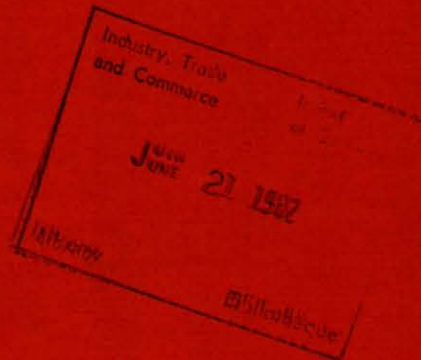


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ANNEX TO THE
**WORLDWIDE FISHERIES
MARKETING STUDY:**
PROSPECTS TO 1985

NORWAY



Government
of Canada

Gouvernement
du Canada

Fisheries
and Oceans

Pêches
et Océans

(This report is one of a series of country and species annexes to the main study
- entitled the Overview)

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D R A F T

Annex to the
Worldwide Fisheries Marketing Study:
Prospects to 1985

NORWAY

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Specifically, this Report would not have been possible without the cooperation and assistance of fishermen, processors, brokers, wholesalers, distributors, retailers, consumers and their organizations as well as government officials with whom we visited and interviewed. Though too numerous to mention separately, we would like to extend our sincere gratitude and appreciation.

The views expressed in this Study, however, are ours alone and reflect the Canadian perception of worldwide markets.

With regard to the overall Study, we would like to acknowledge:

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To all of the above, we extend our thanks.

E. Wong
December, 1981

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FOREWORD

As a consequence of global extension of fisheries jurisdictions, a radical shift has taken place in the pattern of worldwide fish supply and demand. This change is still going on and will continue for many years before a new dynamic equilibrium situation is reached. However, in the midst of this re-adjustment, a new trade pattern is emerging -- some net exporting countries are now importing and vice versa. In the longer term, some countries will experience shortages of supply and others will have a surplus. Fortunately, Canada is amongst the latter group.

The implications for the marketing of Canadian fisheries products arising from the worldwide introduction of the 200-mile limit are extensive. With our vastly improved supply position relative to world demand, government and industry are understandably concerned about ensuring that the bright promise of increased market opportunities are real and can be fulfilled. One of the steps in this process is the publication of the Worldwide Fisheries Marketing Study which assesses the global potential on a country and species basis.

Specifically, the purpose of the Study is to identify the longer term market opportunities for selected traditional and non-traditional species in existing and prospective markets and to identify factors which may hinder or help Canadian fisheries trade in world markets. To date, over 40 country markets and 8 species groups have been analyzed. It should be noted that while the information contained in the Reports was up-to-date when collected, some information may now be dated given the speed with which changes are occurring in the marketplace. In this same vein, the market projections should be viewed with caution given the present and still evolving re-alignment in the pattern of international fisheries trade, keeping in mind the variability of key factors such as foreign exchange rates, energy costs, bilateral fisheries arrangements and GATT agreements which have a direct effect on trade flows.

Notwithstanding, the findings contained in these Reports represent an important consolidation of knowledge regarding market potential and implications for improvements in our existing marketing and production practices. The results of the Study should, therefore, usefully serve as a basis for planning fisheries development and marketing activities by both government and industry in order to capitalize on the identified market opportunities.

This draft report is published for discussion purposes and as such we invite your critical comments.

Ed Wong

Marketing Services Branch.
Marketing Directorate.
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Department of Fisheries and Oceans.
October, 1981.
Ottawa

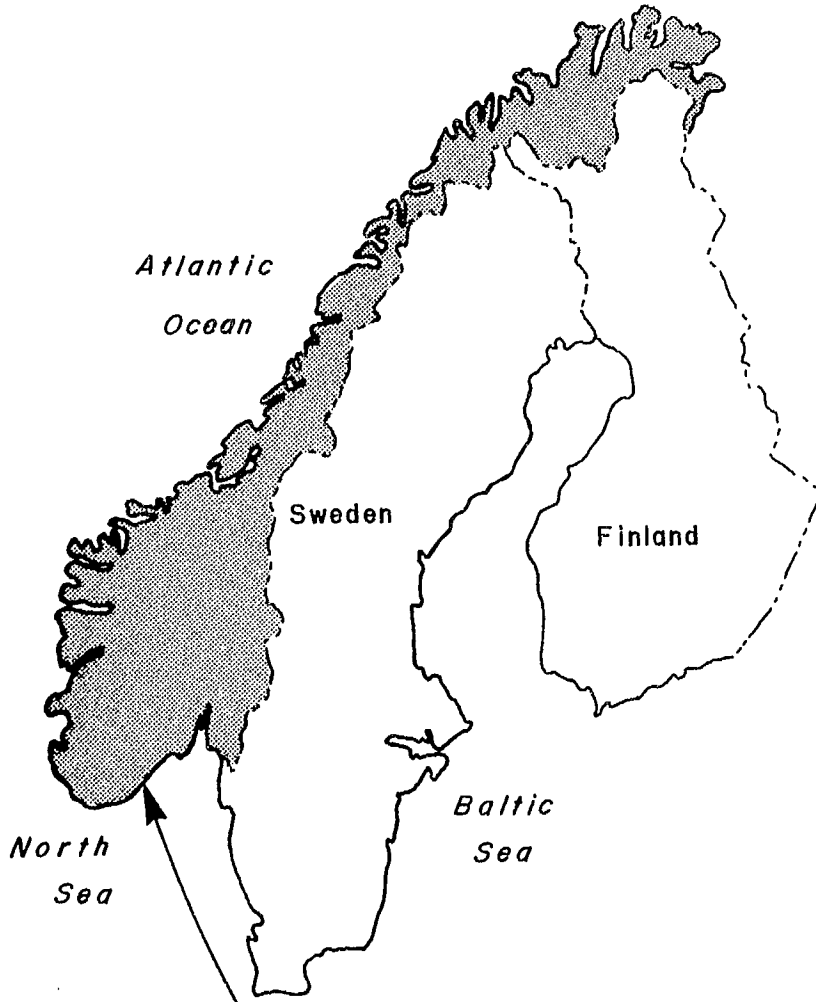
WORLDWIDE FISHERIES MARKETING STUDY

NORWAY

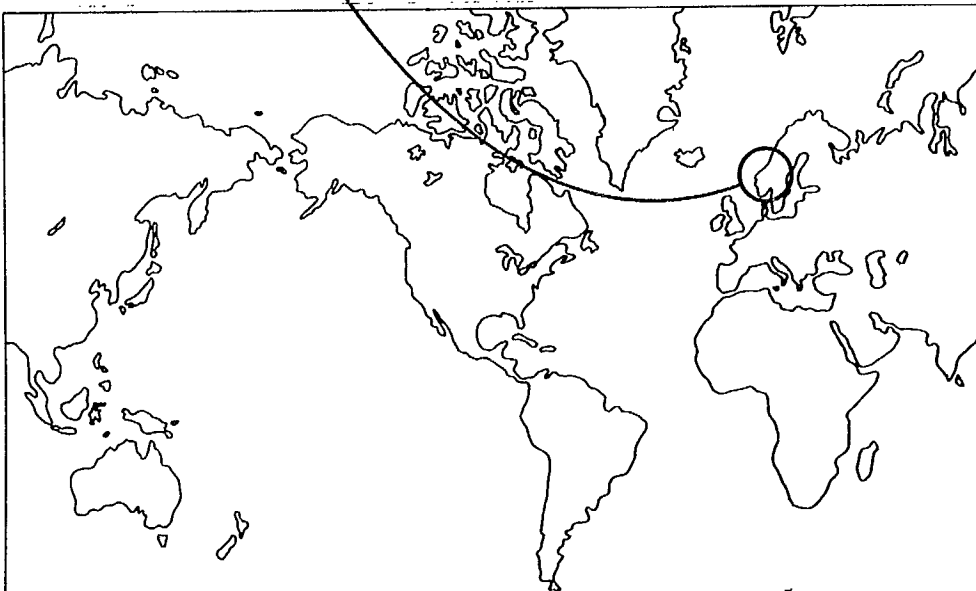
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NORWAY



INDEX MAP



A. INTRODUCTION

Norway is one of the great fishing nations of the world, with a long seafaring tradition. Hundreds of processing plants are scattered along Norway's long indented coastline. Their major production was traditionally dried and salted products, but a large filleting and freezing industry has also developed since the Second World War. A large fleet of modern vessels, with advanced technical equipment developed in Norway, supplies the plants.

The population of Norway is only about 4 million people, so the fishing industry must be export oriented. Norway was the world's largest fish exporter in terms of value in 1977, but lost its lead in 1978 to Canada. Norwegian catches dropped sharply in 1978 and 1979 particularly for capelin, cod, herring, pollock and mackerel. The decline in landings of food fish species, especially herring and cod, has been of great concern and has important implications for Canada.

B. SUPPLY

Current and Expected Domestic Supplies to 1985

The Norwegian fishery off Canada, Greenland and Iceland has been severely curtailed and the supply situation is now largely determined by landings inside the Norwegian 200 mile zone, although Norway does have an agreement with the EEC for quotas in joint EC and Norwegian fishing zones (see Appendix IV).

Fish landings declined from a peak of nearly 3.4 million tonnes in 1977 to 2.6 million tonnes in 1978 and 1979 (see Table 1). The largest catch, by weight, consists of capelin, mainly utilized for fish meal and oil. Landings declined dramatically from 2.1 million tonnes in 1977 to 1.2 million tonnes in 1979. The most important species by value, is cod. While price increases have helped maintain the value of landed cod, the quantity caught has decreased from 436 000 tonnes in 1977 to 334 000 tonnes in 1979. Further declines are anticipated in 1980-82. Consequently, the Norwegian export industry has to change marketing strategy, diverting cod supplies away from certain markets.

