% of the fish landed is pelagic, i.e. mackerel.

Newlyn and Brixham handle between 9,500 and 7,500 tonnes respectively per year, 60% of which is demersal fish.

Of the large number of smaller harbours and coves within the region, Looe, Mevagissey and Padstow are the principle landing points with fish landings of between 1,000 - 2,000 tonnes per annum.

The major port characteristics of the region are outlined as follows:-

2.1.1 Brixham

The port of Brixham (Fig. 2), one of the most modern harbours in the S.W. region, possesses a good anchorage in the outer harbour, covering an area of 108 acres. The inner tidal harbour covers an area of 8 acres.

The new fish quay has berths totalling 830ft, and vessels drawing up to 15ft can be accommodated at all states of the tides. After unloading, some vessels move off the quay to moorings in the outer harbourage. There is a slipway and grid irons where minor repairs on vessels up to 90ft can be undertaken. Water, provisions and oil bunker are obtainable.

Harbour dues are levied as a percentage of vessel's grossings - the current rate is 2.5%.

2.1.2 Plymouth

Anchorage is available in Plymouth Sound for all classes of fishing vessels; certain areas have 30ft of water at M.L.W.S. and nowhere does the depth decrease below 12ft at that state of tide.

Of the three harbours within the Port of Plymouth, Cattewater, Sutton and Millbay Docks, the fishing industry is principally concentrated in the Sutton Harbour (Fig. 3). Though seasonally, Millbay Docks are utilised for pelagic landings.

Sutton Harbour

Situated West of Cattewater, the entrance to Sutton Harbour is 100ft wide and opens onto some 4600ft of quayage with depths ranging from 21ft - 23ft alongside at M.H.W.S. to 5ft at M.L.W.S. It has been the base of the Plymouth fishing industry for many years and its owners, Sutton Harbour Improvement Co., continue to recognise the industry's importance, though a substantial area, comprising a yacht marina is now given over the pleasure craft.

Plymouth's indigenous fleet is concentrated around the Barbican area, on which is sited the Fish Market. Available quayage measures some 900ft, and the area is heavily congested (Fig. 16). The midwater trawlers, during the winter fishery, unload at Lockyer's Quay (383ft). Congestion invariably occurs here, although when the adjoining Baylis Wharf is not in use by the coal yard, the unloading operations can be extended a further 485ft. At M.L.W.S. the depth of water at Lockyer's Quay falls to 5ft, thus inhibiting the movement of vessels, an frequent occurrence with pelagic landings.

Millbay Docks

An Associated British Ports dock with an outer tidal area and an inner basin enclosed by dock gates (Fig.4), the total length of operational quay is 6910ft. The depth of water in the outer harbour is 28ft at M.L.W.S., whereas the average depth in the inner basin is maintained at 22ft increasing to 30ft in places.

It had been the ABP's original policy to restrict usage in the port to the more traditional commercial trade of timber, paper, scrap iron, etc., and the Plymouth-Roscoff ferry, which berth on the West Wharf. In recent years the ABP have encourgaged a far wider trade usage, which during the SW mackerel "boom period" saw developments in the port by R.Duncan & Sons and Plymouth Fish Selling, a subsidiary of Salvesens. Since the restriction of catching mackerel in the SW, the dock has now reverted to being solely a berthing quay for visiting fishing vessels.

2.1.3 Looe

Looe harbour is situated at the mouth of Looe River, some 14 miles along the coast from Plymouth. The entrance is 150ft wide between natural rocks on the West and a breakwater pier on the east. The whole harbour, including the entrance, dries out at M.L.W.N. but has a depth of up to 10ft at M.H.W.N. (15ft at M.H.W.S.). There is 200ft of berthing space available on the western side, but the fishing sector is concentrated on the East Quay, which is some 1000ft in length. Water and some bunkering are available here, known locally as East Looe.

The fish market provides facilities for chill storage, and direct sales to the public from merchants premises sited on the market, otherwise the market is used as a packing station where quantities of fish are packed and despatched for sale onto the Brixham/Plymouth markets.

2.1.4 Polperro

A small, drying out harbour appoximately four miles west of Looe, with a protective outer wall and quay space of 160ft. Vessels can go alongside the quay for 3 hours either side of M.H.W.

As with Looe, the majority of fish landed is packed and forwarded onto the Brixham or Plymouth market for sale.

2.1.5 Mevagissey

A scheduled fishery harbour owned by Harbour Trustees, consisting of inner and outer harbours of 2 and 4 acres respectively. There are deep water approaches and a depth at the entrance of 10ft at M.L.W.S. (27ft at M.H.W.S.) although once inside the bottom shelves quickly in all directions, and the inner harbour can dry out completely.

The "Fish Market", in reality now only a packing station, lies in the western corner of the inner harbour with adjacent quay space of some 330ft.

Pelagic trawlers, circa 50ft in length, can use the quays for approximately 4 hours either side of M.H.W. Congestion occurs and it is common practice to unload catches across the decks of other vessels, alternatively in the outer area there is a quay of 240ft in length accessible at all states of the tide. There are no slipping facilities and the number of moorings is restricted.

Space on land is also at a premium. The town of Mevagissey has been built around the harbour and road access is extremely difficult. After being packed and iced, fish is transported out of the town on 10 tonne lorries to a rendezvous for reloading into larger vehicles. Mevagissey Fishermen Limited, a cooperative organisation found in December 1965, sells all catches, including mackerel, direct to Brixham and Torbay Fish Limited, the Brixham cooperative.

2.1.6 Falmouth

Falmouth, (Fig. 4) one of the world's largest natural harbours, with unlimited anchorage in Falmouth Bay and Carrick Roads, provides quay space for the fishing industry.

There are two Port Authorities - Falmouth Harbour Commissioners and Falmouth Docks & Engineering Co., and the best facilities are to be found in the dock area, though the Dock company have never shown a willingness to admit the fishing industry on a practical scale.

The depth at the harbour entrance is 48ft at M.L.W.S. while the entrance channel from Carrick Roads to the Docks has a depth of 19ft. Within the dock complex is 8,500ft of quay space capable of accommodating vessels drawing 30ft at low water. Covered and open storage exceeds 70 acres; there are 4 dry docks, 40 assorted cranes and ready supplies of oil and water. In addition to repairs, the Dock company is mainly concerned with the handling of the following cargoes:- coal, refined oil products, cement, grain and explosives.

Fish is landed in commercial quantities at three other quays in the harbour, all of which are under the jurisdiction of Falmouth Harbour Commissioners; these are Harris Quay; Coastlines Quay and Flushing Quay (Fig. 5). In addition, small amounts of mackerel are landed further upstream at Penryn and Mylor, both of which are tidal. No other quays in the harbour have proven suitable for the industry.

2.1.7 Newlyn

The entrance to the Newlyn harbour is 150ft wide with a depth of 10ft at M.L.W.S., it is tidal with an enclosed water area of 33 acres at H.W.

The main North Pier has a length of 1,760ft, this has been supplemented by a recent major port development (see Fig. 5) which has seen the development of an additional jetty giving deeper water berthage facilities. The development also provides a major improvement in the port's lorry/car parking facilities.

The fish market is situated at the N.W. end of the harbour, where there is only a few feet of water at high tide; thus the larger vessels must always, and the smaller ones frequently, land their catches on the North Pier and bring them to the market by truck. This double handling is expensive and undesirable. The roads around the harbour are narrow and access is poor for the vehicles servicing the market.

Harbour Commission charges are levied on an "ad valorem" basis on first-hand sale of the vessel's catch. The current rate is 2.5% of the vessel's grossings.

Ice production facilities available in the port area are estimated at approximately 150 tonnes per day of flake ice.

2.2 Fleet Analysis

The fishing fleet operating in the region covers the broad cross-section of the UK fleet size range from deep-water vessels of 26m to under 10 metre. The location of the regional fleet and total number of boats actually engaged in fishing is estimated in Table 1 at 644.

The fishing fleet in the S.W. region consists of 62 beam/trawler vessels, 27% of which are operating out of Newlyn, the balance in the Brixham sector. Of these vessels 25 are of 80ft or more.

The trawling sector of the fleet consists of 167 vessels, 8 of which are over 80ft in length. The majority of this section of the fleet (81%) are operational from ports in the Brixham/Plymouth sector of the region.

The net, line, potting fleet of 87 vessels are equally distributed over ports all along the coast.

The total regional fleet of over 10 metres in length is estimated at 344 vessels, but this is equally matched by an estimated 300 vessels, of less than 10 metres, actively engaged in fishing.

An additional number of vessels of less than 10 metres are engaged on a part-time basis within the regional fishery but numbers are not available.

The major operational sector, of the less than 10 metres fleet is centered around the Newlyn area where 271 vessels are estimated to be fully dependent on fishing as their major source of income. Half of these fishermen (153) are members of the Cornish Fishermen's Producer Organisation (C.F.P.O.).

The length group analysis within the C.F.P.O. membership (Table 2) highlights that 67% of the P.O.'s membership operate vessels of less than 10 metres (32ft), the majority of which lie within the 16ft to 30ft length group.

2.3 Landings

The following statistics from MAFF show the landings in terms of value and tonnage for 1982 and 1983.

	Tonnes					Revenue				
	1982		1983		Move-ment	1982		1983		Move-ment
		%		%	%	£'000	%	£'000	%	%
Demersal	15671	19.6	15455	17.9	- 1.4	13658.3	59.2	14955.2	58.1	+ 9.5
Pelagic	59090	74.1	64634	75.1	+ 9.4	5363.3	23.3	5751.3	22.3	+ 7.2
Shellfish	5035	6.3	6030	7.0	+19.8	4038.4	17.5	5049.2	19.6	+25.0
	79796	100.0	86119	100.0	+ 7.9	23060.0	100.0	25755.7	100.0	+11.7

(Source: MAFF)

The landings of demersal, pelagic and shellfish species in the South West region during 1982 amounted to 79,796 tonnes, or 10.3% of all landings by British vessels in the U.K. (Table 3).

The total landings contributed an income to the regional fleet of £23.06 million which represents 8.8% of the total revenue from U.K. British vessel landings.

The 1983 total landings (shown in greater detail in Table 4) within the region indicated a marked increase both in volume and price. The weight landed increased in total by 7.9% to 86,119 tonnes over 1982 landings, whilst the total income showed a 71.7% increase to £25.8 million. On analysis, the demersal tonnage declined marginally by 1.4% but this was more than compensated by a 9.5% increase in first-hand market prices.

Pelagic landings in 1983 showed a 5,000 tonne increase on the 1982 landings. Unfortunately, the market was unable to respond to the extra volume landed as the quayside market price declined by 2.0%.

