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

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# GROUND FISH

**REVISED 1981**



Government  
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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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Annex to the  
Worldwide Fisheries Marketing Study:  
Prospects to 1985

GROUND FISH

Author

December, 1981.

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

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E. Wong  
December, 1981

## 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

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WORLDWIDE FISHERIES MARKETING STUDY

GROUND FISH

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## A. INTRODUCTION

World landings of major groundfish species have been in a decline, from 9.9 million tonnes in 1974 to 7.5 million tonnes in 1978. It is particularly significant that during this same period the world catch of cod dropped from about 3 million tonnes to 2.3 million tonnes.

So far as Canada is concerned, the groundfish sector is the single most important component of the fishing industry, as illustrated by the fact that in 1979 the major species accounted for 52% of total tonnage landed and 27% of the landed value of the Canadian catch.

The significance of groundfish is further illustrated in export trade figures, which show that in 1979 Canada sold 425 756 tonnes of fish to foreign buyers, and of that total 38% or 162 612 tonnes was groundfish. Our biggest customer is and will continue to be the United States, which in 1979 absorbed 87% of Canadian groundfish exports, while the remaining 13% -- consisting mainly of saltfish -- went to a wide range of countries.

For the Canadian industry, the outlook is good. Projected landing figures indicate that by 1985 the Canadian harvest of groundfish species could reach about 1.4 million tonnes, a significant increase over 1979 landings of 737 000 tonnes. At the same time, the share of the total domestic catch contributed by groundfish could rise to 54% from 52%.

There are, however, factors that introduce an element of uncertainty into the prospects of actually achieving an increase of the magnitude projected. These projections represent maximum potential catches, and are based on a number of assumptions that are not likely to be met fully. The assumptions are:

- that Canada can deploy unlimited harvesting capability, irrespective of economic considerations;
- that sufficient and suitably deployed processing capacity will be available:

- that Canada obtains the most favourable allocations possible for fishing in the areas beyond the 200-mile zone;
- that foreign nations are not allowed to fish in Canadian waters, and
- that the present management strategy is maintained.

The tables that follow provide more details on world catches, Canadian groundfish landings, and Canadian potential landings projected to 1985.

TABLE 1  
World Catch of selected Groundfish species, 1971-1979  
(000 tonnes, round weight)

<u>Year</u>	<u>Cod</u>	<u>Haddock</u>	<u>Halibut</u>	<u>Pollock</u> <sup>1</sup>	<u>Redfish</u>	<u>Turbot</u>	<u>World Total</u>
1971	3 056	506	46	4 276	582	158	8 624
1972	2 886	549	39	4 873	563	141	9 051
1973	2 692	625	32	5 284	559	115	9 307
1974	2 977	582	22	5 668	538	142	9 929
1975	2 606	529	25	5 732	695	138	9 725
1976	2 543	515	24	5 825	770	110	9 787
1977	2 394	403	20	4 851	478	103	8 249
1978	2 295	338	20	4 376	355	112	7 496
1979	2 152	344	21	4 412	238	113	7 424

<sup>1</sup> Includes Atlantic and Alaska pollock.

Source: FAO, Yearbook of Fishery Statistics, Vol. 48, Rome, Italy.



TABLE 2  
Canadian groundfish landings, 1979  
 (Quantities (Q) 000 tonnes, round weight - Values (V) \$ millions)

Species	Atlantic coast		Pacific coast		Canada	
	Q	V	Q	V	Q	V
Cod <sup>1</sup>	378.0	121.3	11.1	5.6	389.1	126.9
Haddock	34.6	16.0	--	--	34.6	16.0
Ocean Perch	80.6	15.4	8.8	2.9	89.4	18.3
Halibut	1.9	4.5	3.9	16.5	5.8	21.0
Flatfish (incl. turbot) <sup>1</sup>	150.6	37.6	6.3	2.5	156.9	40.1
Pollock	31.2	7.0	3.4	0.7	34.6	7.7
Hake	12.8	2.6	--	--	12.8	2.6
Cusk	4.9	1.7	--	--	4.9	1.7
Catfish	4.1	0.8	--	--	4.1	0.8
Other groundfish	<u>3.7</u>	<u>0.7</u>	<u>1.7</u>	<u>3.1</u>	<u>5.4</u>	<u>3.8</u>
Total groundfish	702.4	207.6	35.2	31.3	737.6	238.9
Total sea fisheries	1 216.9	497.5	155.6	332.5	1 372.5	830.0
Inland fisheries	--	--	--	--	49.2	43.2
Grand total - Canada	--	--	--	--	1 421.7	873.2
Share of groundfish in total catch	58%	42%	23%	9%	52%	27%

<sup>1</sup> For breakdown see Table 3.

Source: DFO Canadian Fisheries, Annual Statistical Review, Ottawa, 1979.

TABLE 3  
Potential groundfish catches, 1981 and 1985  
 (000 tonnes, round weight)

	Atlantic coast			Pacific coast			Total		
	1979	1981	1985	1979	1981	1985	1979	1981	1985
Cod	378	425	606	11	9	9	389	434	615
Haddock	35	55	58	--	--	--	35	55	58
Ocean Perch	81	80	143	9	14	19	90	94	162
Halibut	2	2	2	4	2	2	6	4	4
Turbot	40	45	65	--	--	--	40	45	65
Pollock	31	32	35	3	5	9	34	37	44
American plaice	75	80	98	--	--	--	75	80	98
Witch	10	10	23	--	--	--	10	10	23
Yellowtail	21	25	25	--	--	--	21	25	25
Other flatfish (excl. turbot)	4	5	11	6	8	8	10	13	19
Flatfish	(110)	(120)	(157)	( 6)	( 8)	( 8)	(116)	(128)	(165)
Grenadier	0	1	27	--	--	--	0	1	27
Hake	13	13	90	--	2	30	13	15	120
Other groundfish	12	18	80	2	3	14	14	21	94
<b>Total groundfish</b>	<b>702</b>	<b>791</b>	<b>1 263</b>	<b>35</b>	<b>43</b>	<b>91</b>	<b>737</b>	<b>834</b>	<b>1 354</b>
<b>Fish and shellfish total<sup>1</sup></b>	<b>1 217</b>	<b>1 261</b>	<b>2 213</b>	<b>156</b>	<b>160</b>	<b>242</b>	<b>1 422</b>	<b>1 474</b>	<b>2 508</b>
Share of groundfish in total catch							52%	57%	54%

<sup>1</sup>Total includes freshwater fish data.

<sup>1</sup> Total includes freshwater fish data.

Source: DFO Canadian Fisheries, Annual Statistical Review, and Resource Services Directorate, Department of Fisheries and Oceans.

1. Canadian groundfish consumption

It is estimated that Canadian groundfish consumption will grow from 3.35 kilograms per capita in 1979 to 3.46 in 1985 (product weight). This means the domestic market could consume 89 000 tonnes of groundfish in 1985, up from 79 000 tonnes in 1979. When developing these figures, it was assumed that Canada's population would increase from 23.7 million in 1979 to 25.7 million in 1985.

TABLE 4  
Canadian consumption of groundfish, 1979 and 1985<sup>1</sup>

	Per capita consumption (kilograms, product weight)		Total consumption (000 tonnes, product weight)	
	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>
Cod	1.65	1.71	38.9	43.9
Ocean perch	0.32	0.35	7.7	8.9
Haddock	0.36	0.37	8.4	9.5
Pollock	0.42	0.42	9.8	10.7
Hake	0.05	0.05	1.2	1.4
Flatfish	0.29	0.30	7.0	7.7
Halibut	0.10	0.10	2.3	2.4
Turbot	0.13	0.14	3.1	3.5
Others	<u>0.03</u>	<u>0.03</u>	<u>0.6</u>	<u>0.7</u>
Total	3.35	3.46	79.0	89.0

<sup>1</sup> See also Appendix I and II.

Source: DFO worksheets and Marketing Services Branch projections.

2. Canadian groundfish export forecast, 1985

Since it is presumed that Canada will not import groundfish in 1985, the volume available for export can be calculated by deducting estimated Canadian consumption from the quantity, which suggests that the maximum volume of 1985 exports may be about 312 000 tonnes, up from 162 600 tonnes in 1979.

TABLE 5  
Canadian groundfish availability, 1985  
(000 tonnes, product weight)

	1979	1985				
	:				Domestic	Export
	Exports:				retention	availability
	:	Atlantic	Pacific	Total		
Cod	89.7	194.8	3.6	198.4	43.9	154.5
Haddock )		19.0	--	19.0	9.6	9.4
Hake )	24.2	25.1	8.4	33.5	1.4	32.1
Pollock )		5.9	5.0	10.9	10.7	0.2
Ocean perch	17.4	41.2	6.0	47.2	9.0	38.2
Halibut	1.1	1.4	1.4	2.8	2.4	0.4
Flatfish	21.2	41.0	3.0	44.0	7.7	26.3
Turbot	8.2	18.1	--	18.1	3.5	14.6
Other	<u>0.9</u>	<u>23.0</u>	<u>4.0</u>	<u>27.0</u>	<u>0.7</u>	<u>26.3</u>
Total	162.7	369.5	31.4	400.9	88.9	302.0

Source: Statistics Canada: Exports by Commodities and MSB projections.

## B. THE US MARKET

### 1. Projected developments

As noted earlier, the US is, and is likely to remain, the primary market for Canadian groundfish in the foreseeable future. Therefore, the expansion of US domestic fisheries will be a major factor determining the level of Canadian exports to that country.

The US government announced the principles of its "first-ever national fisheries policy" on May 23, 1979. The policy reaffirms the determination of the administration to take maximum advantage of the extended fisheries jurisdiction and to expand the harvesting and processing potential of the domestic industry. In 1978, the US imported \$3.1 billion worth of fish products, but the value of its fish exports was only \$900 million, leaving a deficit of \$2.2 billion. It is the aim of the announced policy to decrease the deficit in fishery products to at least \$700 million by 1990.

### 2. US groundfish landings

For the purpose of this report, US landings have been estimated for 1981 and 1985. One should consider these figures only as rough approximations for a number of reasons, including the fact that insufficient biological research has been done for certain species to predict potential catches. As well, it is difficult to foresee the pace of the development of the additional US harvesting and processing capability, and even more unpredictable is the extent of fisheries development in Alaska because of the vast capital requirements involved. The cost of production for certain lines may be too high in Alaska to produce marketable products. Thus it is difficult to judge in every case whether certain Alaskan products will be price-competitive in the US midwest and on the Atlantic coast in competition with imports from Canada. The catch level for certain species will be dependent on the extent the US consumer is prepared to accept new products and on the development of new export markets.

On the Atlantic coast US groundfish landings may increase from 182 000 tonnes in 1979 to 185 000 to 239 000 tonnes in 1985.

TABLE 6  
Forecast of US Atlantic coast (including  
Gulf of Mexico) groundfish landings, 1981 and 1985

(000 tonnes, round weight)

	<u>1979</u>	<u>1981</u>	<u>1985</u>
	Actual		
Cod	45	40-45	40-45
Haddock	19	21-27	27-33
Flatfish	64	48-58	50-60
Pollock	16	22-27	22-27
Ocean perch	15	15-25	15-25
Hake: white	4	4-6	4-6
red	3	8-12	12-18
whiting (silver hake)	<u>16</u>	<u>15-25</u>	<u>15-25</u>
Total	182	173-225	185-239

Source: U.S. Dept. of Commerce, Fisheries of the United States, (NMFS) and MSB projections.

The growth of the Pacific groundfish catch is centered on hake, and for other species the possibility of increased harvests is limited. The Pacific groundfish catch is projected as growing from 88 000 in 1979 to the range of 15 000 - 190 000 tonnes by 1985.

TABLE 7  
Forecast of US Pacific coast groundfish landings  
1981 and 1985

(000 tonnes, round weight)

	<u>1979</u>	<u>1981</u>	<u>1985</u>
	Actual		
Cod	9	8- 10	8- 10
Flatfish	31	27- 33	30- 40
Hake	14	35- 45	80-100
Ocean perch and rockfish	<u>34</u>	<u>34- 40</u>	<u>34- 40</u>
Total	88	104-128	152-190

Source: IBID

The most substantial US groundfish resources are in Alaskan waters, with a maximum sustainable yield that exceeds 2 million tonnes, of which 1.5 million tonnes is Alaska pollock. It is forecast that as compared to 13 000 tonnes in 1979, the US Alaska groundfish catch may amount to between 123 000 and 177 000 tonnes in 1985.

TABLE 8  
Forecast of US Alaska groundfish landings, 1981 and 1985

	(000 tonnes, round weight)		
	<u>1979</u> Actual	<u>1981</u>	<u>1985</u>
Cod	--	8-12	30-40
Ocean perch	--	3-7	5-15
Alaska pollock	3	15-25	60-80
Flatfish	--	10-20	20-30
Halibut	<u>10</u>	<u>8-12</u>	<u>8-12</u>
Total	13	44-76	123-177

Source: IBID.