Herring landings reached a peak in the 1970s, when the largest herring stock in the world, the Atlanto-Scandia or Norwegian spring spawning stock, yielded catches of about 2 million tonnes, mostly utilized for fish meal. Norwegian vessels also fished the North Sea, but as these stocks also declined, Norwegian catches during the past few years have only been in the 10-20 000 tonnes range. As a result, Norway has become a net importer of herring. Over the past ten years, Norwegian companies have been active in Canada assisting the development of the Canadian food herring industry. It is expected that this situation will continue for at least two or three years or until stocks have been sufficiently rebuilt for fishing to resume.

TABLE 1
NORWAY: Quantities and values of main fish species.

Species	Quantity				Value			
	1977 Tons	1978 Tons	1979 ⁽²⁾ Tons	1980 ⁽²⁾ Tons	1977 1 000 kr.	1978 1 000 kr.	1979 ⁽²⁾ 1 000 kr.	1980 ⁽²⁾ 1 000 kr.
Herring, mackerel capelin etc.	2 642 060	1 866 999	1 930 695	1 735 890	1 122 483	937 426	943 301	984 500
Winter herring	374	484	691	890	505	1 531	2 173	3 100
Fat herring	11 997	9 594	3 202	10 600	39 291	34 680	14 007	33 200
Small herring	1 767	984	1 406	2 700	2 706	1 475	2 553	5 700
North Sea herring	3 911	6 395	2 828	1 340	9 227	24 243	8 132	4 500
Fjord herring	2 312	2 382	2 321	2 800	6 852	6 929	8 953	8 600
Silver smelt	737	2 622	2 770	5 500	704	3 225	3 380	6 700
Mackerel and young mackerel	181 742	92 897	123 970	77 000	162 720	109 881	138 377	119 000
Capelin	2 137 200	1 280 630	1 232 476	1 123 000	753 601	529 285	522 589	550 000
Norway pout	148 416	155 544	143 076	133 000	61 881	64 081	61 439	57 000
Sandeel	78 761	93 971	102 513	148 000	31 309	42 544	45 754	71 500
Sprat	34 274	102 449	91 090	81 700	41 617	86 456	72 735	81 000
Polar cod	--	11	29	40	--	3	5	20
Blue whiting	40 109	117 955	221 204	149 000	11 853	32 534	61 480	44 000
Pilchard	--	--	1 995	--	--	--	1 147	--
Horse mackerel	460	1 117	1 124	320	217	559	577	180
Gadoids etc.	717 368	670 509	660 242	614 200	1 691 747	1 662 953	1 764 534	1 870 200
Cod	435 846	403 904	334 552	280 000	1 158 437	1 100 023	987 950	955 000
Haddock	42 935	42 763	73 816	72 000	92 077	106 589	195 403	215 000
Saithe	156 030	139 955	156 634	163 000	224 808	231 287	283 679	347 000
Pollack	1 504	1 855	2 525	3 100	3 332	4 424	6 145	8 500
Ling	23 335	26 932	30 197	28 300	74 169	87 696	119 303	121 500
Blue ling	2 461	1 441	2 143	5 000	5 989	3 483	5 941	17 000
Torsk	22 841	21 496	31 403	37 000	53 539	49 828	83 422	125 000
Greenland halibut	4 233	4 233	2 845	3 000	10 483	11 581	8 220	10 000
Catfish	2 517	3 078	2 505	3 700	3 217	4 169	7 084	7 500
Pickled dogfish	13 231	12 627	8 169	6 100	27 572	27 667	18 660	16 500
Red fish	7 690	7 980	10 641	8 200	12 182	12 698	15 078	15 800
Tuna	764	221	60	300	4 605	1 671	587	3 300
Porbeagle	77	76	105	80	349	420	810	650
Halibut	1 404	1 199	1 620	1 300	15 530	14 826	22 980	19 000
Plaice	694	843	1 178	1 000	2 145	2 644	4 075	3 200
Skate	720	909	1 172	1 220	926	1 247	1 939	2 250
Monk	1 086	997	677	900	2 387	2 700	3 258	3 000
Various fishes	3 034	3 302	3 943	6 100	48 320	39 548	72 016	81 100
Crustaceans	28 904	34 498	36 822	45 110	203 761	260 463	321 092	366 300

TABLE 1 (Continued)

Species	Quantity				Value			
	1977 Tons	1978 Tons	1979 ¹⁾ Tons	1980 ²⁾ Tons	1977 1 000 kr.	1978 1 000 kr.	1979 ²⁾ 1 000 kr.	1980 ²⁾ 1 000 kr.
Deep water prawn	26 439	31 844	34 021	43 000	189 828	245 622	304 879	350 000
Norway lobster	14	18	5	20	258	397	244	500
Lobster	100	70	75	90	4 973	3 960	4 417	5 300
Crab	2 351	2 566	2 721	2 000	8 702	10 484	11 552	10 500
Seaweed, raw	138 926	121 221	106 000	106 000	14 284	12 099	12 000	12 000
Various	11 102	11 329	14 553	11 400	6 893	7 497	12 354	11 400
Total	3 541 393	2 707 858	2 752 255	2 518 700	3 087 483	2 919 983	3 125 297	3 325 500

¹⁾ nominal catch

²⁾ Preliminary figures

Source: Fiskets Gsng, Directorate of Fisheries, Bergen, 1980.

Fish supplies, by important species, are described below:

1. Demersal Species

a) Cod: Norwegian-Arctic stock

The fishery for Norwegian Arctic cod, in 1978, was regulated through a quota agreement between Norway and the USSR and covered all cod fisheries north of 62° North. The total quota was set at 850 000 tonnes of which 40 000 tonnes was known as the Murman-Cod stock. The remaining 810 000 tonnes were allocated with 340 000 tonnes each to Norway and USSR, and 130 000 tonnes to be allocated to other countries. The agreement also allowed Norway to take 40 000 tonnes of coastal cod. According to preliminary statistics, a total of 684 000 tonnes of cod were taken in 1978 from the Norwegian-Arctic stock (see Table 2).

TABLE 2
Total landings of Norwegian-Arctic cod.
(tonnes, round weight)

<u>Year</u>	<u>Norway*</u>	<u>USSR</u>	<u>UK</u>	<u>Others</u>	<u>Total</u>
1974	287 276	540 801	90 894	183 463	1 102 434
1975	277 100	343 611	101 834	106 855	829 400
1976	344 502	343 057	89 061	90 843	867 463
1977	388 982	369 876	86 781	59 662	905 301
1978	350 070	267 138	35 448	31 523	684 179
1979	284 800	119 400	18 000	38 000	444 000

* In addition, Norway lands some coastal and North Sea cod.

Source: Fisken og Havet, Institute of Marine Research, Bergen. Special Issue #1, 1979.

These landings are about 20% lower than the total quota for the year and as much as 220 000 tonnes below the 1977 total. Declines in catches were recorded from the Bear Island - Spitzbergen area, the Barents Sea and along the Norwegian Coast from Lofoten to the North Cape. It should be noted that Norwegian landings have declined much less than other countries. This is because of the 200-mile economic zone declared in 1977.

Biologists recommended for 1979 through the International Council for the Exploration of the Sea (ICES) a TAC of 600 000 tonnes. But this recommendation was not followed, and a total quota of 700 000 tonnes was established with 285 000 tonnes and 40 000 tonnes of coastal cod going each to Norway and the USSR. Norway allocated 143 000 tonnes for trawlers over 250 GRT. However, only about 400 000 tonnes of the quota for 1979 was taken, and the TAC for 1980 has been further reduced to 430 000 tonnes. Norway has been allocated 190 000 tonnes, a decline of 135 000 tonnes from 1979. These declining quotas and catches mean a continuing decline in the supply to Norwegian processing plants and even poorer prospects for the operation of many fishing vessels, especially wet fish trawlers. Subsidies will be available to trawlers forced to tie up for most of the year.

Norwegian biologists are very concerned over the difficulties in getting universal agreement for mesh size increases in trawls used in the Barents Sea. Analysis of catch size compositions indicate that small mesh gear has been used to a considerable extent, and they feel that an increase in mesh size from 120 to 150 mm is essential for the long-term survival of the stock.

The prognosis for the years up to 1985 will depend on catches in 1980 and what the effective mesh size will be. Investigations by several countries have shown that the 1975, 1976, 1977 and 1978 year classes are weak. And further, unless catches of immature fish are reduced, for instance, by increasing mesh sizes, biologists are seriously concerned about a depletion in the size of the spawning stock in 1984-86 when the 1976-78 year classes are maturing. Scientists will therefore be recommending low quotas for the next few years.

b) Haddock: Norwegian-Arctic stock

The fishery agreement between Norway and the USSR in 1978 also regulated the haddock fishery. The total quota was set at 120 000 tonnes with 50 000 tonnes each going to Norway and the USSR, and 20 000 tonnes for other countries. Neither country, however, realized their quota. Total landings for 1978 were 95 500 tonnes.

The total quota for 1979 was set at 206 000 tonnes, but later calculations showed that the spawning stock had been greatly overestimated. As a result, it

is estimated that not more than 102 000 tonnes was taken in 1979. Because spawning stocks will be reduced to a dangerously low level in the beginning of 1980, the ICES has recommended that the total TAC for 1980 be set at 50 000 tonnes, and further, that any directed fisheries for haddock be forbidden. Norwegian fishermen also landed some haddock from inshore waters and the North Sea, but probably not enough to maintain landings at former levels.

c) Saithe (Pollock)

Saithe is the second most important groundfish for the Norwegian fleet, and large catches are also taken by other countries, as shown in Table 3 below.

TABLE 3
Norway: Saithe (pollock) landings in the Northeast Atlantic.
(tonnes, round weight)

<u>Year</u>	<u>All Countries</u>	<u>Norway</u>
1969	416 169	124 079
1970	647 344	166 274
1971	683 015	145 710
1972	639 433	165 424
1973	643 896	162 356
1974	718 713	164 562
1975	672 009	135 689
1976	719 295	151 785
1977	503 605	156 030
1978	402 638	140 426
1979	na	159 300

Source: See Table 2.