Shellfish landings during 1983 increased dramatically by 19.8% to 6,030 tonnes. The market price, despite the increase of volume onto the market, remained buoyant providing a 4.4% price increase on first-hand sales to give a gross increase in revenue from shellfish of 25%.

Although the mackerel stocks generated the volume throughput within the region, accounting for 46,673 tonnes of the 1982 landings, it was the high species mix of up-market demersal stocks that yielded the major source of income. Unlike other U.K. regions examined prior to this study the South West maintains its demersal income source, not through reliance on volume, but by exploitation of the Continental markets for the high priced, top quality, stocks of sole, monk, hake, etc.

The analysis of landings in Tables 3-6 illustrate the sectional strengths of the two major marketing centres geared commercially around Newlyn and Brixham. The smaller ports along the north and south coast have been allocated in these tables to the respective centre to which the port predominately consigns its fish.

The demersal stocks whilst contributing approximately 16,000 tonnes are evenly allocated through the two marketing areas and generate an income of between £6 and £7 million to each sector (Tables 3 and 4). The composition of income from demersal landings in each area is however different. The Newlyn/Cornish sector generates most of its income from the demersal stocks of monk, skate and hake, supported by supplies of sole, dog fish and other mixed species. The Devon/Brixham sector derives its demersal income principally from the sole stocks supplemented by income from plaice, lemon sole, whiting and other mixed species.

Pelagic landings are principally within the Cornish sector with 71% (42,045 tonnes) of the regions pelagic stocks being landed in this area, chiefly through Falmouth which in 1982 handled 38,258 tonnes, most of which was mackerel. Pelagic landings generated a regional income source of approximately £5.4 million with £4 million being contributed into the Cornish area.

The mackerel stock is the major income source to a large sector of the under 10 metres class of inshore/longshore fleet, particularly within the area from the Lizard to Lands End, where in most cases it represents 90% of that fleet's income.

The pelagic sprat and pilchard stocks give an additional boost to the regions mackerel income. These stocks are largely landed in the Devon sector, though 33% of the pilchard landings were landed in the Cornish sector principally at Falmouth.

The SW region's stock of shellfish, whilst contributing only 6% of the total volume landed into the region, is of major importance as a regional income source. The principal shellfish stock within the region is crab producing landings of 3228 tonnes. The crab stock not only represents 64% of the regions shellfish landings but constitutes 38% of all the total UK crab landings in 1982. Due to the size and quality of the crab landed within the region it generates a premium price on the market, which is reflected by the £1.9 million total income or 45% share of the total 1982 UK crab, first-hand sale, market (Table 7).

The crab is of particular importance to the regional inshore fleet, with major landings in the Devon sector, centred on the River Dart and Salcombe areas. These areas command approximately 65% of the regions crab landings (Table 7).

Scallop stocks yielded 1140 tonnes during 1982 (Tables 5 and 6), which, although 28% below the peak 1981 landings, gave a welcome income contribution to the beam/trawl fleet. Plymouth in particular benefited with 53% of the scallop catch being landed at the port. The two other major shellfish stocks in the region are lobster and squid both demanding a high product price on the market, particularly for the Continental market.

2.4 Analysis of Regional Landings and Fleets Income by Fishing Method

The fleet in the main can be analysed into three major groups of beamers, trawlers and inshore boats. These vessels employ a wide variation of fishing techniques to prosecute the S.W. region fishing grounds (Table 8).

The beam trawl fleet covers a wide range of horse power from 300 hp to 1700 hp, with the majority of the fleet operating vessels within the 600-700 hp range. The 300 hp beam trawler class of vessel does enjoy the advantage of being able to work the fishing grounds within the 12 mile limit, whereas beam trawlers over that horse power are prohibited from fishing within 12 miles of the coast.

The principal stock prosecuted by the beam trawl fleet is the 'pressure' stock species of sole. The sole stock is subject to the following quota within the EEC 1984 agreed quota limits:-

ICES VIIE - English Channel - West	710 tonnes
ICES VIID - English Channel - East	400 tonnes
ICES VIIF - Bristol Channel	350 tonnes

Whilst the sole quota is administered regionally by MAFF on a two monthly sectoral basis there is no individual quota allocated to a vessel. The restriction of sole to 10% of the vessel's catch is the only limiting factor on an individual boat basis. Boats under 10 metres are not subject to restrictions.

The mixture of fishing methods used by the S.W. fleet is illustrated in Table 8, this table analyses the landings by fishing method at the three principal ports of Newlyn, Plymouth and Brixham. Dependent on the fish stock and location the demersal landings are caught by a wide range of gears from beam trawls, otter trawls, gill nets, tangle and seine nets and lines. Pelagic fisheries are prosecuted by single trawl, pair trawl and purse seine.

The contribution to the regions' throughput and income by each fishing method at the three major ports is illustrated in Table 7. The analysis highlights the major role which each section of the fleet injects into the economy of the S.W.

The requirements of the two major demersal markets at Newlyn and Brixham highlight the need for the beam trawler fleet to maintain a continuity of supply onto each market, as each market obtains 30% and 48% respectively of its raw material supply from the beam trawl fleet. Currently these landings, with their highly sought after species mix, attract a strong buying force onto these markets which is advantageous to other sections of the fleet. The income contribution for this fleet is therefore vital to each port's economic survival. In the case of Newlyn, the beamer contributed 54% and Brixham 69% of the port's total income in 1983.

Whilst this fleet provides the economic base to the major markets in the S.W. it requires the strong combined support given by the 40ft to 79.9ft length group and under 10m inshore fleet using trawls, gill nets, lines, and pots to ensure the continuity and species variety that allows the different marketing outlets to remain viable to the S.W.

Newlyn, in particular, with its large inshore fleet, needs the back-up supply of demersal, pelagic and shellfish from the other sections of the fleet to guarantee that quality, variety of grade size and species are available on the market.

Brixham's trawler fleet, within the 40ft to 79.9ft length grouping, not only supplements the landings from the beamer fleet but with its landings of pelagic fish, contributes 38% of the port's throughput. The combined income generated from the trawl fleet in 1983 is estimated at 18% of the ports total income, a substantial contribution to the economy of that port.

Plymouth, economically, is heavily dependent on the supply of demersal landings from the trawler fleet as these landings contribute approx. 22% of the ports income. The scallop dredging and pelagic pair-trawl and purse seine fleets contribute 17% and 34% respectively towards the ports economy.

Whilst each sector of the fishing fleet in the South West region are important in their own right it is the combination of their efforts that gives the region its marketing strength, and on which its future economic survival is dependent. This is more than illustrated in Table 8 where the regional income source is shown to be derived from not any one species or sector of fish stock. It is the combined skill of each group of fishermen, utilising a wide variety of fishing techniques, that provides the continuity and variety of supply necessary to enable the S.W region to maintain its progressive marketing strategy.

2.5 Analysis of Landings by Species Mix

2.5.1 Demersal Species

Table 9 highlights the wide range of species caught and landed in the S.W. region. No one species dominates the demersal landings, unlike other regions previously examined where either haddock, cod, plaice or whiting have dominated the market.

Although demersal fish is not landed in high volume, the range of species, particularly sole, monk fish, hake etc. do contribute a high income return per tonne landed for example:-

	£/tonne
Sole	2900
Monk	1600
Hake	1164
Plaice	560
Cod	597

The higher income source for the demersal fish in the S.W. region is directly related to the excellent marketing links the region has established with the Continental markets particularly the French and Spanish markets through the ferry links of Plymouth - Roscoff and Portsmouth - St Malo. These markets offer a higher mark-up than the UK market for certain size grades of sole, monk fish, hake, witches, ling, etc.

The average price received in 1982 for demersal fish landed within the region was about £871 per tonne. In comparison the N.E. England, a region which also enjoys a high species mix but which is dominated by cod supplies for the UK market, had an average price of £515/tonne. The S.W. region, there- fore, enjoys 69% higher average prices over the N.E. During 1983 the average price per tonne of demersal fish increased by 11.0% to £967.66 per tonne.

2.5.2 Pelagic Species

Pelagic landings, unlike demersal landings, are dominated by one species - mackerel, accounting for 79% of all landings and contributing 81% of revenue.

Dinstinct market outlets for mackerel, dependent on both size grading and oil content, have developed. The line caught/larger sized mackerel is ideal for the fresh consumer market, both in the U.K. and on the Continent. Consequently this quality and size grade of mackerel can demand a quayside market price in the region of £350/tonne.

Trawl caught mackerel of medium/large size is directed more towards the added-value smoked market and sells at the quayside at between £200 - £250 per tonne. Smaller/medium sized trawled mackerel is sought by canners, and smoked pate manufacturers at a market price in the region of £100 - £150 per tonne.

The bulk of the mackerel landings which, in the main, are caught by the purse seiner and pair/trawler fleets, is directed at the "Klondyke" market at a price of about £80 per tonne. In addition to these outlets, mackerel is eagerly sought after in the S.W. by the lining fleet for use as bait.

The total revenue contributed by mackerel was £4.4 million in 1982, an average of approximately £94 per tonne reflecting the dominance of the Klondyke market in 1982.

Pilchard landings of 5440 tonnes in 1982 obtained an average market price of £69 per tonne. The principal outlet for this species is the canned and paste/spread processors. Currently, through the marketing efforts of local processors, continental market outlets for pressed and barrelled fish, previously available for drift net caught pilchards, are being revived. These buyers are demanding a quality, large, undamaged pilchard and are prepared to pay £100 - £120 per tonne at the quayside.

Sprat landings amounting to 4,235 tonnes in 1982 commanded an average quayside price of £92 per tonne. The market for S.W. sprat is directed at the fresh Scandanavian market, the frozen whole fish market of Belgium and West Germany, and the home canning market.

Since this report was compiled, regulations have been brought in which severly restrict the fishing effort for mackerel in the S.W. ICES areas VII and VIII (EC zone). All fishing by vessels of 10m or over registered length other than handline fishing, in now restricted to licensed vessels. Within an area designated as the 'mackerel box', see Fig. 9, catches are restricted on a weekly basis irrespective of the size of vessel.

Licensed vessels are prohibited from fishing within 6 miles of the coasts of the SW counties and islands during daylight hours, i.e. during the period of activity of the handliners.

Transshipping ports are limited and designated and licensed vessels must seek permission from the local inspector of fisheries prior to commencement of fishing: References - Sea Fish Licensing order 1983 (Sl 1983 No.1206) and (Sl 1982 No.80) (MAFF), also EC Regulation 2931/83 (OJ L288).

2.5.3 Shellfish

Shellfish landings, dominated by crab, reached a peak in terms of volume of crab landed in 1979 (Figure 7), yet despite increased fishing effort by additional boats prosecuting the stock and in some cases boats utilising 2 to 3 times the number of crab pots, the catch has declined in total weight landed by approximately 30% to 3,228 tonnes. Current fishing returns of vessels indicate the pressure which this stock is now under by the fact that 69% of all crab landings are of small cock crabs.