Based on the above figures, the total US groundfish catch may expand from 283 000 tonnes in 1979 to between 460 000 and 606 000 tonnes in 1985.

TABLE 9  
US groundfish landing projections, 1985  
(000 tonnes, round weight)

	<u>Atlantic</u>		<u>Pacific</u>		<u>Alaska</u>		<u>Total</u>	
	1979	1985	1979	1985	1979	1985	1979	1985
Cod	45	40-45	9	8-10	--	30-40	54	78-95
Haddock	19	27-33	--	--	--	--	19	27-33
Flatfish	64	50-60	31	30-40	--	20-30	95	100-130
Pollock	16	22-27	--	--	3	60-80	19	82-107
Ocean perch	15	15-25	34	34-40	--	5-15	49	54-80
Hake								
-White	4	4-6	--	--	--	--	4	4-6
-Red	3	12-18	--	--	--	--	3	12-18
-Whiting (silver hake)	16	15-25	14	80-100	--	--	30	95-125
Halibut	--	--	--	--	10	8-12	10	8-12
Total	182	185-239	88	152-190	13	123-177	283	460-606

Source: IBID.

### 3. US Demand projection for groundfish

It is estimated that as compared to 476 000 tonnes in 1979, aggregate US demand for groundfish (all product forms) may amount to about 550 000 tonnes in 1985. (For details see Appendix V).

TABLE 10  
US groundfish consumption, 1977-79 and 1985  
(000 tonnes, product weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1985</u>
Round/dressed	52	53	56	--	68
Fillets	198	213	218	214	254
Blocks	171	186	190	160	214
Salted	<u>12</u>	<u>12</u>	<u>12</u>	<u>--</u>	<u>14</u>
Total	433	464	476	--	550

Source: U.S. Dept. of Commerce, Food Fish Market Review (NMFS) and MSB projections.

Fillets and blocks account for about 85% of US groundfish consumption. Between 1972 and 1979 the fillet market expanded from 179 000 tonnes to 218 000 tonnes, corresponding to a compound annual growth rate of 2.5%. During the same years the block market grew from 158 000 tonnes to 190 000 tonnes, similarly by a 2.5% annual growth rate. Between 1976 and 1979, however, the growth rates of fillets versus blocks were different. During these years total fillet consumption continued to grow by 2.5% annually but the growth rate for blocks dropped to 2%. It is assumed in this report that between 1979 and 1985 the expansion of the American groundfish market will follow the pattern of the past three years: fillet consumption may grow by 2.5% and block consumption by 2% annually.

As far as substitution among species is concerned it is projected that cod blocks will hold their market share of around 50% in 1985 while Alaska pollock and whiting block consumption will grow faster than the total block market, at the expense of other species.



In the fillet market, declining sales of ocean perch was linked to product shortages in recent years. Since future plentiful supplies of ocean perch are anticipated, it is projected that such fillets will stage a comeback, to some degree.

#### 4. US groundfish balance

Despite a 50% projected increase in domestic production of groundfish products, the growing US demand will have to be met by increased imports of about 386 000 tonnes in 1985, up 10% from 352 000 tonnes in 1979.

TABLE 11  
US groundfish balance, 1979<sup>1</sup> and 1985  
(000 tonnes, product weight)

	<u>Demand</u>		<u>Domestic</u> <u>Production</u>		<u>Exports</u>		<u>Imports</u>	
	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>	<u>Actual</u>	<u>Potential</u>
							<u>1979</u>	<u>1985</u>
Cod	187	215	21	32	--	6	162	189
Haddock	36	41	7	12	--	--	24	29
Flatfish	70	78	36	43	--	--	27	35
Turbot	20	23	--	--	--	--	18	23
Atlantic pollock	32	36	8	10	--	--	23	26
Alaska pollock	29	36	--	23	--	--	29	13
Ocean perch	44	55	21	27	--	--	26	28
Hake	37	47	13	16	--	--	26	31
Halibut	7	10.5	7	7	--	--	2.3	3.5
Other <sup>2</sup>	14	9	--	--	--	--	15	9
<b>Total</b>	<b>476</b>	<b>550</b>	<b>113</b>	<b>170</b>	<b>--</b>	<b>6</b>	<b>352</b>	<b>386</b>

<sup>1</sup> The discrepancy between demand minus domestic production on the one hand and imports on the other in 1979 is attributable to inventory movements between January and December 1979.

<sup>2</sup> Minced blocks and fillet blocks of minor species.

Source: U.S. Dept. of Commerce, Fisheries of the United States, (NMFS) and MSB projections.

C. PROSPECTS BY MAJOR SPECIES

1. Cod

Traditionally and historically, rich resources of cod have been the foundation upon which much of the Canadian industry was built, and the outlook appears to be extremely favourable overall.

The Canadian cod catch is expected to increase from 389 000 tonnes in 1979 to a possible maximum of 615 000 tonnes in 1985 (Table 3).

The Atlantic coast potential is 606 000 tonnes, or 60% more than the actual catch of 378 000 tonnes in 1979.

The Pacific forecast shows a potential decline from 11 000 tonnes in 1979 to 9 000 tonnes in 1985.

Canadian consumption

Per capita consumption of cod in Canada is expected to grow from 1.65 kilograms in 1979 to 1.71 kilograms product weight in 1985 (Table 4), with total consumption increasing from 39 000 tonnes in 1979 to 44 000 tonnes by 1985.

TABLE 12  
Canadian cod consumption  
(000 tonnes, product weight)

	<u>1979</u>	<u>1985</u>
Whole/dressed	6.8	8.2
Filletts	14.1	15.4
Blocks	17.0	19.3
Cured	<u>1.0</u>	<u>1.0</u>
Total	38.9	43.9

Source: DFO worksheets.

Canada's pacific cod fishery

Catches off the coast of British Columbia are in a decline, and the harvest of grey cod and ling cod may drop from 11 100 tonnes in 1979 to about 9 000 tonnes in 1985.

The table that follows sets out in detail actual production and projected production of grey cod and ling cod. It is important to note that while ling cod is not cod in the biological sense, it is considered as such from a marketing point of view because the product characteristics are very similar.

TABLE 13  
Potential BC cod production by product form, 1985  
(000 tonnes, product weight)

	<u>1979</u>	<u>1985</u>
Whole/dressed	1.3	1.0
Fillets	2.3	2.0
Blocks	0.8	0.6
Smoked	<u>0.02</u>	<u>0.02</u>
Total	4.4	3.6

Source: DFO Canadian Fisheries, Annual Statistical Review and MSB projections.

In 1979 about 1 700 tonnes and in 1980 about 3 500 tonnes of black cod (sablefish) was landed in BC. Since sablefish does not belong to the cod family, it is separated out. Such landings may amount to about 4 000 tonnes in 1985.

It is estimated that a total of 966 tonnes of BC cod products entered the US market in 1980. Presumably the rest was absorbed by the Canadian market.

TABLE 14  
BC cod exports to the US, 1980  
(000 tonnes, product weight)

	<u>Whole/dressed</u>	<u>Fillets and blocks</u>
Pacific cod	201	618
Ling cod	<u>74</u>	<u>73</u>
Total	275	691

Source: Special tabulation of Canada export declaration forms.

Taking into account the forecast drop in catch and growing Canadian cod consumption, cod exports to the US may be about 500 tonnes in 1985.

Japanese imports of black cod (sablefish) have increased substantially after 1977 since Japan lost its fishing grounds after the introduction of 200-mile zones. In 1980, Canada exported 1 230 tonnes of sablefish to Japan and smaller quantities to the US, Hong Kong, the Netherlands and Belgium. Japan is seen as a potential growth area and may buy 3 500 to 4 000 tonnes of dressed sablefish from Canada in 1985. Taiwan has also been identified as a potential market for black cod.

#### Market potential for Canadian cod

The following table sets out projected Canadian cod consumption and export opportunities identified for various countries for 1985. According to these projections the total volume of identified market requirements may exceed the projected maximum catch potential by 53 000 tonnes (round weight). The fastest expansion is foreseen for salted cod (+170%), followed by fillets and blocks (+50%). The major growth areas are the EC (from 5 000 to 31 000 tonnes of exports in terms of product weight), the US (from 74 000 to 92 000 tonnes), Spain and Portugal (from 3 000 to 22 000 tonnes) and the Latin America-Caribbean regions (from 8 000 to 20 000 tonnes).

TABLE 15  
Market potential for Canadian cod, 1985  
 (000 tonnes, product weight)

	Fresh/frozen dressed		Fresh/frozen fillets		Blocks		Cured		Total	
	1979	1985	1979	1985	1979	1985	1979	1985	1979	1985
	Canada	7	8.2	14	15.4	17	19.3	1	1	39
US	3	--	21	29	41	54	8.5	9	73.5	92
EC: FRG	--	1.5	0	2.5	0.5	10	--	0.2	0.5	14.2
UK	0.1	0.6	1	1.9	0.8	5	--	--	1.9	7.5
France	0.02	0.1	0.03	0.4	0.4	1.1	0.03	0.6	0.5	2.2
Italy	0.1	--	--	--	--	--	1.6	4	1.7	4
Belgium	--	--	--	0.7	0.02	--	0.01	--	0.03	0.7
Denmark	--	--	--	--	0.03	0.03	0.02	0.1	0.05	0.1
Greece	--	--	--	0.1	--	--	0.1	2.0	0.1	2.1
EC Total	(0.2)	(2.2)	(1)	(5.6)	(1.8)	(16.1)	(1.8)	(6.9)	(4.8)	(30.8)
Sweden	--	--	0.02	4.8	--	--	0	0.2	0.02	5
Spain	0.2	2	0.02	0.2	--	0.5	0.7	10	0.9	12.7
Portugal	1.5	2	0.2	--	--	--	0.1	7	1.8	9
Norway	--	--	--	0.5	0.1	1	0.02	0.5	0.1	2
Japan	0.02	0.5	--	0	0.04	0.1	--	--	0.06	0.6
Australia	--	--	0	0.04	--	0.3	0.1	0.1	0	0.4
Zaire	--	--	--	--	--	--	0.3	0.3	0.3	0.3
Latin America and Caribbean	0.3	1.3	0.2	0.3	0.04	0.05	7.0	18.2	7.5	19.8
Total (product weight)	12.2	16.2	36.4	55.8	60.0	91.4	19.5	53.2	128.0	216.6
Factor	--	1.2	--	3.18	--	3.18	--	3.4 <sup>1</sup>	--	--
Total (round weight)	--	19.4	--	177.4	--	290.6	--	180.9	--	668.3
Maximum catch potential (round weight)	--	--	--	--	--	--	--	--	--	615.0
Deficiency (round weight)	--	--	--	--	--	--	--	--	--	53.0

<sup>1</sup> It is presumed that one-third of saltfish exports may be in the wet salted form.

Source: Statistics Canada, Exports by Commodities and MSB projections.

### Major markets

The paragraphs that follow deal with prospects for sales in the world's major exporting countries, beginning with the United States - Canada's biggest customer.

### The US market

In addition to general economic conditions, Canadian export possibilities to the US in 1985 will depend on the expected level of consumption in that market, developments in domestic fisheries, and competition from other countries.

The following table shows the growth of US demand for cod between 1977 and 1978, and projected consumption for 1985.

TABLE 16  
US cod consumption, 1975-1985  
(000 tonnes, product weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1985</u>
Dressed <sup>1</sup>	6	6	6	6	7
Fillets	63	78	81	81	94
Blocks	84	94	92	79	104
Salted <sup>1</sup>	8	8	8	8	10
Total	<u>161</u>	<u>186</u>	<u>187</u>	<u>174</u>	<u>215</u>

<sup>1</sup> Estimated and MSB projections.

Source: U.S. Dept. of Commerce, Food Fish Market Review, (NMFS), Washington, D.C.

Because of limitations of the US statistical system, the volume of dressed and salted cod consumed can only be estimated. Making allowance for this, total US cod consumption (dressed, fillets, blocks and salted) amounted to about 187 000 tonnes in 1979. By 1985 the equivalent figure may be in the neighbourhood of 215 000 tonnes. Fillet consumption may grow from 91 000 tonnes in 1979 and 94 000 tonnes in 1985 and block consumption from 92 000 tonnes to 104 000 tonnes. The dressed component is projected to increase from 6 000 to 7 000 tonnes and salted cod from 8 000 to 10 000 tonnes.

US cod landings

In order to quantify expected US developments for cod, estimates have been developed for expected catch levels for 1981 and 1985. According to these forecasts, US cod fisheries will expand only in Alaska. On the Atlantic coast the catch is expected to remain stationary at between 40 000 and 45 000 tonnes in both 1981 and 1985. No change is foreseen for the Pacific coast, either. The Alaskan cod harvest, on the other hand, is expected to grow from practically nil in 1979 to between 8 000 and 12 000 tonnes in 1981 and to 30 000 to 40 000 tonnes in 1985. Taking the three areas together, the total US cod catch could increase from 54 000 tonnes in 1979 to between 78 000 and 91 000 tonnes in 1985.