Although most stocks of saithe have been reduced since 1973, the stock situation along the Norwegian Coast and in the North Sea is relatively good, and no major changes in Norwegian landings are expected. Some increase in landings may occur if wetfish and factory trawlers with low cod quotas redirect, with the help of subsidies, some effort to saithe in 1980. Unless the purse seine fishery for small saithe is somewhat reduced, landings of large saithe will probably show a declining trend in the 1980's.

d) Ling, Blue Ling, Cusk

These fish species are of considerable economic importance in Norway and are utilized chiefly in salted and dried forms. Norwegian landings of these species over the past few years are shown in Table 4.

TABLE 4

Norwegian landings of ling, blue ling and cusk
(tonnes, round weight)

<u>Year</u>	<u>Ling</u>	<u>Blue Ling</u>	<u>Cusk</u>
1971	19 912	1 386	16 660
1972	25 124	2 185	19 253
1973	24 909	5 544	27 095
1974	24 312	3 021	32 564
1975	19 830	5 320	20 186
1976	24 844	3 340	26 563
1977	23 430	2 459	22 446
1978	26 561	1 435	21 343
1979	30 289	2 135	31 056

Source: See Table 2.

There is not enough information about the fisheries of these three species to indicate whether changes in landings point to stock variations or changes in catch effort. Nevertheless, landings over the next few years are not expected to show significant variations, unless effort is increased or considerably decreased.

e) Greenland Turbot (Greenland Halibut, Blue Halibut)

In 1978, the total catch of Norwegian-Arctic Greenland turbot was about 24 000 tonnes out of a total quota of 40 000 tonnes. As shown in the following table, Norwegian fishermen took about 16% of the total, while the USSR took 60%.

TABLE 5
Greenland turbot landings.
 (tonnes, round weight)

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Norway	4 900	6 000	4 200	4 100	3 100
All Countries	38 200	36 100	28 900	24 400	na

Source: See Table 2.

On the basis of data that indicated a decline in the stock of Norwegian-Arctic Greenland turbot, the total TAC for 1979 was set at 25 000 tonnes. Since the latest available data confirm this, ICES has proposed that the TAC for 1980 be set at 14 000 tonnes. Therefore, it is likely that Norwegian landings of Greenland turbot will decline, or at the best, level off, over the next five years.

f) Redfish (Ocean Perch)

The fishery for marinus type redfish, carried out off the coast of Northern Norway, is chiefly a by-product of the cod fishery. A directed fishery for mentella type redfish, is carried out off Bear Island-Spitzbergen, chiefly by the USSR and East and West Germany (GDR and FRG). Total landings, from all these areas and those by Norway, are listed in the Table 6.

TABLE 6
Redfish landings.
 (tonnes, round weight)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Total	96 644	278 195	317 606	185 874	119 581	na
Norway	7 055	4 966	7 305	7 381	7 765	na

Source: See Table 2.

The sharply increased landings in 1975 and 1976 were chiefly due to increased catches of mentella redfish by the USSR. The stocks of both types of redfish have declined since 1974, and ICES has recommended TACs of 81 000 tonnes for 1980 for the areas off Bear Island and Spitzbergen, and 19 000 tonnes for the Norwegian coast and the Barents Sea. Because these quotas will eliminate directed fisheries for redfish, Norwegian landings are expected to decline, or at best remain static, over the next few years.

g) Dogfish

Norwegian landings of dogfish have shown a dramatic decline from about 27 000 tonnes in 1968, to 8 000 tonnes in 1979. The decline in exports between 1978 and 1979, was 26% according to Table 8. Landed and processed almost exclusively in the town of Maløy, the skinned bodies of dogfish are exported chiefly to the UK and the bellyflaps to the FRG. Fresh dogfish commands considerably higher prices on the British market than the frozen product, and Scottish fishermen have been increasing their fishing efforts in order to supply this market.

The resource outlook for dogfish available to Norwegian fishermen is regarded as poor over the next five years. Reproduction is slow because dogfish females do not become sexually mature before they are 60-80 centimetres long and perhaps 7-9 years old. The young are born alive and are then carried for 1½-2 years.

Although additional supplies of frozen dogfish have been coming into Europe from the US and Canada, market opportunities will probably still exist in view of the declining Norwegian stock situation. However, recently Norwegian processors have been involved in developing a Turkish fishery for dogfish that could keep prices low.

2. Pelagic Species

a) Herring

Landings of the Norwegian spring spawning Atlanto-Scandia herring reached a peak of close to 2 million tonnes in 1966, followed by a rapid decline to 20 000

tonnes in 1971*. Since then, strict conservation measures have prevented the spawning stock from being completely wiped out, and landings have not exceeded 13 000 tonnes in recent years. No fishery was permitted in 1979, but token fisheries of perhaps 10-20 000 tonnes annually may be permitted in the next few years.

Norwegian fisheries in other areas such as the North Sea, Skagerrak and Kattegat have also been limited to less than 10 000 tonnes a year, and are not likely to increase significantly over the next two or three years.

b) Mackerel

Norwegian mackerel fisheries have been carried out off the Norwegian coast and in the North Sea. The intensive purse seine fishery for fish meal, which resulted in landings as high as 683 000 tonnes in 1969 and around 2-300 000 tonnes a year until 1977, has reduced the spawning population to a dangerously low level. ICES has therefore recommended that no directed fishery for mackerel be permitted in the Skagerrak and the North Sea in 1980. If this recommendation is not followed, scientists suggest that landings not exceed 50 000 tonnes.

Since there are no signs of new, large year classes, it is unlikely that quotas will be increased in the next two or three years, and Norwegian landings will be chiefly used for human consumption.

c) Capelin

Capelin, in the Barents Sea, is exploited almost exclusively by Soviet and Norwegian fishermen. And, although landings have reached a high of 2.9 million tonnes (1977), only small quantities are used for human consumption.

Since capelin are short-lived, reliable catch projections can only be predicted for, at most, two years ahead. With normal recruitment of the capelin stock, Norwegian landings should remain in the 1-2 million tonnes a year range for the next few years.

* Worldwide Fisheries Marketing Study: Herring (revised 1980);
Dept. of Fisheries and Oceans, Ottawa, 1981.

3. Anadromous Species

a) Salmon

Although there has traditionally been a relatively large fishery for Atlantic salmon in Norwegian rivers and waters, the tonnage available for export has been moderate. This started to change in 1976 as salmon farming in Norway expanded. Exports by 1979 had reached 4 700 tonnes and are expected to increase year by year. Further, estimates by the Fish Farmers Marketing Co-operative suggest that by 1985, production and potential exports may reach 15-20 000 tonnes.

This represents a bright spot in the Norwegian export outlook and a potential problem for Canadian salmon exporters. Although prices for fresh Norwegian salmon are considerably higher than for frozen Canadian salmon in Europe, the trade estimates that Norwegian prices can be lowered considerably if competition requires.

This expanding industry requires increasing quantities of fish food, and export opportunities should open up for Canadian processors.

4. Shellfish Species

a) Lobster and Crab

Norwegian landings of lobsters have been declining for the last ten years and are now down to 70 tonnes a year. With an increasing illegal fishery in the closed season, it is not likely that landings will increase in the next few years.

The fishery for the crab (Cancer pagurus) has been fairly constant for the last few years and is not expected to change much in the future.

b) Shrimp

Norwegian landings of deepwater shrimp (Pandalus borealis) have increased in the past four years, due to increased fishing efforts with freezer trawler in

distant waters such as Greenland and Spitzbergen. The fishery closer to the Norwegian coast has remained fairly constant, and Norwegian landings are not expected to fluctuate to any large degree in the next few years.

c) Squid (*Todarodes agittatus*)

After five years absence, squid reappeared in Norwegian waters in the fall of 1977. Landings in that year were about 250 tonnes, and in 1978, approximately 300 tonnes. The landings in 1979 were considerably higher, but it is impossible to predict landings for 1980 or beyond due to the fact that squid live for two years or less. Biologists estimate that the stocks could have supported a fishery of perhaps 40 000 tonnes in 1979. A trial shipment of frozen squid totalling 650 tonnes valued at about C\$875 000 was made to Japan in 1979.

C. DEMAND

Norwegians are heavy consumers of fishery products. The average Norwegian consumption between 1975-77 was estimated to be 47.0 kilograms (live weight equivalent) per capita as compared to 18.2 kilograms for Canada and 15.9 kilograms for the US for the same period¹. Additionally, considerable quantities of fish oils are used in the Norwegian margarine industry. Fish meal is used as feed in the poultry and pig industry. The domestic market is estimated to absorb 200 000 tonnes of fishery products and is therefore of considerable importance, especially for fresh fish and certain canned products, such as fish pudding and fish balls. The consumption of frozen fish, especially oven-ready or portion controlled products, is increasing rapidly and being vigorously promoted by the large marketing groups.

Since 1974, domestic prices for fishery products have not risen as significantly as those for agricultural products, as is shown in Table 7. But fishery products have been increasingly subsidized during this period and the value added tax on fishery products is lower. This may account for the difference in price movements.

The population of Norway is approximately 4 million and is growing so slowly that it may almost be considered static. The estimated annual growth was less than $\frac{1}{2}$ of 1 percent. The total consumption of fish is therefore not expected to increase, but the trend toward convenience products is expected to continue.

¹ See Fisheries of the United States, 1980. Current Fishery Statistics No. 8100. National Marine Fisheries Service, U.S. Dept. of Commerce, Washington, D.C., April 1981.

TABLE 7

Norway: consumer price index.

(1974 = 100.0)

	<u>Fishery Products</u>	<u>Agricultural Products</u>
1969	52.1	74.4
1970	59.8	83.0
1971	68.7	88.7
1972	75.0	94.8
1973	84.4	99.7
1974	100.0	100.0
1975	101.5	118.2
1976	103.0	135.1
1977	114.6	139.6
1978	123.6	149.3

Source: Statistisk Sentralbyrå: Central Bureau of Statistics, Oslo.