The larger crab of the South Devon coast does command a higher average market price per tonne than crab landings on the North coast. By comparison the Padstow average price is £505 per tonne and the River Dart price is £649 per tonne, a premium of 28%.

2.6 Quayside Market Facilities in the South West

The two major quayside market centres of Newlyn and Brixham provide a contrast in market hall structure. The Newlyn market hall is badly in need of replacement, as the current auction hall is completely inadequate for accommodating daily landings, without multiple auctions. The approach road onto the market for both supply into and out of the market is very restricted (Fig. 5). The majority of vessels land at quaysides away from the market onto vehicles etc. which then move the vessel's catch into the auction hall via the main throughroad in Newlyn then through a one-sided entrance into the market hall. The removal of fish sold off the market to merchants premises etc., is again back through the same main road entrance onto merchant's vehicles. The movement of fish prior to, during and after the auction causes considerable traffic congestion within the area.

The antiquated hall provides very limited chill room or hygenic holding facilities, consequently vessels are unable to enter the dock, offload into a market chill room, and immediately re-sail. Catches from the fleet of boats of less than 10m length, landed at coves and small harbours, have to be held locally overnight then delivered onto Newlyn market the next day.

Brixham, in contrast, enjoys a modern, hygenic, cost effective auction hall which includes chill holding facilities. These facilities not only assist the vessels' operating efficiency but ensure that the fish landed maintains product quality and market appeal.

Unfortunately the immediate approach to and from the Brixham market from the main highway is also very restricted due to the geographical location of the market and harbour, consequently at auction sale time the distribution away from the area is very difficult. Due to the lack of parking facilities for buyers vehicles, the introduction of a relief road on reclaimed land, extending from Freshwater Quarry, along the lines proposed in the 1973 Brixham Marina Complex proposal, would greatly alleviate the situation and allow a one-way traffic flow system to be introduced.

2.7 Processing and Distribution

The number of major merchants and processors within the S.W. region is estimated to be in the region of 30, evenly distributed between Cornwall and Devon. The major quayside markets at Newlyn and Brixham have approximately 10 major buyers each, but in the case of Brixham a large number of mobile van salesmen are also active buyers.

The Brixham market is dominated by the Brixham and Torbay Fish Selling Company (BTF). This fisherman's organisation, formed in 1971, has made a major contribution to the development of markets to maximise the potential of fish landed in the S.W. The company has developed a subsidiary organisation by the incorporation of the former Cornish Fishermen Ltd., in Looe, Mevagissey, Padstow, Falmouth and Newlyn, and now employs approximately 250 employees in total.

The services provided by B.T.F. in the smaller ports, i.e. Padstow etc. makes a major contribution to the economic survival of these ports.

As 80-90% of all demersal fish purchased is exported onto the predominatly fresh whole fish Continental market, a re-grading and packing operation is required. Thus very little added-value processing takes place within the region.

The major added-value processing undertaken in this area is in the main related to the pelagic landings, i.e. mackerel, pilchard and herring stocks and is centered around smoking, salting, canning and paste/pate production.

The added-value processing of shellfish is in the main geared to the crab stocks (Cancer pagarus) and is centered around the Devon sector of the region. The product processed is of excellent quality but is restricted in its marketing within the UK, though an attractive export market is being developed with Scandanavian countries. There is limited processing of spider crabs (Maia squinada) for the holiday trade though most of these landings are exported by vivier truck to France or Spain.

A major restriction to developing added-value demersal products is the problem of continuity of supply coupled with the very limited freezing capacity available within the region, particularly for producing IQF single frozen fillets.

The freezing capacity available is in the main geared to blast freezing of pelagic stocks, but this is inadequate to cope with heavy seasonal pelagic landings and is therefore of little support to the added-value processor seeking to maintain holding stocks to preserve continuity of supply over a twelve month period.

The back-up of cold storage for fish products within the region is estimated at 4.3 million cubic feet (Table 10) and therefore could not handle a major development in frozen fish production. Currently to obtain any large storage capacity requires the product to be transhipped into the Avon, Dorset, Somerset area where an additional 8 million cubic feet of storage is available. Unfortunately fish or fish products have to compete with agricultural products for cold storage space at these centres.

Shipphams who are one of the major fish canners in the UK, currently has its potential productivity severely curtailed by old, low efficiency equipment. To replace the equipment with modern cost-effective production lines would be expensive. Nevertheless, company investment funding could be made available providing the investor had some fish supply guarantee, particularly from the SW mackerel stock.

The development of a shore based added value processing unit for mackerel as distinct to supplying Klondyker vessels, or continental markets with the whole fish is necessary to preserve and develop the long-term fishing infrastructure within the South West. A high-speed cost effective canning line utilising mackerel, pilchard, sprat or herring could develop strong marketing links within the European, UK and American markets.

The uncertainty of raw material pelagic supply is not only preventing investment, but is raising serious doubts about the continuation of added-value fish processing in Newlyn or the SW. The predominant supply is from bulk fishing vessels, i.e. trawlers or purse seiners not geared to supply limited quantities. A revival of drift netting could provide the type of supply required.

The withdrawal of a major processor of Shipphams' standing in the SW would not only have a major effect on employment in the Newlyn area, but also it would have a major side-effect on the whole of the SW industry. This company absorbs unsold fish at quayside markets and has the ability to utilise this class of fish in its fish paste product lines thus providing a useful contribution towards the fishermen's income.

South West region trade is dominated by fresh whole-fish exports with 80% to 90% of all landings from demersal stocks being directed onto the Continent via the roll-on/off services at Plymouth and Portsmouth.

UK market distribution is provided principally by two or three major hauliers operating out of Newlyn and Brixham, who operate fresh fish delivery services into the major English fish wholesale markets with the northern limit reaching Leeds/Manchester. The distribution network within the UK is illustrated in Figure 6. Limited distribution is undertaken direct to retail outlets, by these hauliers but this is mainly within the S.W. area.

An active fish van-sales distribution servicing the region is centred on Brixham and to a lesser extent Newlyn and other SW ports.

2.8 Spanish EC Fishing Effort

Since this report was compiled, the entry of Spain to the EEC has been confirmed. Spain has always directed a large fishing effort in waters to the S.W. of Britain although, like France, she has operated a mainly offshore fishery more in competition with the now defunct Milford Haven fishery than with vessels from the S.W. Neverthless, European markets available to S.W. fishermen, particularly in France and Spain, will in the course of time become more competitive. In particular the market for hake mainly fished by gillnet boats in Cornwall will be affected.

The terms of Spanish accession as they affect the CFP allow for aonly a gradual increase of fishing activity in EC waters. Neverthless the problem of increasing competition will have to be faced in the longer term.

3. S.W. REGIONAL ORGANISATIONAL STRUCTURE

The organisational structure of the S.W. regional fishery is outlined in Figure 8. This structure outlined allows all the various regional fishing sectors to have an effective representation at local level.

In Cornwall, the Cornish Fish Producer Organisation (CFPO), funded by a levy of 0.25% on grossings, through its strong affiliation with the individual port and inshore fishermen's federations allows the individual fisherman to make representation should he so wish. Likewise, on the processing side, the Newlyn Fish Merchants Association caters for the needs of the buoyant merchanting sector in that area, but little representation is made by either side at meetings of the other, even though individual decisions taken may be relevant to both sides of the industry.

The Devon sector, through the combined representation of the S.W. Producer Organisation and the Brixham and Torbay Fish Limited, a fishermen's cooperative, has an equally strong representation.

Unfortunately, collectively as a region, the lack of co-operation and co-ordination between the region's sectoral representative bodies counteracts the benefits of the strong local organisations structure available to the S.W. industry. Consequently the fragmentation of interest between sectors reduces any impact which the S.W. region might have at a National or International level.

4. COMMENTS

4.1 To maintain the long-term viability of the fishing industry in the South West region it is essential that effective regional management is introduced to control fish stocks and the prosecution of those stocks by the S.W. fleet.

4.2 It is of the utmost urgency that the S.W. fishing industry exerts strict quota management control over which section of its fleet catches what and where.

This is necessary to allow a viable income source to be maintained for the all sectors, viz:

a) Inshore/cove fishermen
b) Trawler fleet
c) Small h.p. beamer fleet
d) Large h.p. beamer fleet

4.3 The management of its limited stock resources has, in the past, been well respected by local fishermen, until:-

1) The emergence of mackerel as a major income source for other UK and Continental fleets

2) The entry of higher powered beam trawlers into the Brixham fleet

These vessels, with their high-level of operating costs, cannot sustain their economic viability on the existing S.W. fishery with its current pressure stock quotas.

4.4 The combined effect of these two factors when married to the imposition of quotas on "pressure stocks" has restricted the income opportunities of the fleet. Consequently, the requirement to maintain their income level has forced vessel operators to diversify onto grounds traditionally fished by other sections of the fleet. The knock-on effect of this encroachment has had a serious effect on the trawling and inshore sectors within the S.W. fleet as in turn their income opportunities have been severely restricted.

4.5 Severe economic pressures on the Cornish inshore fishing communities also highlights the social problem which is inter-related to the economic situation. The decline of income to this section of the community could ultimately force people to move away from the fishing cove to seek a viable income. Socially this would have a traumatic effect on the existence of small centres of population.

4.6 In view of the high dependence on mackerel as an income source to the S.W. fishing community, it is essential that a long-term marketing strategy be developed to exploit this stock and provide a secure financial base for the S.W. region's fishing industry. The willingness of the local fleet to provide a controlled supply of raw material to an added-value process is now apparent. The ability to raise capital funding to develop added-value processing is also there, but the stumbling block is the inability to get quota arrangments flexible enough to support such a venture, and a complete lack of long-term marketing strategy to develop a viable market.

The introduction of a specific mackerel quota for the local fleet would not only give the trawl fleet an income opportunity, but also allow the Cornish inshore fleet an opportunity to ease its economic pressures and allow a consequent reduction in overfishing on shellfish stocks.

4.7 The high horse-powered beam trawl fleet should be encouraged to diversify its fishing effort onto the North Sea plaice stocks, presently underfished by UK vessels, in order to supplement its income.

4.8 The basis for the calculation of the UK allocation within the EEC sole stock quota, should be reviewed in relation to current catching effort available within the S.W. region. Efforts should be made to establish quota rights on the Bay of Biscay sole stock.

4.9 Line fishing should be developed, supported by a centralised bait-hire service. The Producer Organisations should consider the economic viability of providing a centralised service to provide baited lines to the fishermen. This development could greatly encourage line fisheries development.