TABLE 17  
US Cod<sup>1</sup> landings, 1977-79, 1981 and 1985  
 (000 tonnes, round weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	Forecast for	
				<u>1981</u>	<u>1985</u>
Atlantic coast	34	39	45	40-45	40-45
Pacific coast	8	8	9	8-10	8-10
Alaska	--	<u>0</u>	--	<u>8-12</u>	<u>30-40</u>
Total	42	47	54	56-67	78-95

1 Includes ling cod

Source: U.S. Dept. of Commerce, Fisheries of the United States, (NMFS), Washington, D.C. and MSB projections.

US cod balance

Based on forecast cod landings, American cod production may increase from 23 000 tonnes in 1979 to 32 000 tonnes (product weight) in 1985. Of the 1985 total about 11 000 tonnes would be produced in Alaska. It is assumed that about

half of this volume will not enter the domestic market but will be exported to Japan. The expectation is that a substantial market will develop in Japan, and its geographic proximity may make Alaska a convenient source of supply.

Despite some increase in domestic landings, the US is likely to import more cod in 1985 than in recent years. Fillet imports may grow from 64 000 tonnes in 1979 to 75 000 tonnes in 1985 and those of blocks from 88 000 tonnes to 104 000 tonnes. Dressed cod expected to be supplied from domestic sources, while the volume of salted cod imported may increase to 10 000 tonnes during the next five years.

TABLE 18  
US cod balance, 1979 and 1985  
 (000 tonnes, product weight)

	Demand		Domestic production		Exports		Imports	
	1979	1985	1979	1985	1979	1985	Actual	Potential
	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>
Dressed	6 <sup>1</sup> )	7	6 <sup>1</sup> )	7	--	--	--	--
Fillets	81	94	17	25	--	6	64	75
Blocks	93	104	--	--	--	--	88	104
Salted	<u>8<sup>1</sup></u>	<u>10</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>8<sup>1</sup></u>	<u>10</u>
Total	188	215	23	32	--	6	160	189

1) Estimate

Source: IBID.

US cod imports

In 1979 the US imported 66 000 tonnes of cod fillets and 88 000 tonnes of cod blocks. Iceland was the leading supplier of fillets (50% of the total) followed by Canada (35%). Canada, on the other hand, supplied 45% of all imported cod blocks and Iceland was in second place. Norway, Denmark and Greenland were the other major suppliers of both fillets and blocks.



A tentative split of US cod imports by country is presented in the following table, which shows that 1985 Canadian cod exports to the US are projected at 29 000 tonnes of fillets, 54 000 tonnes of blocks and 9 000 tonnes of salted cod.

TABLE 19  
US cod imports, by country, 1979 and 1985  
 (000 tonnes, product weight)

	<u>Fillets</u>		<u>Blocks</u>		<u>Salted</u>	
	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>
Canada	23	29	40	54	8 <sup>1</sup>	9
Iceland	33	39	19	26	--	--
Norway	3	3	5	5	--	1
Denmark and Greenland	4	4	17	16	--	--
Other	<u>3</u>	<u>--</u>	<u>7</u>	<u>2</u>	<u>--</u>	<u>--</u>
Total	66	75	88	103	8 <sup>1</sup>	10

1 Estimate

Source: US Dept. of Commerce, US Imports for Consumption, Bureau of the Census, Washington, D.C. and MSB projections.

### The European Economic Community

Canada exported 4 800 tonnes of cod products to the European Economic Community in 1979 and 12 333 tonnes in 1980 (both figures include Greece). There exports are expected to grow to 30 800 tonnes by 1985. The paragraphs that follow set out prospects by country.

West Germany - Between 1979 and 1980, Canadian cod exports to the Federal Republic of Germany increased from 530 tonnes to 2 438 tonnes. In 1980 the FRG purchased 145 tonnes of dressed cod, 326 tonnes of filleted cod, 1 896 tonnes of cod blocks and 71 tonnes of salted cod.

Since the German cod catch is likely to drop further between now and 1985, Canada may be able to increase its sales to 1 500 tonnes of dressed cod, 2 500 tonnes of fillets, 10 000 tonnes of blocks and 200 tonnes of salted cod.

France - In 1979 France purchased 451 tonnes of cod products, mainly blocks, from Canada. In 1980 Canadian sales increased to 1 418 tonnes, as follows: 41 tonnes of dressed cod, 336 tonnes of fillets, 802 tonnes of blocks and 239 tonnes of salted cod. Increased trade is foreseen in all these products for 1985 and the total may amount to about 2 200 tonnes (100 tonnes dressed cod, 400 tonnes fillets, 1 100 tonnes of blocks and 600 tonnes of salt cod).

The United Kingdom - The UK imported 121 tonnes of dressed cod from Canada in 1979 and 563 tonnes in 1980 and the volume may grow to 600 tonnes by 1985. Sales of cod fillets increased from 998 tonnes in 1979 to 1 348 tonnes in 1980, and may expand to about 1 900 tonnes within five years. Canadian cod block exports amounted to 779 tonnes in 1979 and to 3 388 tonnes in 1980. Such exports may increase to 5 000 tonnes by 1985.

Italy - Italy is an important market for salted cod, and in 1985 total imports may be around 45 000 tonnes. Norway, Iceland, the Faroe Islands and Spain have been the traditional suppliers. Canada exported 1 600 tonnes of salted cod in 1979 and 1 851 tonnes in 1980. Because of resource limitations in Europe, Canada may be able to build up a larger trade with Italy and may export 4 000 tonnes of salted cod by 1985.

It is known that the SAGES-FINDUS company alone uses 6 000 tonnes of cod blocks annually. Canadian opportunities are limited because there is a preference for frozen-at-sea products and because cod has to compete in price with hake, which is popular.

Belgium - Belgium imported from Canada a total of 29 tonnes of cod in 1979 and 117 tonnes in 1980. It is projected that by 1985 such imports may amount to 700 tonnes.

Denmark - Denmark imported 47 tonnes of cod from Canada in 1979 and 151 tonnes in 1980. Canadian exports are projected at the latter level, for 1985.

Greece - Greece imported 135 tonnes of salted cod from Canada in 1979 and 354 tonnes of mixed cod products in 1980. The Greek market requires annually about 8 000 tonnes of wet salted cod and 500 tonnes of dried cured products (for Corfu Island). It is assumed that by 1985 Canadian salted cod exports may reach 2 000 tonnes.

#### Other West European countries

Sweden - Sweden imported only 22 tonnes of cod from Canada in 1979 and 276 tonnes in 1980, but may buy 5 000 tonnes of cod products by 1985.

Spain - Cod is imported into Spain mainly in the salted form or in the whole dressed form. The import of dressed (headed, gutted, tail-off) cod is a relatively new development in Spain, and is partly replacing the decreasing consumption of salted cod.

Spain imported an estimated 243 tonnes of dressed cod and 20 tonnes of cod fillets in 1979 and about 2 000 tonnes in 1980. Canadian export statistics record 188 tonnes of dressed cod for 1979 and 1 433 tonnes for 1980. It is also believed that Spain has started importing some cod blocks.

By 1985 Spain may import 4 000 tonnes of dressed cod, 500 tonnes of filleted cod and 1 000 tonnes of blocks and about half may be supplied by Canada.

Before the 200-mile regime Spain had a substantial cod catch that was mainly used for salting. Spain also imported wet salted cod, mainly from Norway, Denmark and Iceland and exported dry salted cod to a number of countries, including Italy, Brazil and Nigeria. But the Spanish cod catch has dropped drastically, from 255 000 tonnes in 1971 to only 21 500 tonnes in 1979. To replace domestic supplies, imports of salted cod have been increased, to 17 000 tonnes in 1978 and more than 27 000 tonnes in 1979. (Canada supplied 668 tonnes of heavy salted cod to Spain in 1979 and 4 408 tonnes of heavy and wet salted cod in 1980). At the same time, exports declined from 34 000 tonnes in 1971 to 4 400 tonnes in 1979. Based on these figures, the size of the 1979 Spanish domestic market for salted cod was about 17 500 tonnes (dry weight),

less than half of the 1971 consumption level.

Because of unsatisfied demand, and since the Spanish catch is likely to decrease even further during the next five years, Spain is expected to step up imports once the present economic depression is over. As compared to the 16 500 tonnes imported in 1979 (dry weight equivalent), 1985 salted cod imports could amount to about 21 000 tonnes. It will remain an objective for Spain to import as much salted cod in the wet form as possible. The 21 000 tonnes of dry salted cod is an equivalent of about 36 000 tonnes, in wet-salt terms. In competition with Scandinavian suppliers, Canada may be able to sell about 10 000 tonnes of wet salted cod to Spain in 1985.

Portugal - In 1971 Portugal harvested 171 000 tonnes of cod, while in 1979 the catch was only 20 000 tonnes. Before the new 200-mile regime, the Portuguese fleet caught cod in Canadian, Norwegian and Icelandic waters; there is no cod resource close to the Portuguese mainland.

Saltfish was once a staple food for poor people, but Portuguese consumption has declined substantially because of high prices and import restrictions. Nonetheless, Canada has increased its cod exports to Portugal in recent years, from 1 211 tonnes to 1 825 tonnes between 1977 and 1979, and to 9 469 tonnes, in 1980.

In the past, Iceland was the main supplier of wet salted cod to Portugal, followed by Norway and Spain, but in 1980 Canada supplied 6 262 tonnes. Traditionally Norway was the number one source of dry salted cod, but in 1980 Canada sold 1 194 tonnes to Portugal.

In 1985 Portugal may import about 25 000 tonnes of cod. Since the Portuguese fleet is already excluded from Icelandic waters and Norway may not be able to give quota allocations because of the poor state of its resource, Canada has a chance to remain the major supplier of cod.

It is projected, therefore, that Canada may supply 9 000 tonnes of cod (7 000 tonnes of salted cod and 2 000 tonnes of frozen dressed cod) to Portugal in 1985.

Norway - Norway imported 61 tonnes of cod blocks and 18 tonnes of heavy salted cod from Canada in 1979. In 1980 imports from Canada increased to 799 tonnes (frozen and salted). Cod landings in Norway are expected to drop in the coming years. Should the strength of the salt fish market persist in 1985, Norway may import about 2 000 tonnes of cod from Canada.

### Eastern Europe

Poland - In 1978 Poland landed some 64 000 tonnes of cod. It appears that consumption is discouraged by the government since domestic prices have not been increased since 1961. Poland exports cod to hard-currency markets.

Hungary - Hungary is interested in obtaining samples of dressed cod and cod fillets. FRIONOR (Norwegian) products, such as fish sticks, are imported by Hungary. There is also interest in importing blocks.

German Democratic Republic - There is a potential export market for as much as 10 000 tonnes of cod per year in East Germany but the actual level of imports depends on the general economic and hard-currency situation.

Soviet Union - The USSR imported from Canada 679 tonnes of dressed cod in 1980. As in the case of other socialist state-controlled economies, it is not possible to predict future purchases.

### Asia and Africa

Japan - The Japanese cod catch is around 100 000 tonnes, but its level depends on allocations obtained in US and USSR waters. There is a possibility that by 1985 there will not be a domestic catch. The bulk of cod is sold fresh at the

retail level and there is demand also in the expanding fast-food business. In 1979 Japan imported 17 tonnes of dressed cod and 37 tonnes of blocks from Canada, while in 1980 cod imports amounted to 26 tonnes, (23 tonnes dressed, 3 tonnes fillets). It is projected that Canada may sell 500 tonnes of dressed cod, 100 tonnes of blocks and a small amount of fillets to Japan in 1985.

Australia - In 1980 Australia imported 159 tonnes of cod blocks, 106 tonnes of salted cod and 19 tonnes of cod fillets from Canada. Sales are projected to increase to 250 tonnes, 100 tonnes and 40 tonnes, respectively, by 1985.

New Zealand - Though New Zealand imported negligible quantities of cod from Canada in 1979 and in 1980, no export prospects have been identified for 1985.

Nigeria - Nigeria imported about 100 000 tonnes of stockfish (mainly dried cod) in 1977 and the actual market demand is estimated to be well above this figure. Norway and Iceland are the traditional suppliers. Consumers prefer large stockfish but smaller sizes are also imported in large quantities. Since Iceland faces a static catch and Norway a declining harvest, Canada may be able to enter this market if suitable processing techniques are adopted.

Zaire - In 1979 Zaire imported 300 tonnes of Canadian salted cod. Similar volume is projected for 1985.

#### Latin America and the Caribbean

Brazil - Brazil imports about 15 000 tonnes of salted cod annually, 90% of which is supplied by Norway. Imports by 1985 could grow to 20 000 - 25 000 tonnes and Canada could take a good part of the increase. The biggest potential for Canadian exports is in the north and northeastern parts of the country where there is greater acceptance of smaller fish than in the south, which prefers large cod and the Norwegian cure. There are indications, however, that even that market is a possibility, since Norwegian products have become expensive in recent years.