D. DEMAND-SUPPLY BALANCE

The domestic Norwegian market absorbs an estimated 200 000 tonnes of the total supply of fishery products. Since the Norwegian consumer is in general well-off economically and demands a good selection of top quality products, the domestic market will in most cases be supplied first from available supplies. However, since there are no import duties on most fishery products, some raw materials for processed products such as frozen cod blocks or cured herring, are being imported and the products marketed domestically.

Norway's export market could be more severely affected by supply shortages. One typical example is herring, where Norway has gone from being a large exporter to barely being able to produce token amounts, primarily for the domestic market. The cod supply is also declining and this will create difficulties in 1980-81. In the following section, Norway's export situation will be discussed both by species groups and by countries, and potential shortfalls identified.

Table 8 shows Norwegian exports by species and products and Table 9 by product group and country of destination.

TABLE 8

Norway: exports of fishery products by species.

(Q in tonnes, V in 000 kroner)

	<u>1978</u>		<u>1979</u>	
	<u>Q</u>	<u>V</u>	<u>Q</u>	<u>V</u>
Fresh Herring & Sprats	3 936	12 655	4 972	11 797
Frozen Herring & Sprats	6 076	32 628	2 334	14 244
Fresh: Salmon	2 554	84 483	3 586	156 406
Eel	295	6 180	387	7 983
Flatfish	627	4 410	624	4 686
Haddock	1 535	8 563	2 792	16 461
Cod	1 813	9 178	1 143	6 728
Pollock & Saithe	1 973	8 320	2 614	10 491
Whiting	910	2 974	1 011	3 770

TABLE 8 (cont'd).

	1978		1979	
	Q	V	Q	V
Ling	1 383	7 595	1 152	7 106
Dogfish	3 096	24 539	2 415	23 273
Mackerel	2 103	3 176	6 502	6 260
Other	1 493	8 099	1 434	18 670
<hr/>				
Fresh Fish, Total	17 782	167 517	23 660	261 834
Fresh Fillets, Total	512	4 013	551	5 257
<hr/>				
Frozen Round:				
Salmon	1 073	41 621	1 308	68 382
Dogfish	1 787	14 822	1 187	10 609
Mackerel	25 701	47 822	38 481	75 266
Capelin	1 426	6 784	9 267	50 863
Others	5 112	34 777	7 971	52 489
<hr/>				
Total	35 099	145 826	58 214	257 609
<hr/>				
Frozen Fillets:				
Haddock	9 294	106 634	11 751	138 514
Cod	57 161	631 763	48 231	574 132
Pollock	16 383	128 559	16 302	133 158
Herring	80	601	58	332
Others	3 111	28 246	3 622	31 070
<hr/>				
Total	86 029	895 803	79 964	877 206
<hr/>				
Salted:				
Herring	4 655	33 281	3 475	26 685
Groundfish (wet)	10 510	83 047	14 117	119 643
Fillets (wet)	6 007	74 268	4 603	73 605
<hr/>				
Total	21 172	190 596	22 195	219 933
<hr/>				
Dried:				
Cod (stockfish)	9 610	243 757	14 412	323 557
Pollock	1 367	23 863	4 267	60 731
Others	3 991	54 218	4 520	79 370
<hr/>				
Total	14 968	321 838	23 199	463 658
<hr/>				

TABLE 8 (cont'd).

	1978		1979	
	Q	V	Q	V
Salted Cusk	4 887	328 318	30 107	396 775
and Cod (klippfisk)	26 709	43 281	6 151	54 422
Dried: Pollock	14 304	112 888	15 308	123 627
Ling	6 798	77 323	6 754	82 807
Others	538	7 021	695	5 710
Total	53 236	568 831	59 015	663 341
Lobster	82	7 716	62	6 525
Fresh, whole shrimp	1 257	16 408	1 206	17 203
Frozen, whole shrimp	4 231	55 756	3 948	57 406
Frozen, peeled, shrimp	4 576	141 720	5 880	194 525
Other peeled, shrimp	302	14 237	337	19 425
Canned shellfish	185	4 313	231	5 574
Total	10 633	240 150	11 664	300 658
Canned: Sprats (brisling)	2 819	47 178	3 000	52 788
Herring (Sild)	12 600	162 752	10 099	139 587
Kippers	187	3 428	165	3 541
Mackerel	941	151 168	1 002	15 622
Fish cakes, etc.	325	2 125	281	1 985
Milt	72	795	133	1 497
Total	16 944	367 446	14 680	215 020
Other, prepared or preserved fish	22 052	201 493	20 871	214 111
Smoked herring	484	4 471	290	3 024
Sugar-salted and salted roe	1 711	11 593	1 540	10 751
Total	24 247	217 557	22 701	227 886
Cod liver oil	18 940	66 947	14 670	65 447
Fish oil	62 702	143 510	75 060	162 140
Fishmeal	283 741	686 996	325 857	688 227
Kelp, seaweed meal	4 404	6 586	2 993	4 568
Sub-Total	369 787	904 039	418 580	920 382
GRAND TOTAL	660 421	4 068 899	741 729	4 438 825

Source: Fiskets Gang-Central Bureau of Statistics, Bergen.

TABLE 9

Norway: exports of fishery products by country.

(tonnes)

	<u>1977</u>	<u>1978</u>	<u>1979</u>
<u>Fresh & frozen herring and sprats</u>			
Denmark	802	2 827	3 058
Sweden	173	na	na
Belgium, Luxemburg	826	394	189
Netherlands	2 704	1 964	1 370
UK	196	na	na
Czechoslovakia	1 325	1 041	148
FRG	4 986	2 578	594
France	na	761	49
Other Countries	1 407	565	1 849
Total	12 426	10 130	7 257
<u>Other fresh fish</u>			
Denmark	2 393	5 125	4 559
Sweden	2 380	2 292	2 042
Belgium, Luxemburg	206	236	250
France	2 622	3 415	3 552
Italy	327	4	na
Netherlands	124	na	na
UK	3 078	2 970	6 662
FRG	1 838	2 574	3 224
Japan	na	143	na
Switzerland	na	122	177
Others	863	1 735	3 724
Total	13 831	18 616	24 190
<u>Frozen fish except fillets</u>			
Denmark	531	1 375	1 543
Finland	426	na	614
Sweden	436	882	956
Belgium, Luxemburg	499	452	235
France	1 141	715	951
Italy	719	na	na
Netherlands	875	1 226	1 418
UK	1 437	1 905	4 803
FRG	5 945	6 468	4 796
USSR	na	na	1 391

TABLE 9 (cont'd).

	<u>1977</u>	<u>1978</u>	<u>1979</u>
Israël	725	na	na
Japan	4 958	1 500	9 293
Faeroe Islands	na	1 470	735
Nigeria	na	9 710	24 227
Other countries	11 126	9 398	7 219
Total	28 818	35 101	58 181
<u>Frozen fillets of fish except herring</u>			
Finland	7 194	7 295	6 831
Sweden	5 815	5 751	6 019
France	969	770	1 360
Netherlands	248	711	702
UK	29 504	33 326	38 311
Switzerland	657	643	646
Czechoslovakia	3 417	2 521	3 089
FRG	1 837	2 087	1 920
Hungary	795	467	na
Austria	1 457	1 615	1 819
US	32 011	29 523	16 004
Australia	234	na	na
Other Countries	511	1 244	3 088
Total	84 649	85 953	79 789
<u>Salted herring except fillets</u>			
Denmark	121	na	744
Finland	991	1 231	na
Sweden	2 264	2 147	752
Poland	139	na	1 697
Others	205	1 278	422
Total	3 720	4 656	3 615
<u>Other salted fish</u>			
Sweden	104	98	393
France	1 464	2 806	4 306
Greece	1 058	818	2 508
Italy	1 780	2 718	7 050
Portugal	2 534	1 925	na

TABLE 9 (cont'd).

	<u>1977</u>	<u>1978</u>	<u>1979</u>
Venezuela	100	na	na
Spain	na	935	2 447
FRG	na	na	na
Other countries	1 693	1 215	368
<hr/>			
Total	8 733	10 515	17 072
<u>Dried fish (stockfish)</u>			
Finland	160	188	128
Sweden	638	568	513
Italy	4 236	5 513	4 547
Yugoslavia	105	321	241
Switzerland	na	198	70
FRG	50	306	137
Ghana	na	368	267
Cameroons	53	427	285
Nigeria	5 856	6 158	15 268
US	154	131	142
Other countries	1 271	791	1 591
<hr/>			
Total	12 523	14 969	23 189
<u>Salted and dried fish (klippfisk)</u>			
Belgium, Luxemburg	304	479	603
France	4 363	5 818	5 993
Italy	3 323	6 599	5 633
Netherlands	203	236	195
Portugal	10 123	5 074	7 141
Spain	449	464	856
FRG	1 820	1 233	1 137
Angola	12 909	2 616	3 600
Congo	na	902	1 974
Zaire	4 155	3 741	4 437
Senegal	273	50	na
South Africa	269	265	291
Canada	342	328	230
Dominican Republic	3 625	3 425	4 003
French Antilles	1 471	1 313	1 489
Jamaica	1 030	1 113	5
Dutch Antilles	183	200	219
Mexico	na	1 267	1 201
US	375	454	419
Argentina	250	399	1 018

TABLE 9 (cont'd).