4.10 SFIA marketing effort should be encouraged to promote UK markets for S.W. supplies of dogfish, pilchard, and sprats in particular.

4.11 Regional fisheries management should be co-ordinated through a joint P.O./SFIA regional fisheries committee.

4.12 Market infrastructure investment is urgently required at Newlyn to maintain quality of product and improve cost effectiveness of the port's distribution system.

THE MAJOR FISHING PORTS OF THE SOUTH-WEST

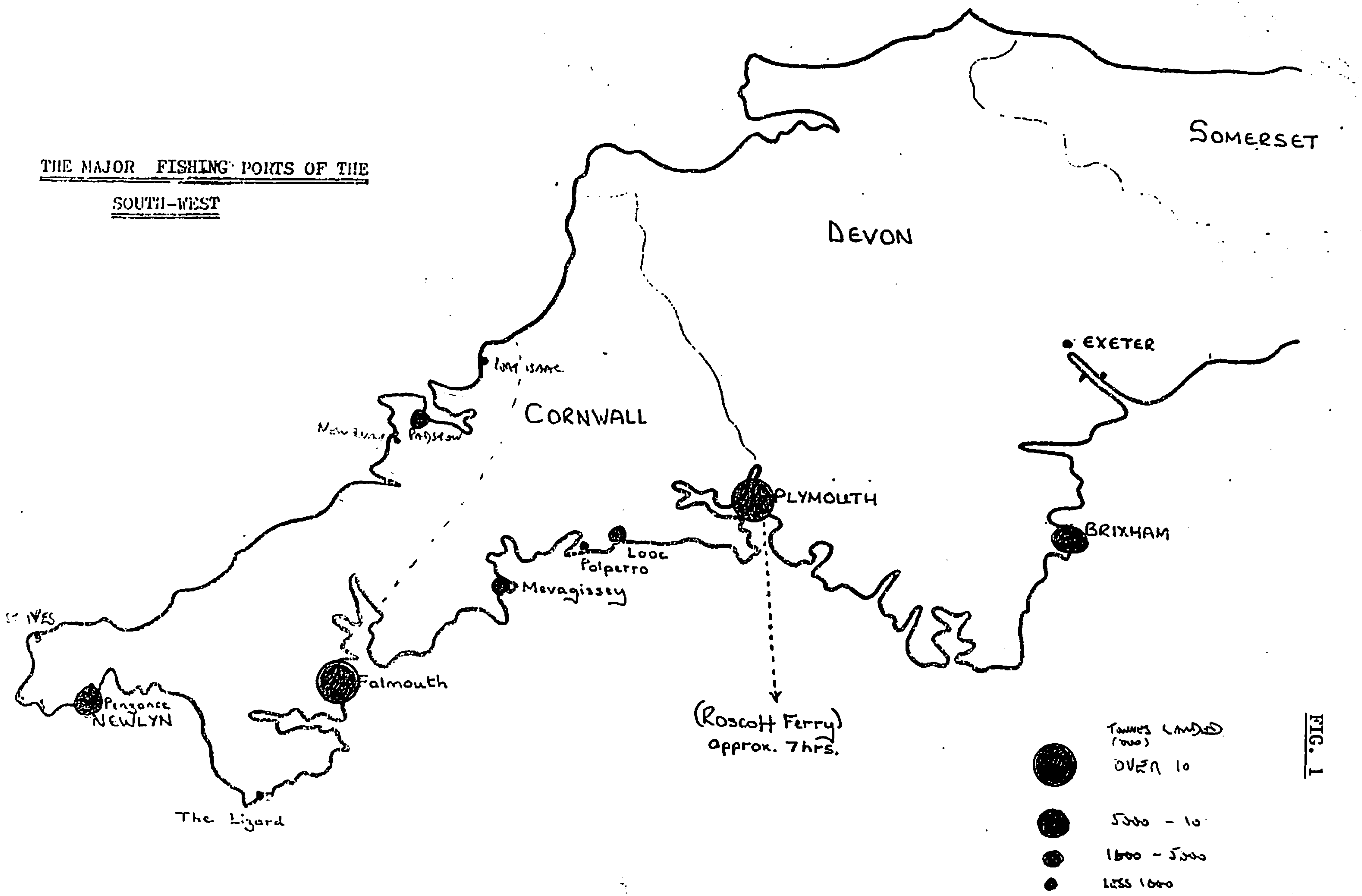


FIG. 1

FIG. 2

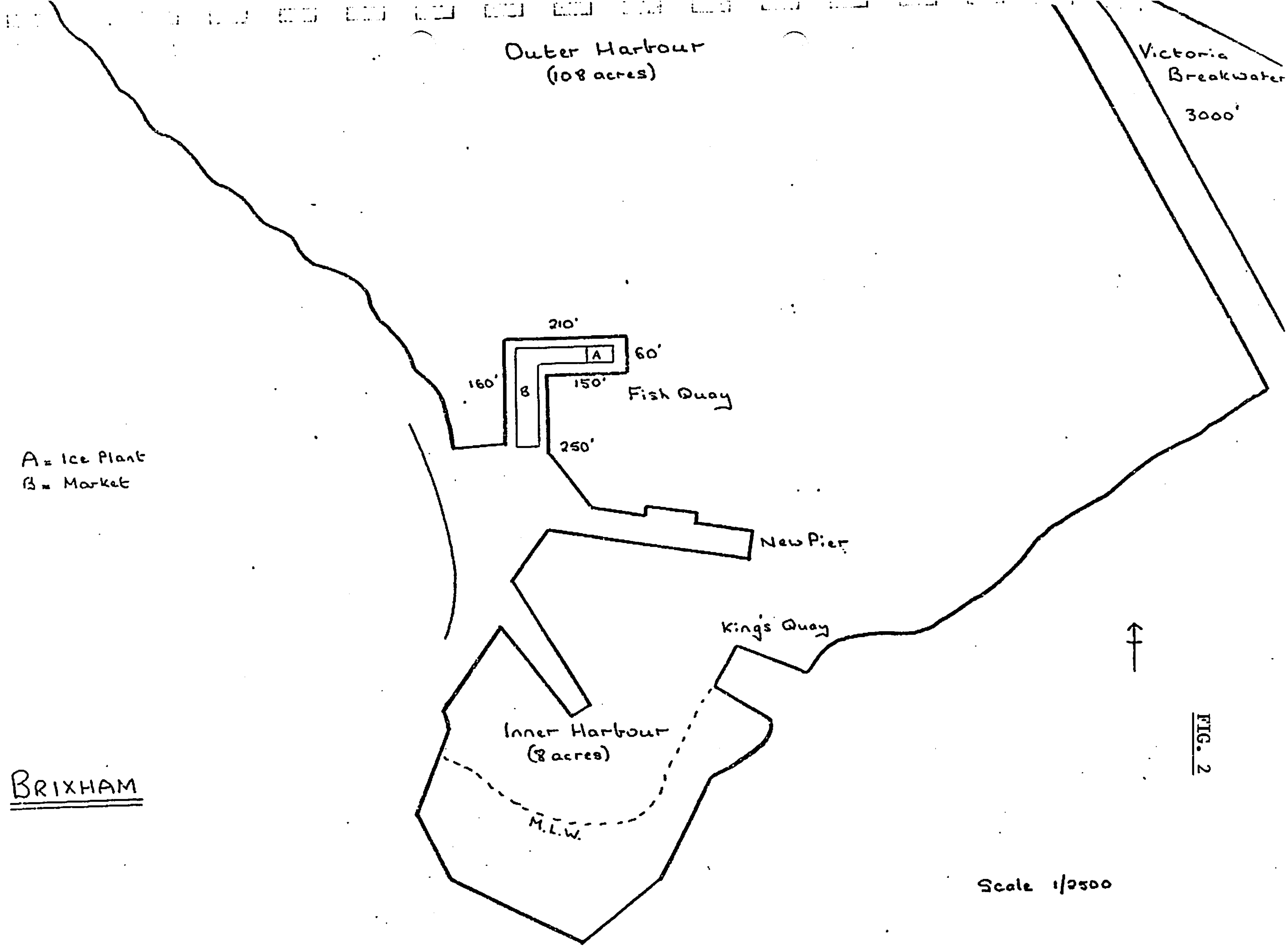

Outer Harbour
(108 acres)
Victoria
Breakwater
3000'
210'
60'
A
160'
B
150'
Fish Quay
250'
New Pier
King's Quay
Inner Harbour
(8 acres)
M.L.W.
A = Ice Plant
B = Market
BRIXHAM
Scale 1/2500