Canada exported 909 tonnes of salted cod to Brazil in 1979 and 814 tonnes in 1980. It is projected that such exports may grow to 10 000 tonnes by 1985.

Venezuela - Venezuela bought 16 tonnes of cod fillets and 56 tonnes of salted cod from Canada in 1979, and 38 tonnes of dressed cod in 1980. It is projected that in 1985 Venezuela may import about 1 000 tonnes of dry salted, 100 tonnes of wet salted cod and 400 tonnes of frozen dressed cod. The government importing agency imports salted cod duty-free. Other products face a 100% tariff.

Mexico - Though at present Mexico is not a buyer of Canadian cod, it is believed that a market could be developed by 1985 for 500 tonnes of dressed cod and 1 000 tonnes of salted cod.

The Caribbean - Canada exported 6 543 tonnes of cod to the Caribbean region in 1979 and 6 137 tonnes in 1980. About two-thirds of these volumes were shipped to Puerto Rico. By 1985 Canadian exports to this area are expected to reach 6 759 tonnes. The country breakdown of this total is shown on the following table.

TABLE 20  
Forecast of cod imports from Canada by Latin American and Caribbean countries, 1985  
(tonnes, product weight)

	Dressed		Fillets		Blocks		Cured		Total	
	1979	1985	1979	1985	1979	1985	1979	1985	1979	1985
French W. Indies	--	20	--	10	--	--	--	2	--	32
Bahamas	0	0	5	5	--	--	--	--	5	5
Bermuda	4	10	38	50	--	--	110	110	152	170
Barbados	6	10	--	--	--	--	322	320	328	330
Jamaica	0	0	--	--	21	20	459	460	480	480
Leew. - Wind. Is.	--	--	--	--	--	--	313	320	313	320
Trinidad - Tobago	51	70	38	60	--	--	812	450	901	980
Dominican Rep.	--	--	--	--	--	--	2	2	2	2
Haiti	--	--	--	--	--	--	7	10	7	10
Puerto Rico	197	250	115	150	24	30	4 019	4 000	4 355	4 430
Total Caribbean	258	360	196	275	45	50	6 044	5 674	6 543	6 759
Brazil	--	--	--	--	--	--	909	10 000	909	10 000
Venezuela	--	400	16	--	--	--	56	1 100	72	1 500
Mexico	--	500	--	--	--	--	--	1 000	--	1 500
Others	--	--	--	--	--	--	4	50	4	50
Grand total	258	1 260	212	275	45	50	7 013	17 824	7 528	19 809

Source: Statistics Canada, Exports by Commodities and MSB projections.

2. Haddock

The Canadian Atlantic haddock catch is expected to increase from 35 000 tonnes in 1979 to a maximum of 58 000 tonnes in 1985 (Table 3). No haddock is taken off the Canadian west coast.

Canadian per capita consumption of haddock is expected to increase from 0.36 kilogram in 1979 to 0.37 (product weight) in 1985, with a resulting growth in total demand from 8 400 tonnes to 9 500 tonnes.

TABLE 21

Canadian haddock consumption  
(000 tonnes, product weight)

	1979	1985
Whole/dressed	<u>1.4</u>	<u>1.5</u>
Fillets	3.7	4.1
Blocks	3.3	3.9
Cured	0.05	0.05
Total	<u>8.4</u>	<u>9.5</u>

Source: DFO worksheets.

The US market

Total US haddock consumption (dressed, fillets blocks and salted) amounted to 39 000 tonnes in 1978 and 36 000 tonnes in 1979. By 1985 consumption may increase to about 41 000 tonnes.

TABLE 22

US haddock consumption, 1977-79 and 1985

(000 tonnes, product weight)

	1977	1978	1979	1980
Dressed	<u>3<sup>1)</sup></u>	<u>3<sup>1)</sup></u>	<u>3<sup>1)</sup></u>	<u>4</u>
Fillets <sup>2</sup>	16	21	22	25
Blocks	12	14	10	11
Salted	<u>1<sup>1)</sup></u>	<u>1<sup>1)</sup></u>	<u>1<sup>1)</sup></u>	<u>1</u>
Total	32	39	36	41

1) Estimated

2) Includes hake and cusk fillets

Source: US Dept. of Commerce, Food Fish Market Review (NMFS), Washington, D.C. and MSB projections.



The US haddock resource is confined to the Atlantic coast. Between 1977 and 1979 haddock landings expanded from 13 000 tonnes to 19 000 tonnes, and by 1985 may grow to between 27 000 and 33 000 tonnes.

TABLE 23  
US haddock landings 1977-79, 1981 and 1985  
 (000 tonnes, round weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>Forecast for</u>	
				<u>1981</u>	<u>1985</u>
Atlantic coast	13	18	19	21-27	27-23
Pacific coast	--	--	--	--	--
Alaska	--	--	--	--	--
Total	<u>13</u>	<u>18</u>	<u>19</u>	<u>21-27</u>	<u>27-33</u>

Source: US Dept. of Commerce, Fisheries of the United States, (NMFS), Washington, D.C. and MSB projections.

US Haddock balance

US domestic production of haddock (dressed and fillets) is projected to increase from 7 000 tonnes in 1979 to 12 000 tonnes in 1985. Demand for haddock, however, is expected to increase more than domestic production and, therefore, import requirements may increase from 24 000 tonnes in 1979 to 29 000 tonnes in 1985.

TABLE 24  
US haddock balance, 1979 and 1985  
 (000 tonnes, product weight)

	<u>Demand</u>		<u>Domestic Production</u>		<u>Imports</u>	
	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>	<u>Actual 1979</u>	<u>Potential 1985</u>
	Dressed Fillets <sup>2)</sup>	3	4	2	4	1
Blocks	22	25	5 <sup>1)</sup>	8	14	17
Salted <sup>1)</sup>	10	11	--	--	8	11
Total	<u>1</u>	<u>1</u>	<u>--</u>	<u>--</u>	<u>1</u>	<u>1</u>
	36	41	7	12	24	29

1) Estimated

2) Includes hake and cusk fillets

Source: IBID.

US Haddock imports

In 1979 the US imported an estimated 14 000 tonnes of haddock fillets, primarily from Canada and Iceland, and 8 000 tonnes of haddock blocks, mainly from Iceland, Denmark and Norway. (It is not possible to present a breakdown by country of haddock fillet imports since US import statistics show the combined figure of haddock, pollock, hake and cusk fillets. However, an estimated pollock fillet figure has been eliminated from the total).

TABLE 25

US haddock imports by country, 1979  
(000 tonnes, product weight)

	<u>Fillets</u>	<u>Blocks</u>	<u>Salted</u>
Canada	6	1	1
Iceland	---	3	--
Norway	---	2	--
Denmark	---	2	--
Others	---	--	--
Total	<u>141)</u>	<u>8</u>	<u>1</u>

1) Includes hake and cusk

Source: US Dept. of Commerce, US Imports for Consumption, Bureau of the Census, Washington, D.C. and MSB estimates.

It is projected that in 1985 the US may buy 8 000 tonnes of haddock fillets, 2 000 tonnes of haddock blocks and 1 000 tonnes of salted haddock from Canada.

United Kingdom

In 1979 the UK imported 2 tonnes of dressed and 7 tonnes of filleted haddock from Canada. It is estimated that by 1985, 6 tonnes of dressed and 17 tonnes of filleted Canadian haddock may be purchased.

Other markets

Sweden - Though Sweden has not imported haddock from Canada in recent years, it has been identified as a promising market for 500 tonnes of Canadian fillets in 1985.

Japan - Limited possibilities may exist to export dressed haddock to Japan in the future, perhaps around 100 tonnes in 1985.

Australia - Canada exported 297 tonnes of whole/dressed haddock to Australia in 1979 and 35 tonnes in 1980. It is projected that dressed haddock exports may amount to 200 tonnes in 1985.

Market potential for Canadian haddock

The table that follows sets out the potential markets for Canadian haddock in 1985. Mainly as a consequence of expanded Canadian consumption and growing import demand by the US, a catch deficiency of about 7 000 tonnes (round weight) may be experienced in 1985.

TABLE 26

Market potential for Canadian haddock, 1985  
(000 tonnes, product weight)

	Fresh/frozen dressed		Fresh/frozen fillets		Blocks		Cured		Total	
	1979	1985	1979	1985	1979	1985	1979	1985	1979	1985
Canada	1.4	1.5	3.7	4.1	3.3	3.9	0.05	0.05	8.4	9.5
US	4.41)	--	6.0	8.0	1.0	2.0	1.0	1.0	12.4	11.0
Japan	--	0.1	--	--	--	--	--	--	--	0.1
Australia	0.3	0.2	--	--	--	--	--	--	0.3	0.2
UK	0	0	0	0.02	--	--	--	--	0	0.02
Sweden	--	--	--	0.5	--	--	--	--	--	0.5
Total (product weight)	6.1	1.8	9.7	12.6	4.3	5.9	1.0	1.0	21.1	21.3
Factor		1.2	--	3.18	--	3.18	--	3.9	--	--
Total (round weight)		2.2	--	40.1	--	18.8	--	3.9	--	65.0
Maximum catch potential (round weight)		--	--	--	--	--	--	--	--	58.0
Deficiency (round weight)										7.0

1) May include some hake data.

Source: Statistics Canada, Exports by Commodities and MSB projections.

3. Ocean perch

As shown in Table 3, projections indicate the Canadian ocean perch catch will grow from 90 000 tonnes in 1979 to a maximum of 162 000 tonnes in 1985. Of this total, 19 000 tonnes are expected to be landed in BC in 1985 as compared to 9 000 tonnes in 1979.

Canadian per capita consumption of ocean perch is expected to expand from 0.33 kilogram in 1979 to 0.35 (product weight) in 1985. Based on this projection, the size of the Canadian domestic market may grow from 7 700 tonnes in 1979 to 8 900 tonnes in 1985.

TABLE 27

Canadian ocean perch consumption  
(000 tonnes, product weight)

	<u>1979</u>	<u>1985</u>
Whole/dressed	1.0	1.2
Fillets	6.6	7.7
Blocks	<u>0.1</u>	<u>0.1</u>
Total	7.7	8.9

Source: DFO worksheets and MSB projections.

US market projection for ocean perch

Between 1971 and 1979 US consumption of ocean perch fillets fell from 35 000 tonnes to 26 000 tonnes while block consumption fluctuated between 1 000 and 3 000 tonnes during the past five years.

In 1979 total US ocean perch and rockfish consumption was about 44 000 tonnes and 31 000 tonnes of the total represented fillets. By 1985 fillet consumption may increase to 40 000 tonnes. Declining consumption in recent years was partly due to supply shortages and resulting high prices. Since ample supplies are expected in the future, with proper price adjustments, the ocean perch fillet market is likely to expand again.

TABLE 28

US ocean perch consumption, 1977-79 and 1985

(000 tonnes, product weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1985</u>
Dressed	9 <sup>1)</sup>	10 <sup>1)</sup>	11 <sup>1)</sup>	13
Filletts <sup>2)</sup>	33	30	31	40
Blocks	<u>2</u>	<u>1</u>	<u>2</u>	<u>2</u>
Total	44	41	44	55

1) Estimated

2) Includes rockfishes

Source: US Dept. of Commerce, Food Fish Market Review, (NMFS), Washington, D.C. and MSB projections.

US ocean perch landings

On the US Atlantic coast, ocean perch landings were 15 000 to 16 000 tonnes during the past three years, and in coming years the resource may be able to sustain a catch of up to 25 000 tonnes. On the Pacific coast ocean perch is a minor resource with a catch around 3 000 tonnes. On the other hand, there are large quantities of rockfishes, related species, with a catch of 31 000 tonnes in 1979. A moderate expansion is expected for the future and 1985 landings may be in the neighbourhood of 34 000 to 40 000 tonnes (ocean perch and rockfishes combined). In Alaska there is no ocean perch fishery at present, but the 1985 catch may amount to 5 000 to 15 000 tonnes.

TABLE 29

US ocean perch<sup>1)</sup> landings, 1977-79, 1981 and 1985

(000 tonnes, round weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>Forecast for</u>	
				<u>1981</u>	<u>1985</u>
Atlantic coast	16	16	15	15-25	15-25
Pacific coast <sup>1)</sup>	23	29	34	34-40	34-40
Alaska	--	--	--	3-7	5-15
Total	<u>39</u>	<u>45</u>	<u>49</u>	52-72	54-80

1) Includes rockfishes

Source: US Dept. of Commerce, Fisheries of the United States, (NMFS), Washington, D..C. and MSB projections.

US ocean perch balance

Americans may consume 55 000 tonnes of ocean perch and rockfishes in 1985. Domestic production is expected to supply only 27 000 tonnes of products and half of this quantity may be in the round/dressed form. An import volume of 26 000 tonnes is foreseen for fillets and 2 000 tonnes for blocks.