	<u>1977</u>	<u>1978</u>	<u>1979</u>
Brazil	13 403	13 965	15 183
Venezuela	1 151	1 124	1 297
Other Countries	4 753	2 182	2 074
<hr/>			
Total	64 774	53 247	58 998
<u>Shellfish and molluscs, not canned</u>			
Denmark	870	44	na
Sweden	2 888	2 043	3 311
France	1 226	962	454
UK	1 281	486	259
FRG	268	105	19
Japan	na	1 693	1 011
Other countries	3 582	350	394
<hr/>			
Total	10 115	5 683	5 448
<u>Fish, prepared or preserved, including caviar, in airtight, closed containers</u>			
Sweden	506	371	456
Belgium, Luxemburg	659	696	690
Netherlands	93	143	91
UK	736	440	767
FRG	186	205	175
Mozambique	458	431	244
South Africa	1 177	1 504	1 070
Japan	214	355	294
Canada	693	389	387
US	9 348	8 185	7 454
Australia	1 491	1 280	1 052
New Zealand	130	127	na
Other countries	2 930	3 160	2 275
<hr/>			
Total	18 621	17 287	14 955
<u>Shellfish and molluscs prepared or preserved, not in airtight closed containers</u>			
Denmark	744	942	894
Sweden	1 238	1 508	1 900
UK	1 865	2 201	2 607
FRG	101	139	485
Other countries	59	89	379
<hr/>			
Total	4 007	4 879	6 265

TABLE 9 (cont'd).

	<u>1977</u>	<u>1978</u>	<u>1979</u>
<u>Fish Meal</u>			
Denmark	7 566	4 402	4 253
Finland	20 850	26 958	39 961
Sweden	62 296	64 102	89 860
Belgium, Luxemburg	12 233	6 048	2 700
France	49 157	31 959	36 539
Greece	7 864	8 681	6 460
Italy	9 100	5 241	5 520
Yugoslavia	35 969	10 550	na
Netherlands	16 499	6 113	3 425
UK	66 553	46 952	60 864
Switzerland	10 027	8 462	11 829
Czechoslovakia	6 680	4 499	2 800
FRG	84 468	8 241	13 310
GDR	26 112	24 952	24 324
Austria	1 230	794	na
Israël	10 200	3 250	4 734
US	21 404	2 382	na
Other countries	12 349	4 103	19 283
<hr/>			
Total	460 557	267 689	325 862
<hr/>			
Grand Total	722 774	528 725	624 8211)
<hr/>			

Sources: Fiskets Gang - Central Bureau of Statistics

1) Does not include fish oils and seaweeds which are included in the totals in Table 8.

1. Exports

a) Fresh Fish

Norway increased exports of fresh fish products considerably in 1979. The quantity increased by 31% and the value by 52% over 1978 (Table 8). The quantities increased from 22 230 tonnes in 1978 to 29 183 tonnes in 1979, and the value from 184 million kroner to 279 million kroner.

The increase in fresh salmon exports is notable and is due to the increase in farmed salmon production in Norway. As mentioned earlier, the production of farmed salmon is increasing quite sharply and could reach 20 000 tonnes within

five years. These salmon compete with "wild" Scottish and Norwegian Atlantic salmon, and command similar market prices (i.e. prices considerably higher than those obtained for Canadian frozen salmon). The smokers are very pleased with these developments, since they can now obtain fresh Atlantic salmon year round for their most discriminating customers. There was also a sharp increase in the export of haddock, but a drop in fresh dogfish exports reflects the declining resource of this species.

The most important market in terms of volume is the UK which in 1979 imported increased amounts of mackerel, and also Denmark. France, FRG and Sweden are the leading markets for high value fish products.

b) Round Frozen Fish and Frozen Shellfish

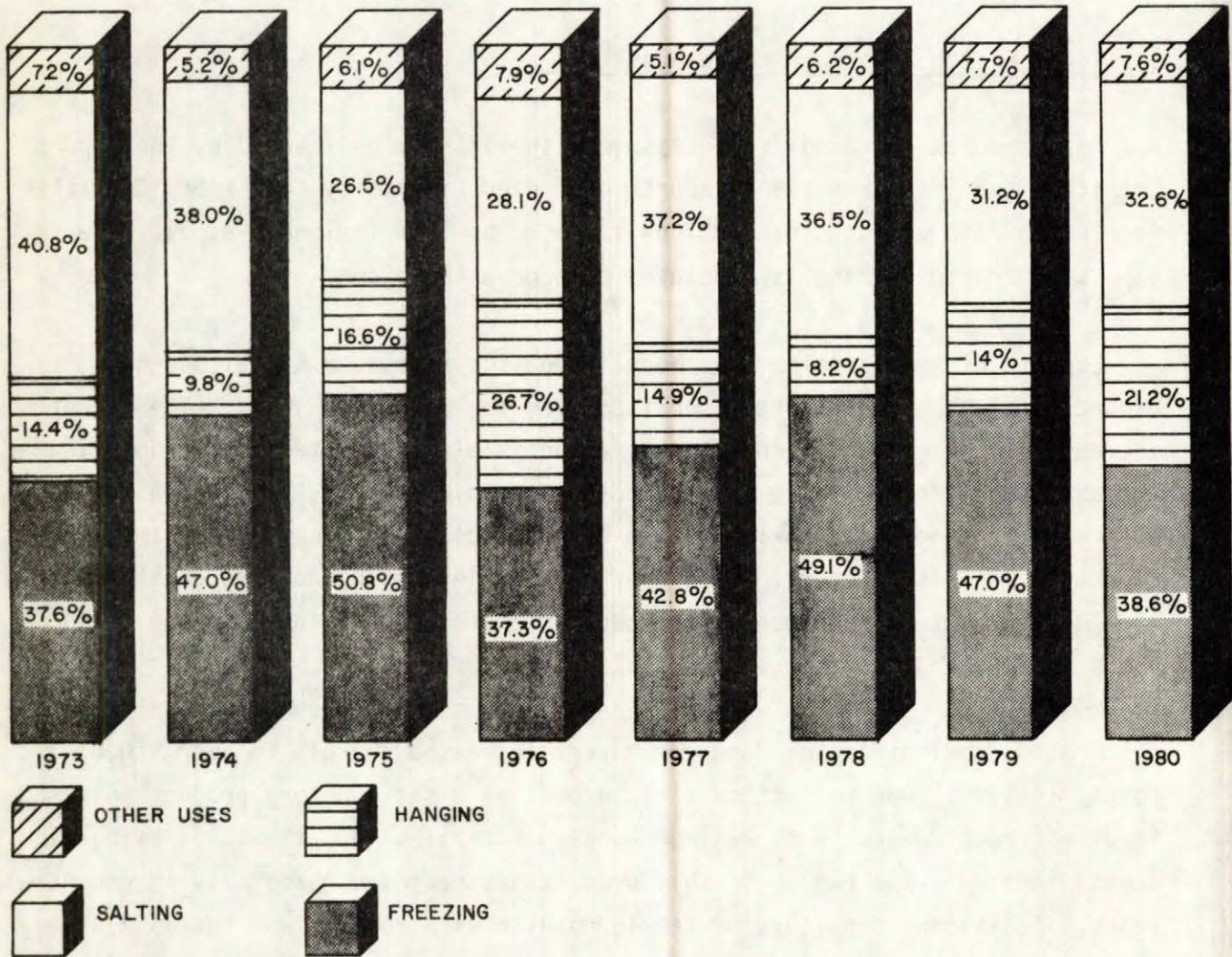
Most exports of round frozen fish and shellfish are licensed by the Export Committee for Fresh Fish, and exports of frozen fillets by the Export Committee for Frozen Fish or the organizations licensed by them (Frionor, etc.). The export of frozen herring is regulated through a third committee.

Exports of some species have been increasing (Tables 8 & 9) although exports of frozen dogfish have declined over the past five years. The recent increase in the production of farmed salmon is also indicated in the doubling of frozen salmon exports since 1973. Another notable trend is the increase in the export of frozen peeled shrimp with a corresponding drop in whole shrimp exports. This is, in part, due to an increase in landings of frozen shrimp from more distant waters such as Spitzbergen and Greenland, and an increase in the number of peeling machines at processing plants.

Frozen capelin for the Japanese market increased sharply to over 9 000 tonnes in 1979. Due to difficulties in packing a satisfactory product (no "red feed", correct roe content, maximum number of females) and the large swings in demand in Japan, the export of this product has varied considerably in recent years. Additional suppliers of female capelin with roe include the USSR, Iceland and Canada.

The remarkable growth in exports of frozen mackerel to Nigeria from just under 10 000 tonnes in 1978 to over 24 000 tonnes in 1979 should also be noted.

FIGURE I - Norwegian Utilization of Cod Landings



NOTE: The tremendous increase of cod utilized for stockfish (hanging) from 1978 through to 1980.

SOURCE: Frionor - Fiskets Gang, Oslo.

c) Frozen Fillets

Cod is the most important species being used in the production of frozen fillets and the one that is currently causing Norwegian processors most concern because of the uncertain supply outlook over the next few years.

The filleting industry must also compete with the salting and drying industries for these supplies, as shown in Figure 1. About 49% of cod landings were used for frozen fillet production in 1978, but the percentage was as low as 37% in 1976. With considerably lower quotas in 1980 and good market prospects for salted and dried fish, the competition for raw material is vigorous.

The export of frozen fillets is handled through the two marketing co-operatives of Frionor and the Nordic Group, as well as Findus, a Nestlé company. Frionor is an association of 120 processing companies nearly 70% of which are located north of the Arctic Circle. Most of them are privately-owned concerns with long traditions as fish producers.

The Nordic Group has 15 members with about 30 processing plants and also represents the 12 Norwegian factory vessels. These vessels sell their frozen cod fillets directly into the British market and produced 16 400 tonnes of mostly skin-on fillets in 1979. The other members of the Nordic Group exported 19 000 tonnes for a total of 35 400 tonnes.

In total to all markets, Norwegian export of frozen cod fillets dropped by 9 100 tonnes in 1979. Major changes in the marketing strategy of Frionor and the Nordic Group were necessary. Because of the low value of the US dollar, more of the fish has been diverted to European markets, especially the UK. The dramatic decline in frozen fillet exports to the US (29 500 to 16 000 tonnes between 1978 and 1979) is shown in Table 9. This trend is expected to continue in 1980, with increasing emphasis placed on fillet packs. In order to maintain domestic and export markets for processed products from cod blocks, Frionor has found it necessary to purchase cod blocks from abroad. If Canadian processors can supply a cod block meeting the strict Norwegian quality requirement, export opportunities should be available over the next two or three years.