FIG. 3

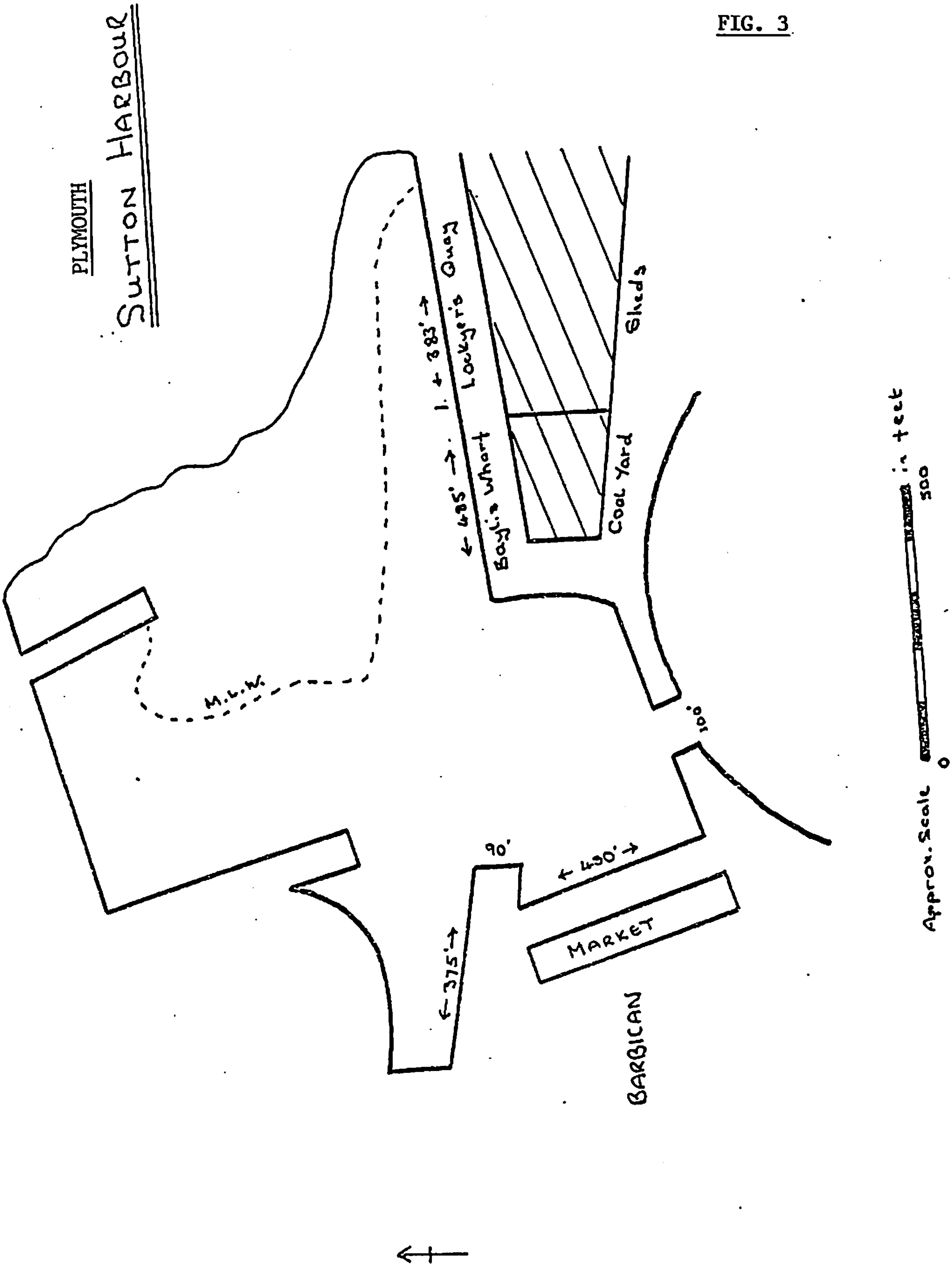
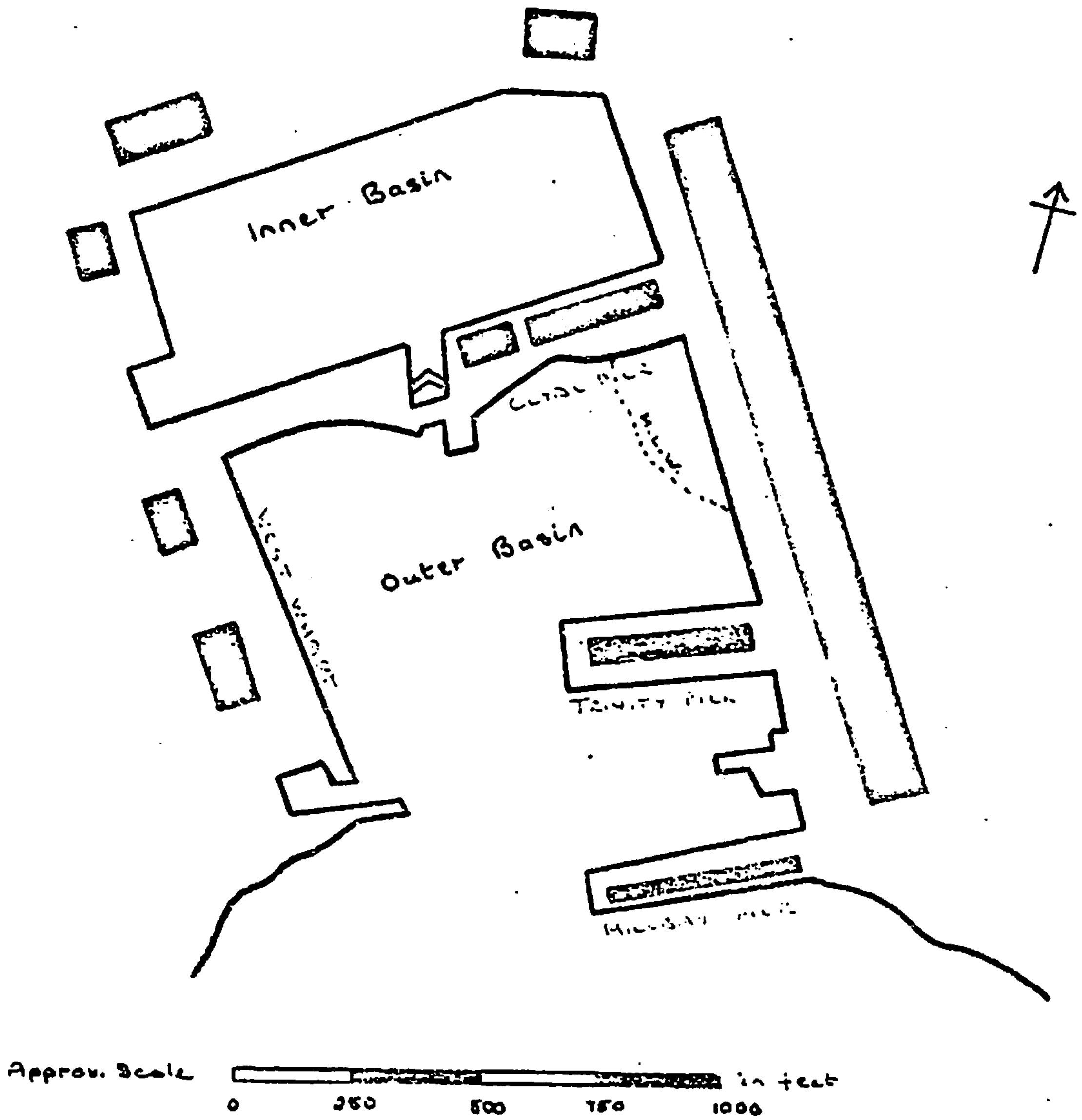

PLYMOUTH
SUTTON HARBOUR
Lockyer's Quay
383'
Sheds
485'
Bayly's Wharf
Coal Yard
M.L.W.
100'
90'
430'
375'
MARKET
BARBICAN
Approx. Scale in feet
0
500

FIG. 3a

PLYMOUTH MILLBAY DOCKS



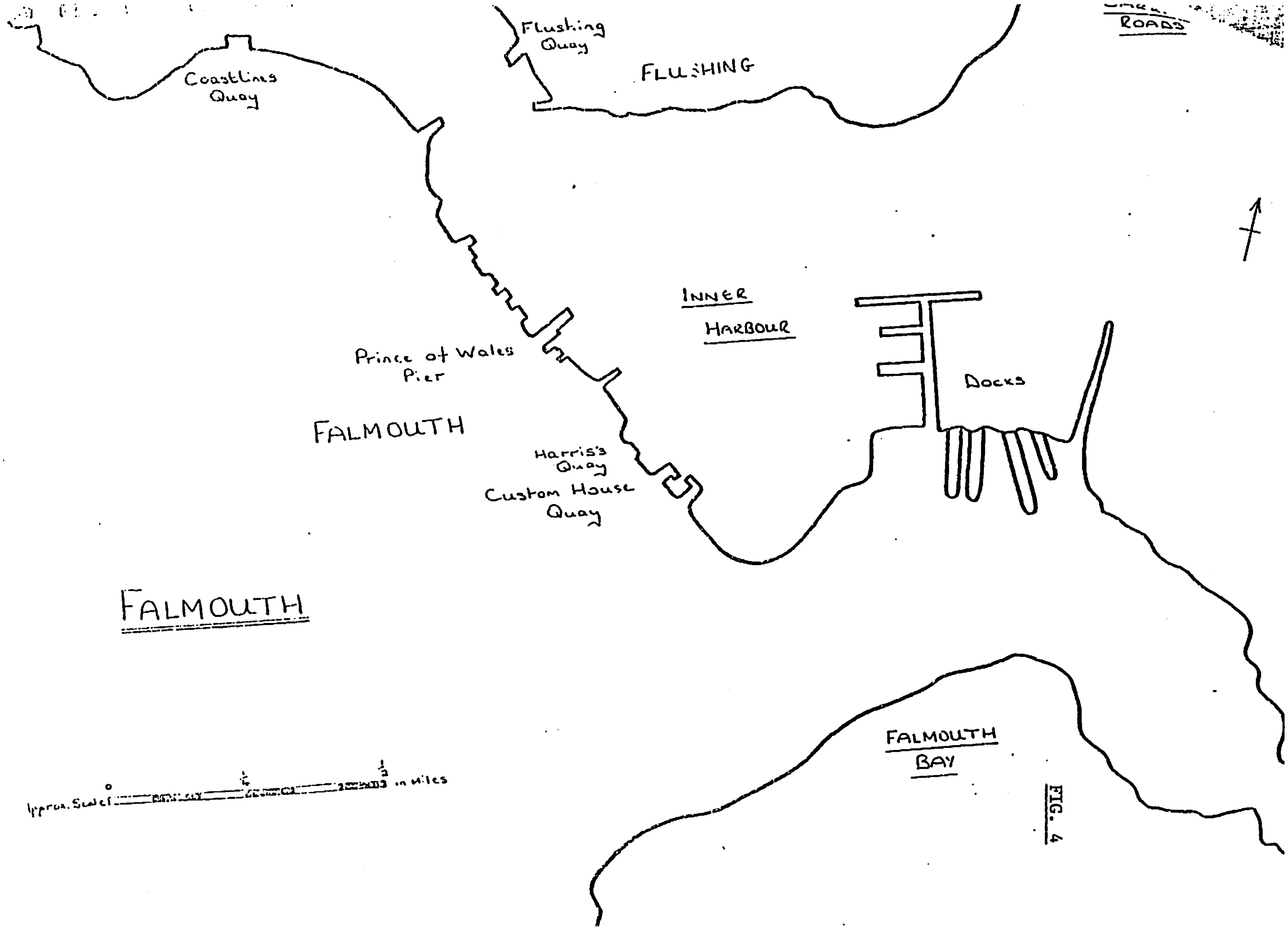

ROADS
Flushing Quay
FLUSHING
Coastlines Quay
INNER HARBOUR
Docks
Prince of Wales Pier
FALMOUTH
Harris's Quay
Custom House Quay
FALMOUTH
FALMOUTH BAY
0
¼
½
in miles