TABLE 30  
US ocean perch balance, 1979 and 1985  
(000 tonnes, product weight)

	<u>Domestic</u>		<u>Domestic production</u>		<u>Import requirement</u>	
	<u>1979</u>	<u>1985</u>	<u>1979<sup>1)</sup></u>	<u>1985</u>	<u>1979</u>	<u>1985</u>
Dressed	11	13	11	13	--	--
Fillets	31	40	10	14	24	26
Blocks	2	2	--	--	2	2
Total	44	55	21	27	26	28

1) Estimated  
Source: IBID.

US ocean perch imports

The US imported 24 000 tonnes of ocean perch fillets and 2 000 tonnes of blocks in 1979. Most of the fillets were supplied by Canada and Iceland was the second largest supplier.

TABLE 31  
US ocean perch imports, by country, 1979  
(000 tonnes, product weight)

	<u>Fillets</u>	<u>Blocks</u>
Canada	18	0.2
Iceland	5	2
Norway	0.1	0
Denmark	0.1	0.4
Other	1	--
Total	24	2.6

Source: US Dept. of Commerce, US Imports for Consumption, (NMFS), Washington, D.C.

The Icelandic ocean perch catch may stabilize at around 60 000 tonnes as compared to 62 000 tonnes in 1979. It is projected that as compared to 17 260 tonnes (Canadian statistics) exported to the US in 1979, Canada may ship 19 000 tonnes of ocean perch in 1985 (300 tonnes of blocks, the rest fillets).

West European countries

United Kingdom - In 1979 the UK bought 2 tonnes of ocean perch fillets from Canada, and by 1985 may import 5 tonnes.

West Germany - The FRG imported 55 tonnes of Canadian ocean perch fillets in 1979 and 91 tonnes in 1980. Sales could grow to 500 tonnes of fillets by 1985 and Canada may also sell 500 tonnes of dressed ocean perch to Germany in that year.

Sweden - Sweden imported 18 tonnes of ocean perch fillets from Canada in 1979 and 3 tonnes in 1980. A potential market of 200 tonnes is projected for 1985.

Portugal - Though ocean perch is not a popular item in Portugal, it is not unknown since the Portuguese fleet has caught it in Canadian waters. Operators believe there is a growing market for the larger size, head off and gutted. Canada may be able to sell about 1 500 tonnes to Portugal by 1985.

Eastern European countries

German Democratic Republic - There is a potential market for ocean perch in East Germany but much depends on the economic and hard-currency situation.

Poland - In 1975 Poland landed 26 000 tonnes of ocean perch but in subsequent years the market dropped to between 5 000 and 8 000 tonnes (product weight). Canadian ocean perch is too high-priced for the Polish market.

Far Eastern countries

Japan - The Japanese rockfish catch declined substantially in recent years. By 1985 Japan may buy from Canada about 5 000 tonnes of ocean perch and rockfish in the dressed form.

Taiwan - Taiwan may be interested in importing ocean perch.

Australia - There may be possibilities to market Canadian ocean perch fillets in Australia, possibly 50 tonnes, in 1985.

Canadian Pacific ocean perch projections

The BC ocean perch and rockfish catch potential may be about 19 000 tonnes in 1985, though most recent evidence about the state of the resource indicates that this figure may be revised downward. This compares to an actual catch of about 9 000 tonnes in 1979 and in 1980.

The probable product mix of Pacific ocean perch and rockfish is shown on the following table:

TABLE 32

Canadian Pacific ocean perch and rockfish production  
(000 tonnes, product weight)

	<u>1979</u>	<u>1985</u>
Whole/dressed	0.9	1.8
Fillets	1.8	3.8
Blocks	<u>0.2</u>	<u>0.4</u>
Total	2.9	6.0

Source: DFO, Canadian Fisheries, Annual Statistical Review and MSB estimates.

Canada Customs in BC cleared 1 159 tonnes of ocean perch and rockfish products for exports in 1980. Such exports may increase to about 4 000 tonnes by 1985, while about 2 000 tonnes may be absorbed by the domestic market.

Market potential for Canadian ocean perch

The following table summarizes the demand for Canadian ocean perch in 1985. Despite projected growing domestic consumption and exports, it appears that additional markets will have to be developed for 40 000 tonnes (round weight) of Canadian ocean perch.



TABLE 33

Market Potential for Canadian ocean perch, 1985  
(000 tonnes, product weight)

	Round/dressed		Fillets		Blocks		Total	
	1979	1985	1979	1985	1979	1985	1979	1985
Canada	1.0	1.2	6.6	7.7	0.1	0.1	7.7	8.9
US	--	--	17.0	18.7	0.3	0.3	17.3	19.0
FRG	--	0.5	0.06	0.5	--	--	0.06	1.0
Portugal	--	1.5	--	--	--	--	--	1.5
Sweden	--	--	0.02	0.2	--	--	0.02	0.2
Japan	--	5.0	--	--	--	--	--	5.0
Australia	--	--	--	0.05	--	--	--	0.05
UK	--	--	0	0	--	--	0	0
Caribbean	--	--	0	0	--	--	0	0
Total (product weight)	1.0	8.2	23.7	27.1	0.4	0.4	25.1	35.7
Factor	--	1.2	--	4.0	--	4.0	--	--
Total (round weight)	--	9.8	--	108.4	--	1.6	--	122.5
Maximum catch Projection (round weight)	--	--	--	--	--	--	--	162.0
Surplus (round weight)	--	--	--	--	--	--	--	40.0

Source: Statistics Canada, Exports by Commodities and MSB estimates.

4. Flatfish

From 116 000 tonnes in 1979, maximum Canadian flatfish landings may amount to 165 000 tonnes in 1985 (Table 3). These figures include American plaice, witch, yellowtail flounder and "other" flatfish, but exclude turbot and halibut. Pacific flatfish landings (included in the total) were 6 000 tonnes in 1979 and may increase to 8 000 tonnes in 1985.

Canadian per capita consumption of flatfish products is expected to grow marginally to 0.30 kilogram by 1985 (product weight), which indicates that Canada may retain 7 700 tonnes of flatfish in 1985 as compared to 7 000 tonnes in 1979.

TABLE 34  
Canadian flatfish consumption  
(000 tonnes, product weight)

	<u>1979</u>	<u>1985</u>
Fillets	6.5	7.2
Blocks	<u>0.5</u>	<u>0.5</u>
Total	7.0	7.7

Source: DFO worksheets.

US market projection for flatfish

The US consumed 72 000 tonnes of flatfish products in 1979, primarily in the fillet form. By 1985 consumption may grow to about 78 000 tonnes.

TABLE 35  
US flatfish consumption, 1977-79 and 1985  
(000 tonnes, product weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1985</u>
Dressed	10 <sup>1</sup> )	10 <sup>1</sup> )	14 <sup>1</sup> )	16
Fillets	50	50	52	56
Blocks	<u>6</u>	<u>6</u>	<u>6</u>	<u>6</u>
Total	66	66	72	78

1) Estimated

Source: US Dept. of Commerce, Food Fish Market Review, (NMFS), Washington, D.C. and MSB projections.

US flatfish landings

US Atlantic coast flatfish landings were 52 000 tonnes in 1978 and 64 000 tonnes in 1979. The expectations are that the catch will fall back to 50 000 to 60 000 tonnes by 1985. On the Pacific coast the flatfish catch was 31 000 tonnes in 1979. The 1985 catch is likely to range between 30 000 and 40 000 tonnes. There is no flatfish fishery in Alaska at present. If it is developed, by 1985 Alaska may supply between 20 000 and 30 000 tonnes of flatfish.

TABLE 36

US flatfish landings, 1977-79, 1981 and 1985  
(000 tonnes, product weight)

	1977	1978	1979	Forecast for	
				1981	1985
Atlantic coast	53	52	64	48-58	50-60
Pacific coast	24	28	31	27-33	30-40
Alaska	--	0	--	10-20	20-30
Total	77	80	95	85-108	100-130

Source: US Dept. of Commerce, Fisheries of the United States, (NMFS), Washington, D.C. and MSB estimates.

US flatfish balance

Increased US demand for flatfish fillets is not expected to be covered fully by larger domestic production in 1985 and the import requirement may amount to 29 000 tonnes. Development of a domestic flatfish block industry is considered unlikely, so the full volume of block consumption (6 000 tonnes) is expected to be imported.

TABLE 37

US flatfish balance, 1979 and 1985  
(000 tonnes, product weight)

	Demand		Domestic Production		Imports	
	1979	1985	1979	1985	Actual 1979	Potential 1985
	Dressed 1)	14	16	14	16	3
Fillets	52	56	221)	27	21	29
Blocks	6	6	--	--	6	6
Total	72	78	36	43	30	35

1) Estimates  
Source: IBID.

US flatfish imports

In 1979 the US imported 21 000 tonnes of flatfish fillets, of which Canadian exporters supplied 17 000 tonnes. Canada also shipped 5 000 tonnes of the total of 6 000 tonnes of blocks purchased by the US in that year.

TABLE 38  
US flatfish imports by country, 1979  
(000 tonnes, product weight)

	Dressed	Fillets	Blocks
Canada	1.5	17	5
Iceland	0.4	0	0.1
Denmark	0	0.5	0
Norway	--	--	0
Other	<u>1</u>	<u>3</u>	<u>1</u>
Total	3	21	6

Source: US Dept. of Commerce, US Imports for Consumption, Bureau of the Census, Washington, D.C.

It is projected that Canada may supply the US with 23 000 tonnes of flatfish fillets and 5 000 tonnes of blocks in 1985. (According to Canadian export statistics in 1980, Canada shipped 20 300 tonnes of fillets and 3 800 tonnes of blocks to the US).

Other markets

France - France imported 148 tonnes of flatfish fillets from Canada in 1979 and 105 tonnes in 1980. By 1985 imports may reach about 200 tonnes.

Italy - There may be some potential for exporting flatfish to Italy but it needs developmental work.

The United Kingdom - As compared to nine tonnes of flatfish fillets imported from Canada in 1979, the UK may buy 14 tonnes in 1985.

Japan - Significant shortfall in the Japanese flatfish catch is not expected in 1985. Therefore export possibilities for Canada are very limited.

Taiwan - Taiwan may be interested in buying flatfish products.

Other countries

In addition to the above, the following countries imported small quantities of Canadian flatfish in 1979 and/or in 1980: West Germany, Bermuda, Singapore, Puerto Rico, Sweden, Belgium-Luxembourg, Lebanon, Barbados, Finland, Switzerland and Hong Kong (see Appendix tables III and IV).

Canadian pacific coast flatfish projections

BC flatfish landings amounted to about 6 000 tonnes in 1979 and 1980, and projections indicate that the 1985 catch may be about 8 000 tonnes.

The product mix of BC flatfish for 1979 and 1985 is shown on the following table:

TABLE 39  
Potential BC flatfish production by product form, 1985  
(000 tonnes, product weight)

	<u>1979</u>	<u>1985</u>
Whole/dressed	0.6	0.9
Fillets	1.5	2.0
Blocks	0.1	0.1
Total	<u>2.2</u>	<u>3.0</u>

Source: DFO, Canadian Fisheries, Annual Statistical Review and MSB estimates.

The following quantities of BC flatfish were cleared by customs in 1980. By 1985 exports may be 500 to 600 tonnes.

TABLE 40  
BC flatfish exports to the US, 1980  
(tonnes, product weight)

<u>Whole /dressed</u>		<u>Fillets and blocks</u>	
Flounder	2	Flounder	16
Sole	78	Sole	425
		Total	<u>521</u>

Source: Special tabulation of Canada export declaration forms.

Market potential for Canadian flatfish

The comparison of Canadian domestic consumption and identified export opportunities on the one hand, and the potential 1985 catch on the other, shows that Canada may have a surplus of about 30 000 tonnes of flatfish (round weight). This provides an opportunity for Canada to develop additional overseas markets.

TABLE 41

Market potential for Canadian flatfish, 1985  
(000 tonnes, product weight)

	Fillets		Blocks		Total	
	1979	1985	1979	1985	1979	1985
Canada	6.5	7.2	0.5	0.5	7.0	7.7
US	16.1	23.0	4.8	5.0	20.9	28.0
France	0.1	0.2	--	--	0.1	0.2
Sweden	0.03	0.03	--	--	0.03	0.03
FRG	0.07	0.07	--	--	0.07	0.07
UK	0.01	0.01	--	--	0.01	0.01
Bermuda	0.01	0.01	--	--	0.01	0.01
Japan	0	0	--	--	0	0
Singapore	0	0	--	--	0	0
Puerto Rico	0	0	--	--	0	0
Total (product weight)	22.8	30.5	5.3	5.5	28.1	36.0
Factor	--	3.75	--	3.75	--	--
Total (round weight)	--	114.4	--	20.6	--	135.0
Maximum catch projection (round weight)	--	--	--	--	--	165.0
Surplus (round weight)	--	--	--	--	--	30.0

Source: Statistics Canada, Exports by Commodities and MSB projections.