Saithe and haddock are the other important species being exported as frozen fillets and blocks from Norway .

The export of haddock fillets increased by 2 000 tonnes in 1979 to 11 713 tonnes. However, since catch quotas are lower in 1980, this quantity is expected to decline.

Saithe supplies are expected to remain relatively good, and production and exports of saithe fillets should remain at current levels, or above, for the next few years.

Other fillets exported include ocean perch and ocean catfish.

Besides the UK and the US, important Norwegian markets for frozen fillets include Finland, Sweden, Czechoslovakia, the FRG and Austria. Finland buys mostly saithe fillets, and Sweden is the most advanced market for frozen foods in Europe. Considerable quantities of processed products from plants in Norway are also exported to many of these countries.

d) Dried Fish (Stockfish)

Dried "hanged" fish has for centuries been a traditional method of processing cod in Norway and Iceland and is still of considerable importance. In 1976, as much as 26.7% of the cod landings were utilized for the production of stockfish, but this declined to 8.2% in 1978.

The two important markets for stockfish are Italy and Nigeria. The best quality stockfish from large cod goes to the Italian market with smaller quantities to a number of other countries, as shown in Table 10. Poorer quality, smaller fish or fish from other species go mostly to Nigeria.

Nigeria has been an important market over the past few years but it has been very unpredictable. Exports are often arranged after months of difficult negotiations, or with governmental financial support or guarantees. Unless the political situation changes, similar difficulties can be expected in the future. Nonetheless, because Nigeria is an oil producing nation, it possesses the necessary monetary resources, whereas other African nations - potential customers - cannot afford to buy this product.

TABLE 10
Norway: dried fish (stockfish).
 (tonnes)

	Exports to Italy by species					Exports to Nigeria by species				
	1976	1977	1978	1979	1980	1976	1977	1978	1979	1980
Cod, Lofoten (spawning cod)	2 869	3 152	4 250	3 655	2 883	557	368	183	398	107
Cod, Finnmark (feeding cod)	1 184	9 27	1 048	715	807	876	285	342	1 462	694
Cod, other	23	15	105	55	38	3 506	1 537	2 019	6 014	4 944
Cod, split	21	45	15	--	20	189	2	16	428	760
Pollock (saithe) round	--	10	--	--	--	3 083	372	351	3 473	4 309
Pollock, split	--	--	--	--	--	660	23	27	183	265
Cusk, round/split	57	87	83	121	77	1 465	204	324	1 962	2 633
Haddock, round/split	--	--	--	--	--	298	--	51	306	506
Other	1	--	12	1	--	1 465	3 065	2 844	1 042	631
TOTAL	4 155	4 236	5 513	4 547	3 825	1 2099	5 856	6 157	15 268	14 849

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Source: Fiskeproducentenes Fellessalg A/1. Annual Report 1980.

e) Wet-Salted Fish

Norway also exports considerable volumes of wet-salted fish and fillets which in 1979 amounted to 18 600 tonnes, for a value of 192 million kroner.

As refrigeration has become commonly available in more and more countries, many markets prefer wet-salted fish and fillets to dried since it is easier to prepare and cook. Drying of fish requires energy, and this has in recent years undergone price increases which parallel those of oil prices. France and Italy are particularly good markets for top quality, large, wet-salted cod fillets and Norway may have difficulties in filling this market over the next two to three years because of supply problems.

f) Salted & Dried Fish (Klippfisk)

It can be seen in Figure 1 that up to 41% of cod landings have been used for the production of salted and dried fish during the past six years. From Tables 8 and 9, it can also be seen that this product group is second only to frozen fish both in export tonnage and value.

Due to the decline in cod landings, the klippfisk industry is also feeling the pinch with respect to raw material supplies. Since saithe supplies have been good so far this winter, it is conceivable that there will be an increase in this product and a decline in cod klippfisk from Norwegian raw material in 1980.

Table 11 shows the export of klippfisk both by country and by species. It can be seen that cod klippfisk comprised slightly more than half the total export in 1978 and that pollock, ling and cusk were also important. Brazil is the most important market, but a large number of countries are major importers of Norwegian klippfisk.

Since export markets for salted and dried fish are considered to be good for the immediate future, Norwegian processors are actively seeking wet-salted raw material to cover the short falls in Norwegian supplies. Shipments have been made to Norway from Canada by at least two companies, and these are expected to continue this year (1980).

TABLE 11

Exports of salted and dried fish (klippfisk) from Norway.

Exports by country (tonnes)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Northern Brazil	1 642	1 666	751	437	428	436	578
Brazil	15 718	15 922	13 033	13 029	13 584	15 416	15 097
Dominican Republic	650	1 932	3 244	3 619	3 413	4 110	2 061
Cuba	--	5 250	--	--	--	2 072	1 727
West Indies	1 482	1 382	1 332	1 734	1 799		
USA	261	261	463	402	453	719	386
Canada	361	396	654	359	347		
Angola	1 907	874	1 487	12 568	3 114	3 100	400
Zaire (Congo)	7 633	4 587	6 757	4 137	3 527	4 376	2 213
Italy	3 629	5 165	3 327	3 205	6 462	5 395	6 059
Spain	813	132	64	--	120	399	1 441
Portugal	7 044	7 742	9 880	9 200	3 763	5 570	--
FRG	685	600	763	1 916	1 033	1 004	1 091
France	2 272	2 159	3 657	4 583	5 600	5 891	6 408
Jamaica	600	2 511	1 250	1 032	1 055	--	2 000
Mexico	53	1 110	--	688	1 066	1 201	1 797
Other countries	3 269	2 790	5 009	8 017	6 803	9 565	10 375
Total	48 019	54 479	51 671	64 926	52 567	59 254	51 633

Source: See Table 10

Exports by species (tonnes)

	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>
Cod	22 302	20 122	24 094	31 229	26 778	29 823	22 398
Ling	6 435	8 068	6 090	9 578	6 719	6 860	8 291
Cusk	4 434	8 617	4 813	4 552	4 831	6 088	5 258
Saithe	5 882	12 520	11 137	11 015	7 864	9 460	9 739
Saithe with backbone	8 918	4 887	5 447	8 474	6 207	6 906	5 664
Haddock	48	265	90	78	168	117	283
Total	48 019	54 479	51 671	64 926	52 567	59 254	51 633

Source: see Table 10.

g) Canned Fish

The Norwegian fish canning industry has been having serious problems for several years, and in February 1980 the sardine producers presented a proposal to the government for complete coordination of production and marketing of sardines. The industry feels that this is the only way Norwegian processors can survive in competition with foreign canners. There are about 20 sardine canneries in Norway today employing some 1500 workers.

Since Norway is a high-wage country and the production of Norwegian sardines involves several manual operations, the product has priced itself out of some markets. Since the Norwegian krone has not depreciated against the dollar, this has had a notable effect in the most important market, the US. Table 9 shows export developments over the past three years and it can be seen that Norwegian exports to the US, which consist chiefly of sardines, declined each year since 1976. Between 1978 and 1979, exports to the US dropped by 69 000 cases. The Norwegian share of the US sardine market dropped from about 50% in 1973 to 35% in 1976. In early 1979, the share was about 40%. The Norwegian government has also purchased about 200 000 cases of sardines a year for foreign aid programs.

Another problem has been lack of suitable raw materials. Sprats for top quality brisling sardines must have a certain fat content and size, usually found only in the Norwegian Fjords in the summer. With the decimation of the herring stocks, small herring for sild sardines have also been scarce. For canned tidbits, etc., the industry depends on imported Icelandic cured herring, and some frozen herring fillets have been imported from Canada for use in canned kipper production.

TABLE 12

Norwegian exports of canned sardines and kippers (one-quarter cases).

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Brisling (sprat) sardines	263 654	260 070	210 077	217 458
Sild (herring) sardines	952 208	970 550	919 874	754 510
Kippers	39 708	28 888	13 880	10 514

Source: Næringsmiddelindustrien og Tidsskrift for Hermetikkindustri.

2. Imports

Compared to the 725 000 tonnes of fishery products valued at over four billion Norwegian kroner exported from Norway in 1979, the imports of 26 000 tonnes worth 137 million kroner does not seem very important. According to Norwegian statistics (Table 13), Canada only supplied small quantities of herring, lobster, shrimp, crab and squid in 1978. Canadian export statistics show that Canada sold 2 843 tonnes of fishery products worth C\$4.4 million dollars to Norway in 1979 (Table 14).

The outlook is more promising. As pointed out earlier in this report, Norway will have to purchase considerable quantities of cod products for processing plants in Norway. Both frozen blocks and wet-salted cod from Canada should appear on the import statistics for 1980. Norway will still be required to import some herring and also smaller quantities of shrimp, crab and lobster. Norwegian fishermen like to use Illex squid for bait, and some imports will probably be made. Some of the quantities imported in 1978 were purchased from the USSR and were probably caught or purchased off Canada. Capelin imports were also made from USSR vessels for the salmon rearing industry. Sprats were purchased from British vessels and used in the production of sild sardines.

TABLE 13

Norway: imports of fishery products.