FIG. 4

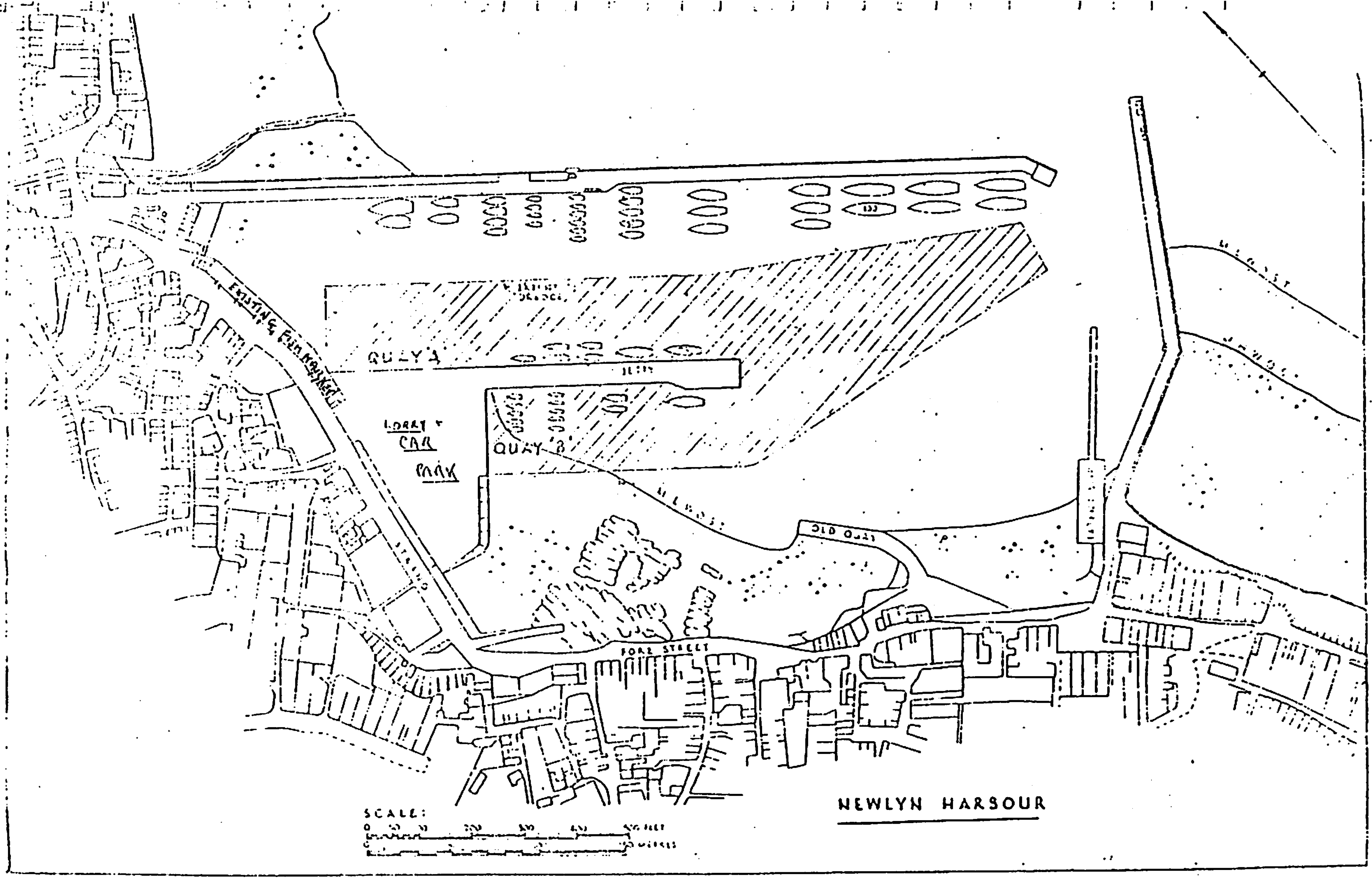

NEWLYN HARSOUR
SCALE:
EXISTING FISH MARKET
QUAY A
QUAY 'B'
JETTY
LORRY & CAR PARK
OLD QUAY
FORE STREET
STRAND

FIG. 5

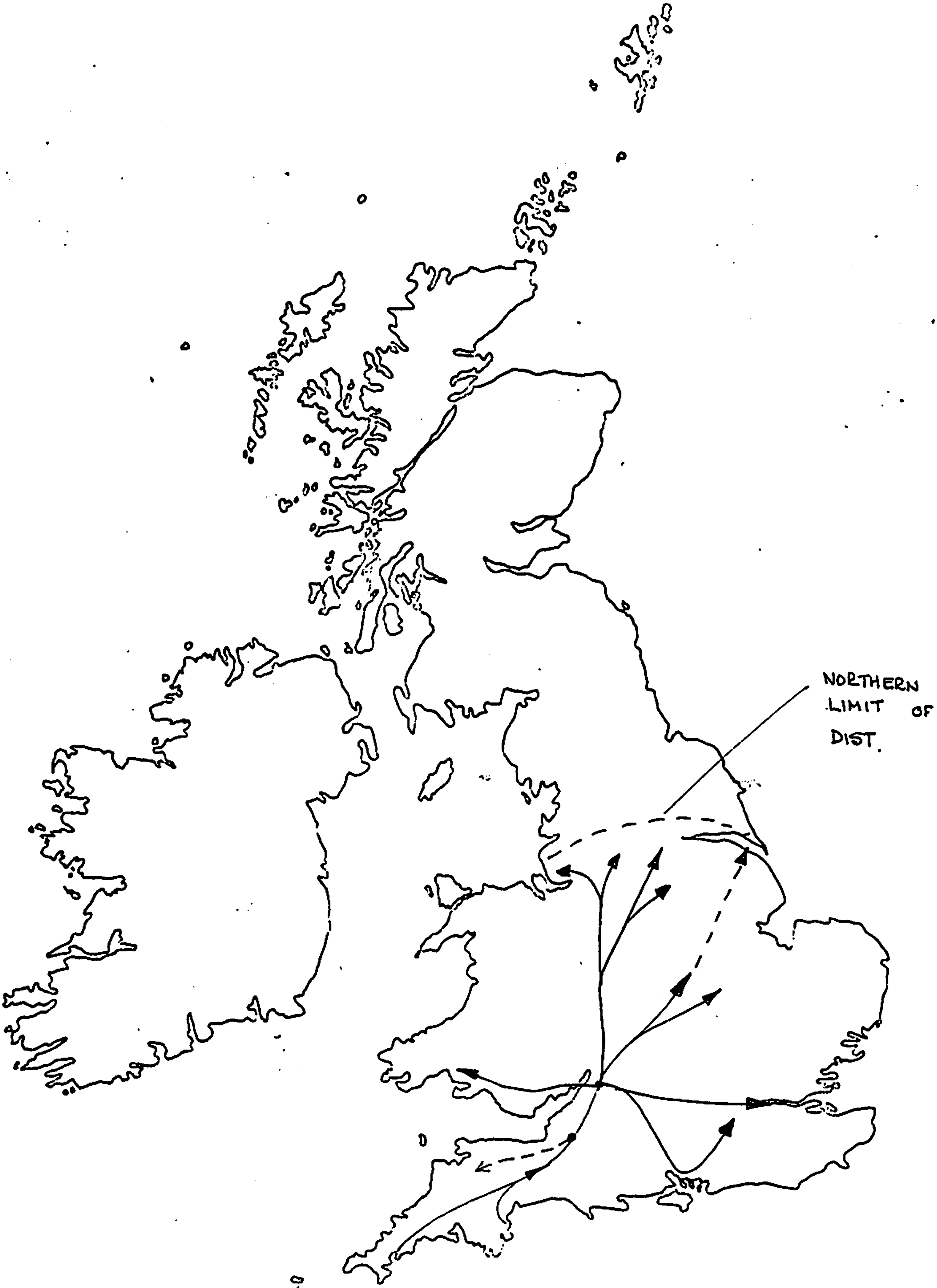


FIG. 6 DISTRIBUTION ROUTES FROM NEWLYN / BRIXHAM

FIG. 7 CRAB LANDINGS IN THE S.W. (tonnes) (Source: M.A.F.F.)

Figure 8

SOUTH WEST REGION FISHERIES ORGANISATIONAL STRUCTURE

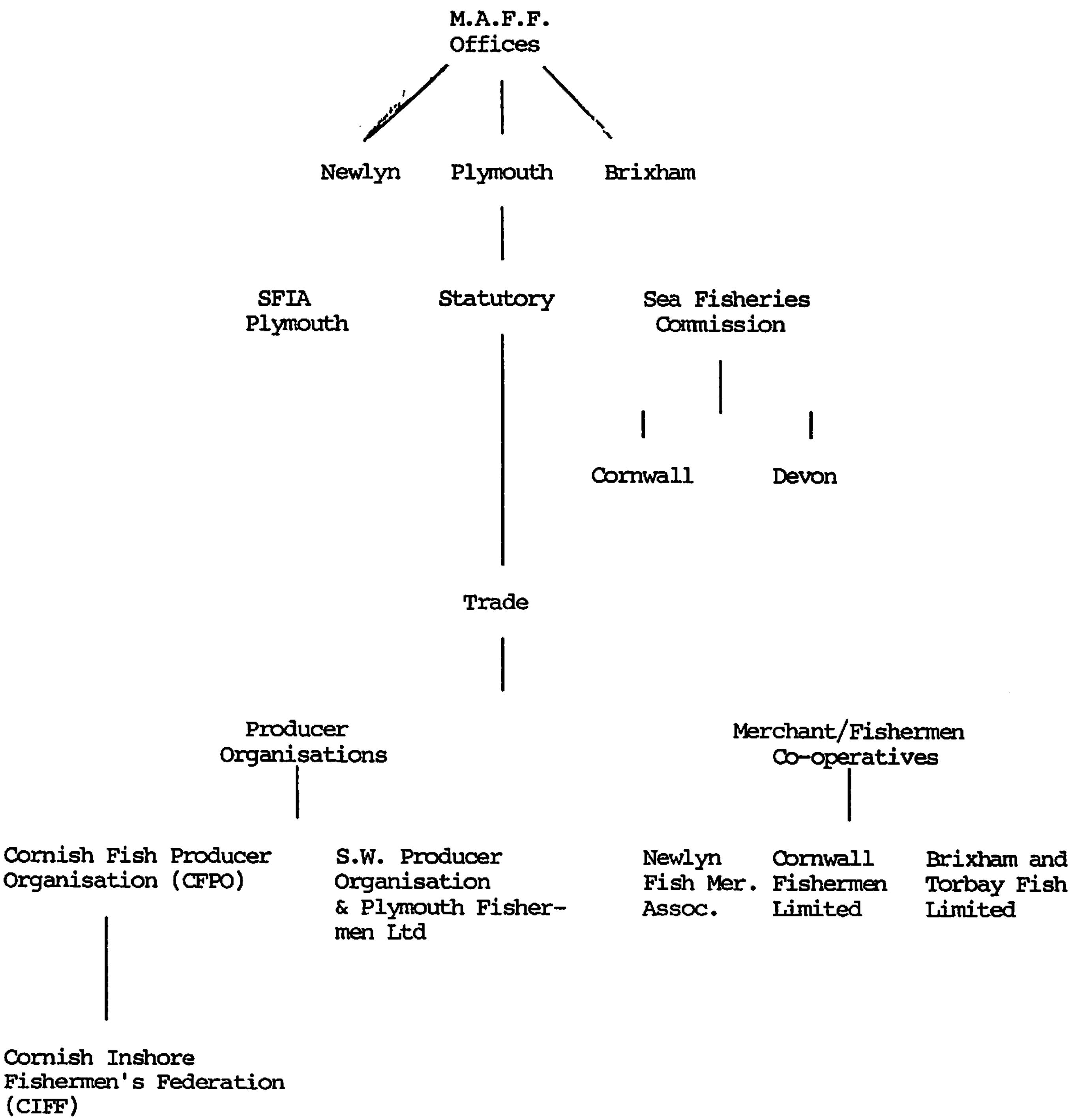


FIG. 9 South West'Mackerel Box'