5. Pollock

Between 1979 and 1985, total Canadian pollock landings may grow from 34 000 to 44 000 tonnes (Table 3). BC pollock landings (included in these totals) amounted to 3 000 tonnes in 1979 and may increase to 9 000 tonnes by 1985.

It is estimated that the Canadian per capita consumption of pollock will remain unchanged at 0.42 kilogram (product weight) between 1979 and 1985. The size of the domestic market is projected to grow from 9 800 tonnes in 1979 to 10 700 in 1985 (Table 4).

TABLE 42

Canadian pollock consumption  
(000 tonnes, product weight)

	<u>1979</u>	<u>1985</u>
Whole/dressed	0.9	1.0
Fillets	1.1	1.2
Blocks	7.8	8.5
Cured	<u>0.02</u>	<u>0.02</u>
Total	9.8	10.7

Source: DFO worksheets.

US market projection for pollock

In 1979 about 7% of all fillets and 22% of all blocks consumed in the US were pollock. Fillets were nearly all from Atlantic pollock, while two-thirds of blocks were processed from Alaska pollock.

Between 1971 and 1979 US Atlantic pollock fillet consumption grew to 4 000 to 14 000 tonnes. The volume of Alaska pollock fillets consumed has been negligible.

The level of Atlantic pollock block disappearance fluctuated between 10 000 and 13 000 tonnes during the past nine years, but in the same period Alaska pollock block consumption increased from 1 000 tonnes in 1971 to 28 000 tonnes in 1979.

TABLE 43

US pollock fillet and block consumption, 1971-79  
(000 tonnes, product weight)

	<u>Fillets</u>		<u>Blocks</u>	
	<u>Atlantic</u>	<u>Alaska</u>	<u>Atlantic</u>	<u>Alaska</u>
1971	4	--	12	1
1972	6	--	10	15
1973	11	--	11	27
1974	8	0.5	11	26
1975	10	0.3	13	24
1976	14	0.4	12	31
1977	15	0.5	15	25
1978	13	0.3	12	23
1979	14	0.8	13	28

Source: US Dept. of Commerce, Food Fish Market Review, (NMFS), Washington, D.C.

Total US Atlantic pollock consumption (dressed, fillets, blocks and salted) amounted to 32 000 tonnes in 1979. By 1985 consumption may reach 36 000 tonnes.

TABLE 44

US Atlantic pollock consumption, 1977-79 and 1985  
(000 tonnes, product weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1985</u>
Dressed	<u>3<sup>1)</sup></u>	<u>3<sup>1)</sup></u>	<u>3<sup>1)</sup></u>	<u>3</u>
Fillets	15	13	14	16
Blocks	15	12	13	15
Salted	<u>2<sup>1)</sup></u>	<u>2<sup>1)</sup></u>	<u>2<sup>1)</sup></u>	<u>2</u>
Total	<u>35</u>	<u>30</u>	<u>32</u>	<u>36</u>

1) Estimated

Source: IBID and MSB estimates.



Alaska pollock block consumption is expected to grow from 29 000 tonnes in 1979 to 36 000 tonnes in 1985.

TABLE 45

US, Alaska pollock consumption, 1977-79 and 1985  
(000 tonnes, product weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1985</u>
Dressed <sup>1)</sup>	--	--	--	--
Fillets	0.5	0.3	0.8	1
Blocks	25	23	28	35
Total	<u>26</u>	<u>23</u>	<u>29</u>	<u>36</u>

Source: IBID.

US pollock landings

In 1979 the US landed 16 000 tonnes of pollock on the Atlantic coast. The resource permits an expansion of about 50% in catch, thus 1985 landings may be in the range of 22 000 to 27 000 tonnes.

If a pollock fishery can be developed in Alaska, by 1985 landings could reach 60 000 to 80 000 tonnes.

TABLE 46

US pollock landings 1977-79, 1981 and 1985  
(000 tonnes, round weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	Forecast for	
				<u>1981</u>	<u>1985</u>
Atlantic coast	<u>13</u>	<u>18</u>	<u>16</u>	<u>22-27</u>	<u>22-27</u>
Pacific coast	--	1	--	--	--
Alaska	0	0	3	15-52	60-80
Total	<u>13</u>	<u>19</u>	<u>19</u>	<u>37-52</u>	<u>82-107</u>

Source: US Dept. of Commerce, Fisheries of the United States, (NMFS), and MSB estimates.

US pollock balance

Despite increasing domestic landings of Atlantic pollock, the US is expected to import about 9 000 tonnes of fillets in 1985, and 15 000 tonnes of Atlantic pollock blocks.

TABLE 47

US Atlantic pollock balance, 1979 and 1985  
(000 tonnes, product weight)

	<u>Demand</u>		<u>Domestic production</u>		<u>Imports</u>	
	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>	<u>Actual</u>	<u>Potential</u>
	1979	1985	1979	1985	1979	1985
Dressed	3	3	3	3	--	--
Fillets	14	16	5	7	10	9
Blocks	13	15	0.1	--	11	15
Salted	2	2	--	--	2	2
	<u>32</u>	<u>36</u>	<u>8</u>	<u>10</u>	<u>23</u>	<u>26</u>

Source: IBID.

Should, a pollock fishery develop in Alaska on the scale indicated previously, the US import demand may drop substantially, from 29 000 tonnes in 1979 to 13 000 tonnes in 1985.

TABLE 48

US Alaska pollock balance, 1979 and 1985  
(000 tonnes, product weight)

	<u>Demand</u>		<u>Domestic Production</u>		<u>Import Requirements</u>	
	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>	<u>1979</u>	<u>1985</u>
	1979	1985	1979	1985	1979	1985
Dressed	--	--	--	--	--	--
Fillets	0.8	1	--	1	0.8	--
Blocks	28	35	--	22	28	13
Total	<u>29</u>	<u>36</u>	<u>--</u>	<u>23</u>	<u>29</u>	<u>13</u>

Source: IBID.

US pollock imports

In 1979 Canada supplied perhaps half of the estimated US Atlantic pollock fillet imports while Iceland was the leading supplier of Atlantic pollock blocks. South Korea shipped the majority of Alaska pollock blocks.

TABLE 49  
US pollock imports, by country, 1979  
 (000 tonnes, product weight)

	<u>Fillets</u>		<u>Blocks</u>		<u>Salted</u>	
	<u>Atlantic</u>	<u>Alaska</u>	<u>Atlantic</u>	<u>Alaska</u>	<u>Atlantic</u>	<u>Alaska</u>
Canada	5 <sup>1)</sup>	--	0.4	--	1.1	--
Iceland	N.A.	--	6.0	--	--	--
Norway	N.A.	--	1.0	--	--	--
Denmark	N.A.	--	2.0	--	--	--
Japan	N.A.	0.7	--	2.0	--	--
South Korea	N.A.	0.1	--	26.0	--	--
Other	<u>N.A.</u>	<u>--</u>	<u>1.0</u>	<u>0.9</u>	<u>0.9</u>	<u>--</u>
Total	10 <sup>1)</sup>	0.8	10.4	28.9	2.0	--

1) Estimated

Source: US Dept. of Commerce, US Imports for Consumption, Bureau of the Census, Washington, D.C.

The Canadian Atlantic pollock catch is expected to increase during the next five years. Iceland also looks forward to growing pollock landings and the Norwegian pollock resource is in a healthy state. US demand for Canadian Atlantic pollock products may not change substantially between 1979 and 1985 (5 000 tonnes of fillets, 400 tonnes of blocks and 1 100 tonnes of salted pollock).

Other markets

Italy - There is some interest in pollock fillets and blocks in Italy, though there is a preference for the parasite-free Chilean products.

Australia - Canada exported 14 tonnes of the combined category of haddock, hake, pollock and cusk fillets to Australia in 1979 and 16 tonnes in 1980. It is projected that by 1985 Canada may sell 200 tonnes of pollock fillets to Australia. In 1980 Canada sold 355 tonnes of pollock blocks, and sales to Australia may increase to 750 tonnes by 1985.

The Caribbean - Caribbean countries imported a total of 1 474 tonnes of Canadian salted pollock in 1979 and 2 331 tonnes in 1980. These exports are projected at 1 900 tonnes for 1985.

TABLE 50

Salted pollock imports from Canada by Caribbean countries, 1979 and 1985  
(tonnes, product weight)

	<u>1979</u>	<u>1985</u>
Barbados	80	80
Dominican Republic	586	1 000
Leew-Wind Island	126	130
Trinidad-Tobago	14	20
Haiti	49	50
Puerto Rico	619	620
Total	<u>1 474</u>	<u>1 900</u>

Source: Statistics Canada, Exports by Commodities and MSB estimates.

Other countries

During 1980, Canada exported 185 tonnes of pollock blocks to West Germany and 71 tonnes of fillets to Portugal. These markets may be developed in future years.

Canadian pacific coast pollock projections

BC pollock landings may increase from 3 000 tonnes in 1979 to 9 000 tonnes in 1985.

The product-form breakdown of the BC pollock catch is projected below:

TABLE 51

Potential BC pollock production by product form, 1985  
(000 tonnes, products weight)

	<u>1979</u>	<u>1985</u>
Whole/dressed	0.7	2.0
Fillets	0.4	1.1
Blocks	0.5	1.4
Roe	<u>0.1</u>	<u>0.5</u>
Total	1.7	5.0

Source: DFO, Canadian Fisheries, Annual Statistical Review and MSB estimates.



TABLE 52A  
Market potential for Canadian Pacific pollock, 1985  
(000 tonnes, product weight)

	Dressed		Fillets		Blocks		Cured		Total	
	1979	1985	1979	1985	1979	1985	1979	1985	1979	1985
Canada	0.7	0.7	0.3	0.4	0.4	0.7	--	--	1.4	1.8
US	--	--	0.1	0.1	0.1	0.1	--	--	0.2	0.2
Japan	--	--	--	--	--	--	0.1	0.5	0.1	0.5
Total (product weight)	0.7	0.7	0.4	0.5	0.5	0.8	0.1	0.5	1.7	2.5
Factor	--	1.2	--	3.7	--	3.7	--	--	--	--
Total (round weight)	--	0.8	--	1.9	--	3.0	--	0.5	--	6.2
Maximum catch potential (round weight)	--	--	--	--	--	--	--	--	--	9.0
Surplus (round weight)	--	--	--	--	--	--	--	--	--	2.8

Source: Statistics Canada, Exports by Commodities and MSB projections.

6. HAKE

The maximum potential Canadian hake harvest could increase to 120 000 tonnes (Table 3) from an actual catch of 13 000 tonnes in 1979. BC landed no hake in 1979 but there is a potential of 30 000 tonnes for 1985 (included in the 120 000 tonne figure).

Canadian per capita consumption of hake is expected to remain at .055 kilogram in 1985, about the same as in 1979. However, because of population increase, the size of the Canadian market is expected to grow from 1 200 to 1 400 tonnes.

TABLE 53  
Canadian hake consumption  
(000 tonnes, product weight)

	1979	1985
Whole/dressed	0.2	0.3
Fillets	0.1	0.1
Blocks	0.9	1.0
Total	1.2	1.4

Source: DFO worksheets.

US market projection for hake

US groundfish processors started importing whiting blocks from Latin American countries and from South Africa in 1975. These imports increased to 23 000 tonnes by 1979. In the absence of domestic block production, import figures corrected by inventory movements indicate consumption levels.

TABLE 54  
US whiting block consumption, 1975-79

1975	1976	1977	1978	1979
5	8	11	18	23

Source: US Dept. of Commerce, Food Fish Market Review, (NMFS), Washington, D.C.

Small quantities of whiting fillets have been imported to the US, mainly from Latin American countries and South Africa, but the volume is not separated out statistically and is included in the haddock import and consumption figures. Consumption of hake in the dressed form can be estimated only approximately, in the absence of appropriate statistical data. In 1978 Americans consumed at least 13 000 tonnes of dressed hake (fresh and frozen) from the domestic catch. Minor quantities were smoked, and the US also consumed about 1 000 tonnes of salted hake.

It is expected that US whiting block consumption may expand from 23 000 tonnes in 1979 to 30 000 tonnes in 1985.

US market projection for hake

It is expected that total US hake consumption may expand from 37 000 tonnes in 1979 to 47 000 tonnes in 1985. The projected increase will be due mainly to increased block consumption, but demand for dressed hake is also expected to grow.

TABLE 55  
US hake consumption 1977-79 and 1985  
(000 tonnes, product weight)

	1977	1978	1979	1985
Dressed	13 <sup>1)</sup>	13 <sup>1)</sup>	13 <sup>1)</sup>	16
Blocks	11	18	23	30
Salted	1	1	1	1
Total	25	32	37	47

1) Estimated  
Source: IBID.