(Q in tonnes, V in 000 kroner)

	<u>1978</u>			<u>1979</u>		
	<u>Total</u>		<u>From</u>	<u>Total</u>		<u>From</u>
	<u>Q</u>	<u>V</u>	<u>Canada</u>	<u>Q</u>	<u>V</u>	<u>Canada</u>
Frozen salmon	64	2 365	60	33	1 518	27
Frozen sprats	10 057	12 194	--	9 224	13 623	--
Frozen capelin	3 231	2 821	--	1 080	1 050	--
Fresh cod, haddock, fillets	1 112	11 206	--	248	3 798	--
Frozen herring	422	2 785	403	186	1 235	178
Other frozen fish	687	4 411	--	301	3 225	1 157
Salt herring	320	1 568	25	--	--	419
Wet-salted cod	332	2 347	--	2 133	16 275	27
Wet-salted saithe, ling	601	4 097	--	1 037	6 528	--
Dried cod (stockfish)	98	1 255	--	325	6 028	--
Frozen lobster	89	4 813	31	104	6 074	53
Frozen shrimp	2 012	16 096	142	4 460	29 721	160
Frozen crab	38	901	3	39	1 354	10
Squid (molluscs)	3 144	10 671	909	4 684	17 363	3 312
Canned fish	565	10 025	--	604	11 337	68*)
Herring, cured, prepared	779	7 521	--	1 021	10 103	--
Other fish products, prepared	779	4 583	--	545	7 364	28
Total	24 330	99 659	1 573	26 024	136 596	5 439

Source: Central Bureau of Statistics, Oslo.

*) Includes 66 tonnes canned crab valued at N.Kr. 2 256 000.

TABLE 14

Canadian exports to Norway in 1979.

	<u>Q (tonnes)</u>	<u>V (C\$000)</u>
Spring salmon, frozen, whole	31	76
Herring fillets, frozen	199	283
Cod blocks	61	165
Cod, heavy salted	18	31
Herring, split pickled	136	98
Mackerel, split pickled	29	10
Sockeye, canned	13	99
Sardines, canned	3	3
Crab, fresh or frozen	7	61
Lobster, in shell	59	327
Lobster, meat, boiled	3	30
Lobster, meat, frozen	1	10
Shrimps	232	1 305
Squid, frozen	1 952	1 202
Squid, tubes	18	12
Crab, canned	71	542
Lobster, canned	1	24
Fish foods & feed	18	13
Herring, frozen, whole	91	136
<hr/>		
Total	2 943	4 427
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Source: Statistics Canada, Exports by Commodity, Ottawa, 1979.

E. MARKET POTENTIAL FOR CANADIAN EXPORTS TO NORWAY

In analyzing the Norwegian resource situation and their export-import balance over the next few years, there appears to be several opportunities for Canadian exporters both in Norway and in "third countries" formerly supplied by Norway. However, Norway is very quality conscious and there are several quality criteria that have to be met by Norwegian processors and exporters. The first are included in the regulations issued by the Norwegian Government (Fish Inspection Service), and the second and often tougher quality criteria are those enforced by the exporting industry itself (e.g. Frionor). Any Canadian exporters wishing to sell to the Norwegian market should be familiar with these regulations and guidelines before attempting to ship. In many markets in Europe, quality is more important than price. Canadian exporters attempting to replace Norwegian products in Third World countries (e.g. Nigeria) must also meet these criteria if similar prices are to be obtained.

The dumping of any inferior quality products on the market would in the long term be detrimental to all countries concerned. Canada should attempt to co-ordinate sales with the Norwegians and, in some cases, sell directly to them. Norway can expect more competition at the lower-end of the market from countries other than Canada marketing species such as hake and Alaska pollock. The situation is not simply a matter of competitive confrontation between Norway and Canada. Both countries realize that cooperation would be more desirable.

Transportation costs to Europe are increasing steadily together with oil prices and these, of course, will add to the export costs. However, Norwegian shipping costs to North America are similar.

There are no customs duties on fresh or frozen fishery products to be imported into Norway. Those processed products that are dutiable, are listed in Appendix I.

Norway is a member of the European Free Trade Association (EFTA), and while Norwegian products are, in most cases, dutiable when exported to EC countries, EFTA countries receive a preferential tariff rate. Duties on a number of products or species have been temporarily suspended or reduced because of short domestic supplies in the EC (see Appendix IV).

The following Canadian export opportunities have been identified:

a) Fresh fish and shellfish

Except for high priced items such as live lobsters which can be shipped by air, there are very limited opportunities (due to the distance from Canada) for exporting fresh fish to Norway or the rest of Europe. Further, the healthy state of Norwegian fresh fish exports will continue, at least in the near future.

b) Frozen groundfish products

Since Norwegian cod landings are expected to decline, Canada should be in a good position to supply the Norwegian markets for at least the next two years. Some fillet blocks have been purchased from Canada, and further purchases are anticipated when 1980 Norwegian spring cod catches have been evaluated. These blocks will be used to maintain production in processing plants and the products sold on the domestic market. Supplies for Norwegian plants in other countries such as the US, may also be purchased from Canada.

Since some plants in Norway are equipped for thawing and filleting round-frozen fish, exports of round-frozen and gutted and headed cod should not be ruled out.

Although other species may periodically be in short supply in Norway, the major shortfall in groundfish will be in cod.

c) Dried fish (Stockfish)

The supply of dried cod (stockfish) was insufficient in 1979, and Norwegian exporters had to purchase 1 000 tonnes from Iceland in order to fulfill a contract with Nigeria. Although Canada does not produce stockfish, its processing plants would increase in flexibility if this could be realized. In plants in Norway and Iceland, the first quality bled, gutted, boxed and iced fish are used for frozen fillet and blocks; second quality (or fish that has not been bled and gutted at sea) are used for salting or drying, and the poorest quality is often used for drying ("Africa fish"). Markets, particularly Nigeria's, are strong in 1980, and there is vigorous competition for the limited quantities of cod landed in Norway.

d) Wet salted or salted and dried (Klippfisk)

Norwegian processors have already purchased quantities of wet salted cod from Canada and will continue to do so in 1980. Norwegian inspectors from the importing companies are in Canada to make sure the quality is acceptable. Knowledgeable people in the klippfisk business in Norway are vehemently opposed to the use of vacuum unloaders for groundfish to be salted and dried as they claim that the twisting motion of unloaders causes gaping slits in dried fish. There should also be market opportunities for high quality, wet salted large cod fillets on the French and Italian markets, where Norway may be unable to supply their traditional customers. Exports from Norway to these countries increased sharply in 1979 to 14 000 tonnes product weight of groundfish.

In the salted and dried area, only 6 000 tonnes were of cod, out of a total of 59 000 tonnes of exports. Key salted and dried markets were Brazil, Portugal, France, Italy, Zaire, Dominican Republic, Angola, and Mexico.

e) Herring and other pelagics

The tight supply situation for herring in Europe will continue for at least another two or three years, and Canadian exports should therefore continue. The Norwegian market itself is not very large, and if a small fishery of 10-15 000 tonnes is permitted in the Atlantic-Scandia stock this year, most of these fish will be hard, sugar or spice-cured for the domestic and Scandinavian markets. In most markets, Canada will be competing with Iceland, and also with smaller Baltic herring and some North Sea (Kattegat, Skagerrak) herring that are shipped fresh to German plants. Exports of moderate quantities of frozen fillets and cured herring for Norwegian processing plants are possible over the next year or two.

Norwegian mackerel quotas were cut for the North Sea and British waters in 1980. Although catches will still be relatively high, there may be opportunities for exports of mackerel to selected markets. However, the low prices paid for mackerel in Europe may make it difficult for Canadian processors to compete.

f) Other species

As discussed earlier, dogfish landings in Norway have declined steadily over the last few years, in spite of increased fishing efforts. There are markets in the UK, FRG and France that could no doubt handle larger supplies from Norway.

F. CONCLUSION

Although Norway declared a 200-mile economic zone in 1977, the stock situation for some species is serious. As a result of lower catches and higher operating costs, many vessels are in serious financial trouble. The industry is heavily subsidized by the government, but this subsidy can also be considered as a type of regional assistance to maintain the population in Northern Norway and along the coast. Norway is now an oil-producing country with large reserves in the North Sea and a growing petrochemical industry.

Cod landings have declined by over 100 000 tonnes in the past two years, and quotas were further reduced in 1980. Norwegian fillet and block exports to the US have dropped by 50% over the past two years, and cod exports to other countries should decline in 1980. There are, therefore, opportunities for Canadian exporters to sell cod products to Norway, to Norwegian processing plants in third countries and to markets that Norway is unable to supply.

Although some other groundfish stocks are at low levels, landings of these should not decline significantly.

Herring stocks are still at very low levels, and only token catches can be expected from the Atlantic-Scandia stock over the next couple of years. Canadian exports to Europe should, therefore, continue with prices expected to hold in the near future if the Canadian dollar remains low relative to European currencies.

Norway is very quality conscious and has several quality criteria for their own products which will have to be met by Canadian exporters should they wish to further penetrate the Norwegian market proper, or displace Norway in her traditional markets.

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A P P E N D I C E S

APPENDIX I

NORWAY

CUSTOMS DUTIES ON IMPORTS FROM CANADA

03.01	Fish, fresh, chilled or frozen fish	Free
03.02	Fish, salted or in brine, dried, or smoked	
	A. Smoked	
	1. Herring	0.25 kr/kg
	2. Other	1.00 kr/kg
	B. Other	
	1. Salted salmon	0.12 kr/kg
	2. Other	Free
03.03	Shellfish and molluscs with or without shell, fresh (live or dead), chilled, frozen, dried, salted, or in brine; shellfish in the shell, cooked in water	
	A. Oysters, live	1.00 kr/kg
	B. Others	Free
16.04	Fish prepared or preserved including caviar and caviar substitutes	
	A. In airtight containers:	
	1. Caviar of sturgeon	Free
	2. Other (canned sardines, kippers, salmon, etc.)	0.12 kr/kg
	B. Other	
	1. Herring	0.25 kr/kg
	2. Sugar salted roe	0.24 kr/kg
	3. Caviar of sturgeon	Free
	4. Others (frozen fishcakes, pudding, caviar substitutes, etc.)	1.00 kr/kg
16.05	Shellfish and molluscs prepared or preserved	
	A. In airtight containers	
	1. Lobster	0.37 kr/kg
	2. Crab	0.75 kr/kg
	3. Other (shrimp)	1.50 kr/kg
	B. Other	
	1. Shrimp	0.97 kr/kg
	2. Other	1.00 kr/kg

APPENDIX II

FINANCIAL SUPPORT TO NORWEIGIAN FISHERIES 1978-1980

Includes items covered under the agreements negotiated between the Norwegian Fishermen's Organization and the Government. Extraordinary or emergency loans, grants and subsidies not included.