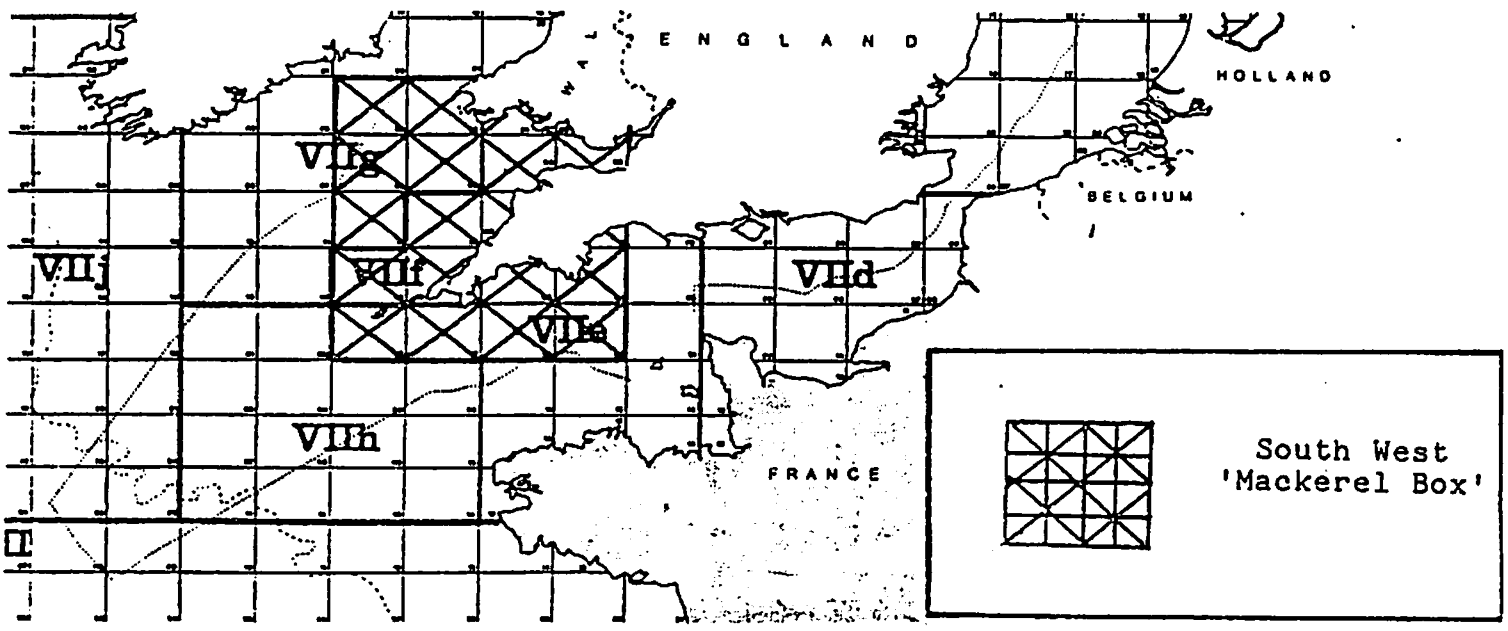


TABLE 1

SUMMARY OF FLEET - S.W. REGION 1983

Fishing Method	Newlyn & District	N. Coast	Brixham & District	Total
Beamer & dredger	17		45	62
Trawler etc.	32		135	167
Gill net	28			28
Net/Line/Pot	25	31	31	87
Total over 10m	102	31	211	344
Under 10m:-				
Members CFPO	132	18	3	153
Non-Members	139		8	147
Total	373	49	222	644

	LENGTH GROUP										
	North Coast		Newlyn & District			Brixham & District			TOTAL		
	40 - 79.9	Under 40	Over 80ft	40 - 79.9	U/40	Over 80ft	40 - 79.9	U/40	Over 80ft	40 - 79.9	U/40
Beamer/ Dredge			6	11		19	26		25	37	
Trawl				32		8	127		8	159	
Other	31	18		53	271		31	11		115	300
	31	18	6	96	271	27	184	11	33	311	300

(Source: MAFF, SFIA, CFPO)

TABLE 2

ANALYSIS OF LENGTH GROUPS OPERATIONAL WITHIN THE CFPO LTD. MEMBERSHIP - May 1984

Length Group	No.	%
11-15ft	10	4.7
16-20ft	40	18.8
21-25ft	34	16.0
26-30ft	37	17.4
31-32ft	21	9.8
Total Under 10m	142	66.7
Over 10m		
33-35ft	14	6.6
36-39ft	16	7.5
40-45ft	10	4.7
46-50ft	4	1.9
51-55ft	4	1.9
56-60ft	3	1.4
61-65ft	-	-
66-70ft	6	2.8
71-75ft	4	1.9
76-79ft	4	1.8
	65	30.5
80-85ft	2	1.0
86-90ft	1	.4
91-95ft	3	1.4
	71	33.3
Total Membership	213	100.0

(Source: CFPO)

TABLE 3

SUMMARY OF S.W. REGIONS LANDINGS - 1982

£'s	Demersal	Pelagic	Shellfish	Total £
Cornwall Sector				
St Ives	101,048	27,178	94,510	222,736
Newlyn	5,149,170	486,224	501,883	6,137,277
Cadgwith	3,208	1,334	124,773	129,315
Falmouth	978,988	3,327,591	91,484	4,398,063
Helford River	-	-	73,534	73,534
Scilly Isles	44,561	-	79,864	124,425
Porthleven/Lamogna	-	62,235	49,571	111,806
	6,276,975	3,904,562	1,015,619	11,197,156
Devon Sector				
Padstow	275,329	12,591	171,150	459,070
Newquay	31,344	-	75,729	107,073
Port Isaac	23,500	-	126,699	150,199
Appledore/Bideford	1,053	823	-	1,876
	331,226	13,414	373,578	718,218
Salcombe	4,922	3	458,960	463,885
Looe	614,575	63,939	137,214	815,728
Polperro	46,690	15,304	12,638	74,632
Mevagissey	279,181	56,693	20,810	356,684
Brixham	4,349,369	182,567	435,725	4,967,661
Plymouth	1,722,825	860,273	631,271	3,214,369
Exmouth	7,632	18	1,450	9,100
Teignmouth/Torquay	5,046	213,117	46,861	265,024
River Dart	-	53,407	866,132	919,539
West Bay/Lyme/Beer	19,876	13	38,154	58,043
	7,381,342	1,458,748	3,022,793	11,862,883
TOTAL REGIONAL INCOME £'s	13,658,317	5,363,310	4,038,412	23,060,039
	59.2%	23.3%	17.5%	100%
TOTAL REGIONAL TONNAGE LANDED	15,671	59,090	5,035	79,796
	19.6%	74.1%	6.3%	
Av. Price/Tonne	£871.57	£93.24	£802.07	£294.78

TABLE 4

SUMMARY OF S.W. REGIONS LANDINGS - 1983

	DEMERSAL		PELAGIC		SHELLFISH		TOTAL £	
Cornwall	Tonnes	£'000	Tonnes	£'000	Tonnes	£'000	Tonnes	£'000
St Ives	117	84.05	82	14.70	73	144.05	272	242.80
Newlyn	5633	5345.40	2849	402.30	872	797.20	9354	6544.90
Cadgwith etc.	4	4.66	2	.28	82	77.31	88	82.25
Falmouth	1029	733.71	40710	3482.05	123	98.12	41862	4313.88
Lamorna Area	8	24.58	297	43.75	17	26.84	322	95.17
Porthleven					14	16.43	14	16.43
Helford River								
Scilly Isles	64	38.32			14	60.20	78	98.42
	104	126.54	69	7.67	51	42.74	224	176.95
	6959	6357.16	44009	3950.75	1246	1262.89	52214	11570.80
North Coast								
Padstow	793	513.69	13	2.86	168	183.61	974	700.16
Newquay	18	14.58			100	62.68	118	77.26
Port Isaac	73	32.68	6	1.15	72	121.82	151	155.65
Appledore/Bideford	94	84.64	1	.28	1	1.13	96	86.05
	978	645.59	20	4.29	341	369.24	1339	1019.12
South Coast								
Salcombe	7	6.60	1	.16	414	276.85	422	283.61
Looe	1004	930.30	597	133.77	193	232.92	1794	1296.99
Polperro	83	81.72	190	43.81	16	17.67	289	143.20
Mevagissey	558	324.28	595	101.03	16	20.91	1169	446.22
Brixham	4427	5099.00	1817	217.30	1324	929.30	7568	6245.60
Plymouth	1308	1393.30	14139	936.40	851	733.60	16298	3063.30
Exmouth	8	4.75					8	4.75
Teignmouth/Torquay	43	52.69	1245	148.76	42	38.55	1330	240.00
West Bay/Lyme/Beer	80	59.79	2017	214.47	75	54.94	2172	329.20
River Dart			4	.52	1512	1112.38	1516	1112.90
	7518	7952.43	20605	1796.22	4443	3417.12	32566	13165.77
TOTAL	15455	14955.18	64634	5751.26	6030	5049.25	86119	25755.69
INCREASE/DECREASE ON 1982	-1.38%	+9.50%	+7.23%	+7.23%	+19.76%	+25.02%	+7.92%	+11.69%
Av. Price/Tonne		£967.66		£88.98		£837.35		£299.07
Price Increase on 1982		11.0%		(4.8%)		4.4%		1.5%

(Source: MAFF)

TABLE 5

ANALYSIS OF LANDINGS IN REGION
SOUTH WEST - NEWLYN REGIONAL SECTOR

Tonnes - 1982

Demersal	Cod	Dabs	Dogs	Plaice	Monk/ Skate	Sole	Whiting	Hake	Other	Total
St Ives	3		84	8	28	1	1		34	159
Newlyn	260	19	1146	159	574	194	139	363	2733	6196
					396	223				
Cadgwith/ Coverack	-	-	-	-	-	-	-	-	2	2
Falmouth	48	2	89	21	76	51	124	208	650	1326
					48	9				
Scilly Isles	1	-	35	3	11	-	-	-	37	87
	312	21	1354	191	1133	478	264	571	3446	7770