US hake landings

On the Atlantic coast the US lands red hake, white hake and whiting. Red hake is not used for human consumption. Both the white hake and the whiting resources promise only slightly increased catches over 1979 levels. On the west coast there is a large stock of hake, which has so far been only moderately exploited. It is estimated that only 2% to 3% of the current Pacific hake catch is utilized as food. This catch could increase from 14 000 tonnes in 1979 to 80 000 or 100 000 tonnes by 1985 but it is questionable whether edible products could be developed from this species for the US market. For the purpose of this paper it is presumed that most of the Pacific hake will not be processed for human consumption.

TABLE 56  
US hake landings, 1977-79, 1981 and 1985  
(000 tonnes, round weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1981</u>	<u>1985</u>
Atlantic coast					
Red hake (non-food)	2	2	3	8-12	12-18
White hake	5	5	4	4-6	4-6
Whiting	21	23	16	15-25	15-25
Pacific hake					
(non-food)	<u>2</u>	<u>3</u>	<u>14</u>	<u>35-45</u>	<u>80-100</u>
Total	30	33	37	62-88	111-149

1) Estimated

Source: US Dept. of Commerce, Fisheries of the United States, (NMFS) and MSB estimates.

US Hake balance

The US may need about 30 000 tonnes of hake blocks by 1985. Since the greatest part of the Atlantic white hake and whiting catch is likely to be utilized in the fresh and frozen dressed and filleted forms, the US will have to import the total quantity, unless a block industry develops based on Pacific hake. But the development of price-competitive and acceptable hake blocks is seen as only a remote possibility.



TABLE 57  
US hake balance, 1979 and 1985  
(000 tonnes, product weight)

	Demand		Domestic production		Imports	
	1979	1985	1979	1985	Actual 1979	Potential 1985
Dressed	13	16	13	16	--	--
Blocks	23	30	--	--	25	30
Salted	1	1	--	--	1	1
	<u>37</u>	<u>47</u>	<u>13</u>	<u>16</u>	<u>26</u>	<u>31</u>

Source: IBID.

US hake imports

In 1979 the US imported 25 000 tonnes of whiting blocks, half of these from Argentina.

TABLE 58  
US imports of whiting blocks 1979  
(000 tonnes, product weight)

Argentina	12.0
Japan	0.4
Korea	3.0
Poland	2.0
Rep. of S. Africa	1.0
Uruguay	5.0
Other	2.0
Total	<u>25.0</u>

Source: US Dept. of Commerce, US Imports for Consumption, Bureau of Census, Washington, D.C.

It is not foreseen that a Canadian hake block industry will develop that could compete with the mainly Latin American suppliers of the US market.

Canada exported 734 tonnes of salted hake blocks to the US in 1979 and 780 tonnes in 1980. Projections for 1985 indicate sales of 800 tonnes.

West European countries

Spain - Hake is the most popular fish in Spain, purchased in both fresh and frozen forms. Spanish consumers accept hake from European waters, the Mediterranean, from South Africa and Latin America, but they are not familiar with the types of hake available from Canadian Atlantic coast waters, mainly silver hake, (Merluccius bilinearis); white hake (Urophycis Tenuis); and red hake (Urophycis Shuss) and from Canadian Pacific coast waters (mainly Merluccius Productus).

In general, hake from European waters (Merluccius Merluccius); goes to the fresh fish market in Spain, because of its white flesh. The darker-coloured hake from Latin American and South African waters is sold in frozen forms. The preferred size is over 2½ kilograms for the freshfish market and for the frozen round form the 400-700 gram hake is used for fillet production. No quality problems have been experienced with South African hake, but the Latin American hake has a softer flesh and it is said that the frozen products turn yellow after about two months of storage, causing some consumer resistance. A parasite problem has also been experienced with Latin American hake. Spanish importers are searching for new sources of supply. Currently they are trying to introduce New Zealand blue hake, which has no pinbone and is lower-priced than other imported hakes.

In 1979, Spain landed 133 000 tonnes of hake and imported 52 000 tonnes in the round form and 9 000 tonnes of hake fillets. It is believed that the main supplying countries were Chile, Uruguay, Argentina, South Africa and France. Import requirements for hake may not change substantially during the next five years, since increasing consumption may be met through joint ventures. It is an open question whether Canada will be able to sell hake to Spain in coming years.

Portugal - Portugal's own hake catch declined from 34 000 tonnes in 1971 to 6 000 tonnes in 1979. At present the Portuguese fleet harvests hake in waters off South Africa and imports hake mainly from Spain, the USSR, South Africa, Argentina, Uruguay and Chile. Total hake imports decreased from 17 400 tonnes in 1976 to 9 800 tonnes in 1979. Imported hake, as a rule, arrives frozen, head-off, gutted. Hake is one of the species covered by government price controls for the domestic market.

The Portuguese consumer is used to the hake varieties harvested off South Africa and Latin America. It is not known to what extent hake from Canadian Atlantic and Pacific waters would be acceptable. Pacific hake and silver hake from the Atlantic coast may have the best chance of being accepted if Canada is able to quote an acceptable price. In 1980 Portugal bought 46 tonnes of salted hake from Canada, and 100 tonnes are projected as exports for 1985.

Italy - Hake is popular in Italy, and particularly the species found in the Mediterranean region. Though unknown species are not readily accepted, both Pacific and frozen-at-sea silver hake from Canada could have possibilities. In 1980 Italy imported 69 tonnes of salted hake from Canada, and sales of 100 tonnes are projected for 1985.

#### East European countries

Poland - Hake is a substitute for scarce cod in Poland. More than 100 000 tonnes of hake was landed in Poland in 1979, and half of this came from Peru, with which Poland had a joint venture.

Hungary - Hungary is interested in importing about 2 000 tonnes of boneless hake fillets in 0.5 kilogram packs annually.

#### Asia -

Japan - Export opportunities for dressed hake to Japan are projected at 200 tonnes for 1985.

Taiwan - There may be possibilities of exporting hake to Taiwan.

Australia - Australia imports hake and may offer opportunities for Canadian exports.

#### The Caribbean

The Caribbean countries imported 1 954 tonnes of hake products from Canada in 1979 and 2 283 tonnes in 1980 (estimates based on Canadian statistics). It is projected that these countries may import 2 438 tonnes of hake from Canada in 1985.

TABLE 59

Forecast of hake imports from Canada by Caribbean countries, 1985  
(tonnes, product weight)

	Dressed		Fillets		Curred		Total	
	1979	1985	1979	1985	1979	1985	1979	1985
Barbados	--	--	4	5	27	30	31	35
Bermuda	2	5	2	2	--	--	4	7
Dominican Rep.	15	20	20	20	1 191	1 600	1 226	1 640
Haiti	--	--	1	1	136	140	137	141
Leew-Wind Is.	--	--	--	--	89	90	89	90
Jamaica	37	40	--	--	--	--	37	40
Puerto Rico	44	60	94	125	100	100	238	285
Trinidad-Tobago	16	20	--	--	176	180	192	200
	<u>114</u>	<u>145</u>	<u>121</u>	<u>153</u>	<u>1 719</u>	<u>2 140</u>	<u>1 954</u>	<u>2 438</u>

Source: Statistics Canada, Exports by Commodities and MSB projections.

Canadian pacific hake projections

No hake was landed in Canada on the BC coast in 1979 but the hake resource could sustain a catch of at least 30 000 tonnes by 1985.

The Pacific hake (Merluccius Productus) is different from species caught off the Canadian Atlantic coast. The Hake Consortium of British Columbia caught and delivered hake to Polish, Russian and Greek factory vessels between 1978 and 1980. Boneless hake fillets and headless gutted hake is marketable in Europe in competition with products imported from Latin America.

In recent years the US has imported substantial volumes of hake (whiting) blocks and some fillets from South America and has begun importing small volumes of hake (headed, gutted and fillets) from Pacific Canada. Substantial market development work should be done both in Europe and in the US.

Market potential for Canadian hake

The following table contrasts the domestic consumption and limited export opportunities identified for Canadian hake. The resource surplus is projected to be more than 100 000 tonnes in 1985.

TABLE 60

Market potential for Canadian hake, 1985  
(000 tonnes, product weight)

	Dressed		Fillets		Blocks		Cured		Total	
	1979	1985	1979	1985	1979	1985	1979	1985	1979	1985
Canada	0.2	0.3	0.1	0.1	0.9	1.0	--	--	1.2	1.4
US	--	--	--	--	--	--	0.8	0.8	0.8	0.8
Portugal	--	--	--	--	--	--	--	0.1	--	0.1
Italy	--	--	--	--	--	--	--	0.1	--	0.1
Japan	--	0.2	--	--	--	--	--	--	--	0.2
Caribbean	0.1	0.1	0.1	0.2	--	--	1.7	2.1	1.9	2.4
Total (product weight)	0.3	0.6	0.2	0.3	0.9	1.0	2.5	3.1	3.9	5.0
Factor	--	1.2	--	3.18	--	3.18	--	3.96	--	--
Total (round weight)	--	0.7	--	1.0	--	3.2	--	12.3	--	17.2
Maximum catch Potential (round weight)	--	--	--	--	--	--	--	--	--	120.0
Surplus	--	--	--	--	--	--	--	--	--	103.0

Source: Statistics Canada, Exports by Commodities and MSB projections.

7. Turbot

Total Canadian turbot landings are expected to increase from 40 000 tonnes in 1979 to a maximum of 65 000 tonnes in 1985 (Table 3). There is no turbot fishing off British Columbia.

It is estimated that per capita Canadian consumption of turbot products may amount to 0.13 kilogram in 1985 (product weight) and the domestic market is expected to increase overall from 3 100 tonnes in 1979 to 3 500 tonnes in 1985 (Table 4).

TABLE 61

Canadian turbot consumption  
(000 tonnes, product weight)

	1979	1985
Fillets	3.0	3.3
Blocks	0.1	0.2
	<u>3.1</u>	<u>3.5</u>

Source: DFO worksheets.

US market projections for turbot

Since the US does not catch turbot, its total requirement is imported. Turbot is found both in the Atlantic and Pacific, and the main suppliers are Canada and Japan. The Pacific turbot is of a lower quality, with a bland taste. It is watery and shrinks substantially when cooked. But in spite of these disadvantages the Japanese product is successful on the US market since it is in the IQF form and as such is preferred by the restaurant trade. The major part of Canadian turbot fillets are not IQF.

US turbot fillet consumption dropped from 26 000 tonnes in 1975 to 18 000 tonnes in 1979 while block consumption fluctuated between 2 000 and 4 000 tonnes.

By 1985, US turbot fillet consumption may reach 21 000 tonnes, while block consumption may remain at 2 000 tonnes.

TABLE 62  
US turbot consumption, 1977-79 and 1985

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1985</u>
Fillets	<u>19</u>	<u>19</u>	<u>18</u>	<u>21</u>
Blocks	<u>3</u>	<u>2</u>	<u>2</u>	<u>2</u>
Total	<u>22</u>	<u>21</u>	<u>20</u>	<u>23</u>

Source: US Dept. of Commerce, Food Fish Market Review, (NMFS), Washington, D.C. and MSB estimates.  
US turbot imports

In 1979 the US imported 16 000 tonnes of turbot fillets and 3 000 tonnes of blocks. Japan supplied half of the total volume of turbot imported, followed closely by Canada. Canada was the major block supplier. (The discrepancy between turbot fillet consumption and import figures is due to inventory level changes).

TABLE 63  
US imports of turbot, 1979  
(000 tonnes, product weight)

	<u>Fillets</u>	<u>Blocks</u>
Canada	<u>6.0</u>	<u>2.0</u>
Iceland	<u>0.4</u>	<u>0.1</u>
Japan	<u>8.0</u>	<u>0.2</u>
Other	<u>1.5</u>	<u>0.2</u>
Total	<u>15.9</u>	<u>2.5</u>

Source: US Dept. of Commerce, US Imports for Consumption, Bureau of the Census, Washington, D.C.

US demand for Canadian turbot fillets may increase from 6 000 to 9 000 tonnes by 1985, while demand for turbot blocks may remain unchanged at 2 000 tonnes.

#### Other markets

France - In 1979 Canada exported 394 tonnes of turbot fillets to France and in 1980 sales grew to 784 tonnes. It is projected that in 1985 Canada may export 1 000 tonnes of turbot fillets to France.

West Germany - Canada exported 17 tonnes of turbot fillets to the FRG in 1979 and eight tonnes of fillets and three tonnes of blocks in 1980. By 1985 Canada may export 500 tonnes of turbot fillets and 500 tonnes of blocks to the FRG.

Sweden - Sweden imported 42 tonnes of turbot fillets from Canada in 1979 and 94 tonnes of fillets and blocks in 1980. By 1985 this trade is expected to grow to 300 tonnes.

Italy - Greenland turbot fillets may be introduced to the Italian market.