		(Millions - N. Kroner)		
		1978	1979	1980
Total		430	640	1 400
Total less loans		412	525	1 364
Total less loans and measures to reduce fleet i.e. direct subsidies only		412	465	1 044
GROUND FISH, SHELL FISH, SHARKS, WHALES ETC. Total		242	252	450
Price subsidies, transport etc.		177	198	377
Freight equalization		8	6	5.8
Price subsidies, shrimp		40	33	37.5
Transport subsidies, shrimp		--	--	2.5
Price, production subsidies, crabs		9.5	8.5	12
Whale meat etc.		3	2	9
Basking shark liver, fins etc.		2	2	2
Porbeagle etc.		1.4	1.4	1.4
Bluefin tuna		1.1	1.1	1.25
"Artificially dried fish meal"		--	--	2
PELAGICS Total		74	153	176.6
Price subsidies, human food raw material		10	10	18
Coastal mackerel		10	10	22.5
Offshore mackerel		12	12	16.6
Sprat subsidies		13.2	13.2	15
Argentine		--	--	2.2
Fjord herring		10.8	0.8	1.3
Trawl fishery for industrial fish (meal & oil)		16	15	24
Price subsidies, Blue Whiting		2.5	2.5	12
Transportation, fish for reduction		9.5	9.5	29
Loans to Price Regulation Fund		--	80	36
OTHER MEASURES Total		132	160	418
Interest subsidies, working capital loans		1.8	5	15
Longline baiting depots		--	--	5
Gear subsidies		37	40	38
Bait subsidies		32	35	50
Minimum share subsidy		17	17	33
Vacation fund		--	--	35
Efficiency improvement measures		23.2	26	40
ICNAF-East Greenland		3	2	3
"Operating fund" (grants per day at sea)		--	--	25
Part subsidization of insurance premiums.		--	--	44
Loans for operating capital		18	35	--
Other cost-reducing measures		--	--	130
FLEET REDUCING MEASURES Total		--	60	320
Grants to trawlers to tie up		--	--	50
Dept. consolidation, refinancing, trawlers		--	--	60
Condemnation grants, purse seiners		--	60	£195
Condemnation grants, other vessels		--	--	15
RESERVE		--	15	35

Other support measures include wage subsidies to fish processing plants, ship building subsidies, area incentives (like DREE) etc.

APPENDIX III

FISHERMEN AND VESSELS

As of January 1, 1979, there were about 33 600 fishermen as compared to 32 600 the year before. Of these, about 18 200 had fishing as "only occupation", 6 500 as "chief occupation" and 8 900 as "part-time occupation".

Total number of man-years in fishing for 1979, estimated to be 23 000 is unchanged from 1978.

As of January 1, 1979, a total of 25 180 fishing vessels with engines were registered as compared to 24 847 the year before. Of these 17 317 were open; 6 011 decked of wood; 740 decked of steel; 1 059 decked of plastic; and 53 decked of other materials.

APPENDIX IV

FISHING AGREEMENT BETWEEN NORWAY AND THE EC FOR 1980

(000 tonnes)

	<u>Total Quota</u>	<u>Norwegian Share</u>
<u>North Sea</u>		
Cod	200	34.0
Haddock	69	15.9
Saithe	129	67.0
Whiting	105	10.5
Mackerel	55	44.8
<u>West of 4° West</u>		
Mackerel		22.0
<u>West Greenland</u>		
Shrimp		2.5
<u>East Greenland (trail fishery)</u>		
Shrimp		2.5

EC Quota in Norwegian Waters
North of 62°N

	<u>1980</u>	<u>1979</u>
Norwegian Arctic cod	17.0	32
Norwegian Arctic haddock	3.4	15
Saithe (pollock)	11.5	13
Redfish	11.5	16

APPENDIX V

THE NORWEGIAN FISHERMEN'S ASSOCIATION (NORGES FISKARLAG)

This is a politically independent, national trade union formed in 1926 based on voluntary membership of fishermen through county associations and group organizations. The Head office is in Trondheim. Local associations (ca.900) combined into county associations (13) is still the typical form of organization, but in 1967 a rule change made it possible for nation-wide group organizations and fishing vessel owners to become members. (4) The only group organization of fishermen still outside the Association is the fisheries sector of the Norwegian Seamen's Union.

The highest governing body is the 70 member Congress which ordinarily meets every second year, and an 18 member National Committee elected by the Congress acts as the highest authority in the intermediate period. The Congress members are elected by the county fishermen's association (one member for each 500 fishermen) and the group organizations.

The Norwegian Fishermen's Association is actively involved in practically all matters that concern fisheries and fishermen in Norway. They have a press and information department, publish a monthly magazine (Me'a) and also control the editorial content of a bi-weekly newspaper (Fiskaren). The Association has been instrumental in achieving improved social conditions and benefits for fishermen such as group insurance, accident insurance, pensions, unemployment insurance, minimum shares, special rules for income tax, vacation for fishermen, travelling libraries, vocational training, etc.

The Association, through a negotiating committee, presents well documented demands and bargains with the Government several times a year for governmental subsidies, loans, and grants deemed necessary to maintain earnings of fishermen at a level equivalent to industrial workers in coastal districts.

Since members of the boards of fishermen's sales organizations are elected from county associations of the Norwegian Fishermen's Association, N.F.A. has a considerable influence on fish marketing. This influence also extends to exporting committees and cooperatives since fishermen's sales organizations are often represented on these through their own processing cooperatives or companies.

Members pay a reasonable annual membership fee to N.F.A., but the major part of the association income comes from the fees on all fish sales collected by fishermen's sales organizations.

Fishermen's Sales Organizations (Marketing Cooperatives)

First hand sales of fish in Norway are by law required to go through, or to be approved by, a sales organization of fishermen. Under the so-called "Raw Fish Act", dated December 14, 1951, also known as the "fishermen's constitution", the sales organizations have the right to approve fish buyers, to initiate temporary fishing restrictions, to direct fish catches to certain buyers or for a particular end use, to establish and operate processing plants, to process, sell and export fish, to collect a fee on all fish landings and to establish minimum prices.

Since the Norwegian coast is very long with a variety of seasonal fisheries, processing and marketing procedures, the 12 existing sales organizations have developed along different lines.

The Norwegian Raw Fish Organization (R.F.O) is the largest of these and have a monopoly on the first-hand sale of groundfish and shellfish in the richest fishing districts in Northern Norway. Sales handled through this organization total close to 1.5 billion kroner.

Fishermen become members of the organization through their county organizations of the Norwegian Fishermen's Association or the Norwegian Seamen's Union. The Council has 45 members elected by N.F.A. organizations, the Board has eleven members elected by the Council and a Managing Director heads a sizeable staff to handle day to day operations. A sales committee negotiates with buyers for minimum prices which are differentiated according to species, size, district and utilization. Agreement is seldom reached and government subsidies are used to make up the difference. Generally the Raw Fish Organization does not influence the end use of the catches and in principle the fishermen have the right to deliver their catches to any buyer that has been approved by the organization. Individual sales are the responsibility of the fisherman and the buyer pays the fishermen directly. All sales must be recorded on R.F.O. purchase slips and sent to them immediately and the buyers must also send in weekly reports on the utilization of the fish bought. A levy on all first-hand sales are used by R.F.O. to cover operating expenses; to participate in the financing and operation of processing companies, banks, gear manufacturing plants, etc.; to finance the Norwegian Fishermen's Association; a price regulation fund and for various other purposes.

Other sales organizations operate differently. In Sunnmøre and Romsdal Sales Organization, the fisherman notifies the Organization office which then contacts buyers. The highest bidder gets the catch. This system is also used for food herring by the Norwegian Herring Fishermen's Sales Organization. However, in the first instance (S.R.S.O.) the fisherman is paid the price bid less the levy, but in the case of herring, an average price based on the sales prices for a certain period is paid. For catches to be used for meal and oil, prices are fixed before the season and the sales organization handles the directing of the vessel and all monetary transactions.

Exports

The Government can regulate exports pursuant to the Fish Export Act of 1955. The minimum requirement to be met by a processor or company is that they have been approved or licensed by the Government as an exporter. They can then freely export a few products to so-called free markets. In order to export certain other products, the exporter must be a member of an association of exporters. For example, all exporters of salted/dried fish (klippfisk) must be members of the Norwegian Klippfisk Exporters National Association. In order to export to countries where export centralized export is required by law (East Bloc, Portugal, etc.), the export negotiations and signing of contracts are carried out on their behalf by A/L Unidos, a marketing cooperative that has been given exclusive export rights by the Export Committee for Klippfisk. This committee, and others for various product groups, is appointed by the Minister of Fisheries

and have representatives from producers/exporters and fishermen's groups. They act as advisory bodies to the Ministry, make sure that minimum export prices and sales conditions are met and must deal with all new regulations and acts before they are implemented. They can also negotiate sales and close contracts for exports to centralized countries, but usually this right is transferred to export associations or cooperatives (Unidos, Frionor, etc.).

Exporters of frozen fish do not have to belong to an exporters association, and with a license from the Export Committee for frozen fish and fillets, can export their products to a limited number of countries. For most markets, exports are centralized and are carried out on their behalf by Export Cooperatives such as Frionor and Nordic Group. These two have exclusive rights for exports to the United States. Exports of frozen herring, mackerel and dogfish are handled by other committees or co-ops. There are presently thirteen export committees, seven authorized fish exporter's associations and nine or ten other export associations or cooperatives dealing with various combinations of products and markets.