Pelagic	Herring	Mackerel	Sprats	Horse Mackerel	Pilchards	Total
St Ives	-	124	-	-	-	124
Newlyn	2	3298		18	50	3368
Falmouth		34992	88	1424	1754	38258
Cadgwith	-	10	-	-	-	10
Lamorna/ Sennon/ Penberth	-	285	-	-	-	285
	2	38709	88	1442	1804	42045

Shellfish	Crabs	Lobster	Scallops	Nephrops	Squid	Other	Total
Newlyn	250	17	124	29	109	13	542
Falmouth	49	1	54	3	28		135
Cadgwith	162	7				2	171
Lamorna etc.	11	4					15
Porthleven	34	1				1	36
Helford River	120	1				1	122
Scilly Isles	2	10				7	19
	628	41	178	32	137	24	1040

TOTAL SEAFOOD SUPPLY	50855

TABLE 6

ANALYSIS OF LANDINGS IN SOUTH WEST REGION - BRIXHAM SECTOR - 1982

Tonnes

Demersal	Cod	Dabs	Dogs	Plaice	Skate	Lemon	Whiting	Hake	Other	Total
North Coast										
Padstow	10		194	19	42	30		7	94	396
Newquay	3		22		5			1	26	57
Port Isaac	11		42				6	6	3	68
Appledore										
Bideford					1					1
Total	24		258	19	48	30	6	14	123	522
South Coast										
Salcombe	1		1						7	9
Looe	17	19	4	91	29	4	215		463	842
Polperro	5		2	2	4	1	4		55	73
Mevagissey	48	3	10	8	10	2	21		371	473
Brixham	54	168	15	731	103 370	237 742	459	21	1041	3941
Plymouth	74	28	3	120	43 335	153 60	84	170	919	1989
Exmouth		1		1	3		3		5	13
Teignmouth/ Torquay				1		1	4		3	9
West Bay/Lyme/ Beer		1			6	2	2		19	30
Total	199	220	35	954	903	1202	792	191	2883	7379
TOTAL DEMERSAL	223	220	293	973	951	1232	798	205	3006	7901

Pelagic	Herring	Mackerel	Sprats	Horse Mackerel	Pilchards	Others	Total
Padstow			32				32
Appledore/ Bideford		8	4				12
		8	36				44
Plymouth	40	7024	442	738	3636		11880
River Dart			248			431	679
Looe	1	312				7	320
Polperro		79					79
Mevagissey		317				1	318
Teignmouth/ Torquay	20	3	2133				2156
Brixham	25	221	1288	35			1569
TOTAL PELAGIC	86	7964	4147	773	3636	439	17045

TABLE 6 Cont.

SOUTH WEST - BRIXHAM SECTOR - 1982

Shellfish	Crabs	Lobster	Scallops	Queens	Squid	Nephrops	Other	Total
					Tonnes			
North Coast								
Padstow	141	15	3		3		2	164
Port Isaac	57	18					1	76
Newquay	76	6					2	84
Total	274	39	3		3		5	324
South Coast								
Salcombe	751	3						754
Looe	2		6				110	118
Polperro	4		7				3	14
Mevagissey	11	1	13				4	29
West Bay/ Lyme/Beer	43							43
Teignmouth/ Torquay			64					64
River Dart	1235	11						1246
Brixham	124	2	266		188		2	582
Plymouth	156	4	603		55	3		821
Total	2326	21	959		243	3	119	3671
TOTAL SHELLFISH	2600	60	962		246	3	124	3995

TOTAL SEAFOOD SUPPLY		**28941**
TOTAL REGIONAL SUPPLY		**79796**

SUMMARY

			Tonnes	%
Demersal	Newlyn Area	7770		
	Brixham Area	7901	15671	19.6
Pelagic	Newlyn Area	42045		
	Brixham Area	17045	59090	74.1
Shellfish	Newlyn Area	1040		
	Brixham Area	3995	5035	6.3
			79796	100.0

TABLE 6 Cont.

SOUTH WEST - BRIXHAM SECTOR - 1982

Landings by region of Capture	ICES AREA					
	VIID & E English Channel		VIIF Bristol Channel		TOTAL D,E, & F	
	Tonnes	£'000	Tonnes	£'000	Tonnes	£'000
Demersal						
Total British Landings	10388	9905	3726	2558	14114	12463
Over 40ft Vessels	6368	6692	1663	1413	8031	8105
Pelagic						
Total British Landings	43821	3787	16254	1701	60075	5488

TABLE 7

1. S.W. Region Crab Landings - 1982 - 3228 tonnes 37.7%

2. Total U.K. Crab Landings - 1982 - 8568 tonnes 100.0%

3. S.W. Region Proportion of England/Wales Crab Landings - 59.7%

4. Crab - Value Landings in S.W. Region - 1982

Cornwall Sector	**£'000**	**%**
St Ives/Hayle	13.06	
Newlyn	123.33	
Cadgwith	85.96	
Falmouth	25.86	
Helford	63.31	
Scilly Isles	.83	
Porthleven/Lamourna	19.94	
	332.29	17.4
Devon Sector		
Padstow	71.28	
Newquay	33.08	
Port Isaac/Boscastle	29.26	
Appledore/Bideford	-	
	133.62	7.0
Salcombe	438.71	
Looe	.52	
Polperro	2.05	
Mevagissey	4.98	
Brixham	70.95	
Plymouth	90.38	
Exmouth	-	
Teignmouth/Torquay	-	
River Dart	801.17	
West Bay/Beer	37.63	
	1446.39	75.6
Total Regional Crab Income £'000	**1912.30**	**100.0**
Total UK Value Crab Landings £'000	4246.00	
S.W. % of UK Crab Landed Value	45.0%	
% of S.W. Regions Total Income	8.3%	

TABLE 8

ANALYSIS OF THE MAJOR PORTS LANDINGS - 1983

BY FISHING METHOD

Fishing Method	NEWLYN				BRIXHAM				PLYMOUTH			
	Tonnes	%	£'000	%	Tonnes	%	£'000	%	Tonnes	%	£'000	%
Beamer	2564.	30.1	3420.0	53.9	3915	48.4	4328.3	69.3	408.	2.5	421.5	13.8
Trawl	1345.	15.8	1145.9	18.1	3099	38.2	1130.6	18.1	867.	5.2	668.0	21.8
Gill net	1313.	15.4	749.7	11.8	21	.2	10.0	.1	55.	.3	47.3	1.6
Pair Trawl	123.	1.4	91.5	1.4	251	3.1	42.7	.7	9527.	57.9	705.6	23.0
Tangle	252.	3.0	158.5	2.5	1	.	1.0					
Anchor/FW/ Seine	1228.	14.4	258.9	4.1					214.	1.3	175.9	5.7
Line/Pot	1529.	18.1	398.0	6.3	165	2.1	117.2	1.9	412.	2.4	185.3	6.0
Dredge	152.	1.8	122.6	1.9	642	7.9	618.9	9.9	498.	3.0	511.4	16.7
Purse Seine									4478.	27.2	349.1	11.4
	8506.	100.0	6345.1	100.0	8094	100.0	6248.7	100.0	16459.	100.0	3064.1	100.0

TABLE 9

REGIONAL ANALYSIS BY SPECIES LANDED - 1982

SPECIES	TONNES				£('000)			
Demersal	N	B	TOTAL	%	N	B	TOTAL	%
Cod	312	223	535	.7	192.2	127.1	319.3	1.4
Dabs	21	220	241	.3	5.3	54.9	60.2	.2
Dogs	1354	293	1647	2.1	572.6	123.2	695.8	3.0
Plaice	191	973	1164	1.5	116.8	535.3	652.1	2.8
Monk	661	705	1366	1.7	1188.8	997.7	2186.5	9.5
Skate	472	246	718	.9	233.2	144.0	377.2	1.6
Sole	233	842	1075	1.3	759.3	2357.6	3116.9	13.5
Lemon	245	390	635	.8	248.3	502.9	751.2	3.3
Whiting	264	798	1062	1.3	89.5	222.6	312.1	1.4
Hake	571	205	776	1.0	812.9	290.4	903.3	3.9
Other	3446	3006	6452	8.1	2058.1	2025.6	4083.7	17.7
	7770	7901	15671	19.7	6277.0	7381.3	13658.3	59.2
Pelagic								
Herring	2	86	88	.1	1.0	21.4	22.4	.1
Mackerel	38709	7964	46673	58.5	3627.4	743.0	4370.4	19.0
Sprats	88	4147	4235	5.3	6.4	382.3	388.7	1.7
Horse Mack.	1442	773	2215	2.8	120.4	48.8	169.2	.7
Pilchards	1804	3636	5440	6.8	149.3	226.2	375.5	1.6
Other		439	439	.5		37.1	37.1	.2
	42045	17045	59090	74.0	3904.5	1458.8	5363.3	23.3
Shellfish								
Crabs	628	2600	3228	4.1	332.4	1580.1	1912.5	8.3
Lobster	41	60	101	.1	233.6	331.3	564.9	2.4
Scallops	178	962	1140	1.4	119.5	759.5	879.0	3.8
Queens								
Squid	137	246	383	.5	144.2	176.5	320.7	1.4
Nephrops	32	3	35		44.7	3.5	48.2	.2
Other	24	124	148	.2	141.2	171.9	313.1	1.4
	1040	3995	5035	6.3	1015.6	3022.6	4038.4	17.5
TOTAL SEAFOOD LANDED	50855	28941	79796	100.0	11197.1	11862.5	23060.0	100.0

TABLE 10

SOUTH WEST REGION - COLD STORAGE FACILITIES AVAILABLE TO THE REGION

a) CORNWALL

Public Storage:		Capacity ('000 cu.ft.)
Cornwall Cold Store	Truro	500
L. Doble Ltd.	St. Agnes	100
Private Storage		
Shipphams	Newlyn	100

b) DEVON

Plymouth Cold Stores Ltd	Plymouth	480
	Exeter	945
Tempco International Ltd	Cullompton	2200
S.W. Region - Storage Capacity		4325

c) Public Storage Capacity available in regions immediately adjacent to the South-West

DORSET		
Hunt's Frozen Foods (Sherbourne)	Sherbourne	1000
AVON		
Frigoscandia Ltd	Bristol	1600
Langdon Industries Ltd	Bristol	250
Tempco International Ltd	Bristol	1500
Union Cold Storage Co.	Avonmouth	1500
Western Ice & Cold Storage Co.	Bristol	100
Avonmouth Cold Store	Avonmouth	2000
SOMERSET		
Western Ice & Storage Co. Ltd.	Taunton	114
		8064