Other countries - Canada exported minor quantities of turbot products to the UK, Finland, Switzerland, Singapore and Japan in 1979 and to Holland, Belgium and Hong Kong in 1980. These markets may be developed in future years.

#### Market potential for Canadian turbot

The following table shows that according to the projected domestic consumption and export demands, Canada may be left with a relatively small turbot surplus of 4 000 tonnes in 1985.

TABLE 64

Market potential for Canadian turbot  
(000 tonnes, product weight)

	Fillets		Blocks		Total	
	1979	1985	1979	1985	1979	1985
Canada	3.0	3.3	0.1	0.2	3.1	3.5
US	5.6	9.0	2.0	2.0	7.6	11.0
France	0.4	1.0	--	--	0.4	1.0
FRG	0.02	0.5	--	0.5	0.02	1.0
Sweden	0.04	0.3	--	--	0.04	0.3
UK	0.02	0.02	--	--	0.02	0.02
Finland	0.04	0.02	0.02	0.02	0.04	0.04
Italy	0.01	0.01	--	--	0.01	0.01
Switzerland	0.04	0.04	--	--	0.04	0.04
Singapore	0	0	--	--	0	0
Japan	0	0	--	--	0	0
Total (product weight)	9.2	14.2	2.1	2.7	11.3	16.9
Factor	--	3.6	--	3.6	--	--
Total (round weight)	--	51.1	--	9.7	--	60.8
Maximum catch potential (round weight)	--	--	--	--	--	65.0
Surplus (round weight)	--	--	--	--	--	4.0

Source: Statistics Canada, Exports by Commodities and MSB projections.

8. Halibut

Between 1979 and 1985 the total Canadian halibut catch may drop from 6 000 to 4 000 tonnes (Table 3). While the Atlantic halibut catch is expected to remain static at 2 000 tonnes, the Pacific catch may decline from 4 000 to 2 000 tonnes.



It is estimated that the Canadian per capita consumption of halibut will amount to 0.095 kilogram in 1985 (product weight), and the size of the domestic market will grow from 2 300 tonnes in 1979 to 2 400 tonnes in 1985 (Table 4).

US market projections for halibut

Halibut, the highest-priced groundfish, is sold primarily in the fresh and frozen dressed form in the US, mainly by high-class restaurants, quality fish-and-chips outlets, and fish specialty retail shops.

It is estimated that Americans consumed 5 500 tonnes of dressed halibut and 1 300 tonnes of fillets and steaks in 1979. The drop in demand was substantial in 1979 as compared to the two previous years. By 1985 fillet consumption may increase to about 9 000 tonnes and fillet and steak consumption to 1 500 tonnes.

TABLE 65

US halibut consumption  
(000 tonnes, product weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1985</u>
Dressed	8.0	8.2	5.5	9.0
Fillets and steaks	2.4	2.1	1.3	1.5
Total	<u>10.4</u>	<u>10.3</u>	<u>6.8</u>	<u>10.5</u>

Source: US Dept. of Commerce, Food Fish Market Review, (NMFS), Washington, D.C. and MSB projections.

US halibut landings

The US lands a very small volume of halibut on the Atlantic coast and more substantial quantities in Alaska. Both of these resources are, however, static and the total domestic halibut catch is likely to be between 10 000 and 12 000 tonnes in 1985.

TABLE 66  
US halibut landings, 1977-79, 1981 and 1985  
(000 tonnes, round weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>Forecast for</u>	
				<u>1981</u>	<u>1985</u>
Atlantic coast	--	--	--	--	--
Alaska	8	8	10	8-12	8-12
Total	<u>8</u>	<u>8</u>	<u>10</u>	<u>8-12</u>	<u>8-12</u>

Source: US Dept. of Commerce, Fisheries of the United States, (NMFS), and MSB estimates.

US halibut balance

It is projected that the US may produce about 7 000 tonnes of halibut products in 1985 and may import a total of 3 500 tonnes.

TABLE 67  
US halibut balance, 1979 and 1985  
(000 tonnes, product weight)

	Demand		Domestic production		Imports	
	1979	1985	1979	1985	actual 1979	potential 1985
Dressed	5.5	9.0	6.3	6.0	1.9	3.0
Filletts and steaks	1.3	1.5	0.9	1.0	0.4	0.5
	6.8	10.5	7.2	7.0	2.3	3.5

Source: IBID.

In the above table the demand figure for 1979 is much lower than the domestic production plus the import volume because of a very substantial increase in the level of inventories.

US halibut imports

In 1979 the US imported 400 tonnes of filleted halibut and 2 000 tonnes of dressed halibut. Canada was the major supplier of the dressed product.

TABLE 68  
US imports of halibut, 1979  
(000 tonnes, product weight)

	Filletts		Fresh/chilled/frozen whole/headed
Iceland	0.2	Canada	1.5
Other	0.2	Mexico	0.4
Total	0.4	Other	0.1
		Total	2.0

Source: US Dept. of Commerce, US Imports for Consumption, Bureau of the Census, Washington, D.C.

By 1985 US demand for Canadian dressed halibut may increase to 2 500 tonnes.

Other markets

Italy - There may be some possibility in selling halibut to Italy.

UK - In 1979 the UK imported 28 tonnes and in 1980, 84 tonnes of halibut from Canada. By 1985 the volume of this trade may grow to 50 tonnes.

The Netherlands - In 1980 Holland imported 10 tonnes of Canadian halibut. By 1985 such a demand is projected to increase to 100 tonnes.

Japan - In 1980 Canada sold about 200 tonnes of whole/dressed halibut to Japan. Such exports may continue roughly on the same level in 1985.

Taiwan - Taiwan may be a potential market. (In 1980 it imported two tonnes of Canadian halibut).

Other Countries - In 1980, 80 tonnes of Canadian halibut was sold to West Germany and smaller quantities to Norway, Switzerland and the USSR.

Canadian pacific halibut

The BC halibut catch may decline from about 4 000 tonnes in 1979 to about 2 000 tonnes in 1980.

In 1979 the BC industry produced 3 200 tonnes of dressed halibut and 36 tonnes of fillets. These volumes may be halved in 1985.

In 1980 Canada Customs cleared for exports 1 081 tonnes of dressed BC halibut. Such exports may decrease substantially in 1985.

Market potential for Canadian halibut

Because of the projected decline in the Canadian halibut catch and slightly higher Canadian domestic demand, Canada may not be able to satisfy the export markets. The following calculation shows a catch deficit of 3 000 tonnes (round weight).

TABLE 69  
Market potential for Canadian halibut, 1985  
 (000 tonnes, product weight)

	Dressed		Fillets		Blocks		Total	
	1979	1985	1979	1985	1979	1985	1979	1985
Canada	2.2	2.3	0.1	0.2	--	--	2.3	2.5
US	1.0	2.5	--	--	0	--	1.0	2.5
Japan	--	0.2	--	--	--	--	--	0.2
UK	0.03	0.05	--	--	--	--	0.03	0.05
Holland	--	0.1	--	--	--	--	--	0.1
Sweden	0	0	--	--	--	--	0	0
Singapore	0	0	--	--	--	--	0	0
Total (product weight)	3.2	5.1	0.1	0.2	0	--	3.3	5.3
Factor	--	1.35	--	2.03	--	--	--	--
Total (round weight)	--	6.9	--	0.4	--	--	--	7.3
Maximum catch projection (round weight)	--	--	--	--	--	--	--	4.0
Deficiency (round weight)	--	--	--	--	--	--	--	3.0

Source: Statistics Canada, Exports by Commodities and MSB projections.

D. SUMMARY AND CONCLUSION

1. World landings of groundfish have been declining, from 9.9 million tonnes in 1974 to 7.5 million tonnes in 1978. The drop in the world catch of cod over this period was from around 3 million tonnes to 2.3 million tonnes.

The outlook for the Canadian fishery is favourable. Projections indicate that by 1985 the Canadian harvest of major groundfish species could increase significantly, from 737 000 tonnes in 1979 to a potential maximum of 1.4 million tonnes.

Whether this potential will actually be achieved is problematical. The projections are based on a number of assumptions that may not be fully met, including the assumption that Canada can deploy unlimited harvesting capability and will have sufficient processing capacity.

2. The United States is and probably will continue to be the major market for Canadian groundfish. In 1979, the US absorbed 87% of Canadian groundfish exports. Groundfish in 1979 accounted for 52% of Canada's total tonnage landed and 27% of landed value. Of the 425 756 tonnes of fish exported in 1979, 38% or 162 612 tonnes was groundfish.

3. Assuming that Canada's population reaches 25.7 million by 1985, domestic consumption of groundfish can be expected to increase to 89 000 tonnes from the current level of 79 000 tonnes. Per capita consumption over the period is expected to increase from 3.35 to 3.46 kilograms.

4. Since it is unlikely that Canada will import any groundfish products, it can be calculated from catch projections and domestic consumption figures that the volume of groundfish available for export in 1985 could reach a maximum of 312 000 tonnes.

5. The volume of future exports to the US will be determined to a great extent by expansion of the American domestic fishery. Substantial growth in the US catch is predicted, but so is growth in demand, and projections indicate that import requirements will increase to about 386 000 tonnes from 352 000 tonnes in 1979.

6. Projections by major species indicate that Canadian landings of cod will increase from 378 000 tonnes in 1979 to a possible maximum of 606 000 tonnes in 1985, from Atlantic waters. For Pacific waters, a decline is forecast from 11 000 tonnes to 9 000 tonnes.

Surveys of the major markets indicate Canadian supplies may fall short by about 53 000 tonnes of meeting the potential demand. Expanding markets have been identified in the US, the European Economic Community, Spain and Portugal, South America and the Caribbean.

7. For haddock, a catch deficiency of around 7 000 tonnes round weight is anticipated, mainly due to increased Canadian consumption and growth in US demand. The Canadian catch is expected to be up from 35 000 tonnes in 1979 to 58 000 tonnes in 1985.

8. The Canadian catch of ocean perch is expected to grow from 90 000 tonnes in 1979 to a maximum 162 000 tonnes in 1985, and it appears that additional markets will have to be developed for around 40 000 tonnes of Canadian perch.

9. Canada's harvest of flatfish could increase from 116 000 tonnes to a possible 165 000 tonnes, and indications are there will be a surplus of around 30 000 tonnes, for which markets will have to be developed.

10. Landings of pollock are expected to increase from 34 000 to 44 000 tonnes, and in round weight terms the supply is expected to fall about 29 400 tonnes short of potential demand in all markets.

11. The potential harvest of hake could increase from actual landings of 13 000 tonnes in 1979 to 120 000 tonnes in 1985, with the Pacific catch alone growing from nil in 1979 to 30 000 tonnes. Market potential is such that a resource surplus of more than 100 000 tonnes is projected for 1985.

12. Landings of turbot are expected to increase from 40 000 tonnes in 1979 to a maximum of 65 000 tonnes in 1985, and market projections indicate a small surplus of around 4 000 tonnes.

13. Between 1979 and 1985, the total catch of halibut may decline from 6 000 to 4 000 tonnes, due mostly to an anticipated drop in the Pacific harvest. Because of the expected decline and indications of slightly greater domestic demand, Canada may not be able to satisfy export markets.

APPENDICES

APPENDIX I

CANADIAN PER CAPITA GROUND FISH CONSUMPTION, 1979

(kilograms, product weight)

	<u>Fresh &amp; frozen round or dressed</u>	<u>Fresh &amp; frozen fillets</u>	<u>Frozen blocks</u>	<u>Cured &amp; pickled</u>	<u>Canned</u>	<u>total</u>
Cod	0.289	0.595	0.720	0.044	--	1.648
Ocean perch	0.044	0.278	0.003	--	--	0.325
Haddock	0.060	0.155	0.141	0.002	--	0.358
Pollock	0.040	0.045	0.330	0.001	--	0.416
Hake	0.010	0.005	0.040	--	--	0.055
Flatfish	--	0.273	0.021	--	--	0.294
Halibut	0.091	0.005	0	--	--	0.096
Turbot	--	0.127	0.006	--	--	0.133
Other groundfish	<u>--</u>	<u>0.002</u>	<u>0.003</u>	<u>--</u>	<u>0.023</u>	<u>0.028</u>
Total groundfish	<u>0.534</u>	<u>1.485</u>	<u>1.264</u>	<u>0.047</u>	<u>0.023</u>	<u>3.353</u>

CANADIAN PER CAPITA GROUND FISH CONSUMPTION, 1985

(kilograms, product weight)

Cod	0.320	0.600	0.750	0.040	--	1.710
Ocean perch	0.045	0.300	0.003	--	--	0.348
Haddock	0.060	0.160	0.150	0.002	--	0.372
Pollock	0.040	0.045	0.330	0.001	--	0.416
Hake	0.010	0.005	0.040	--	--	0.055
Halibut	0.090	0.005	--	--	--	0.095
Flatfish	--	0.280	0.020	--	--	0.300
Turbot	--	0.130	0.006	--	--	0.136
Other groundfish	<u>--</u>	<u>0.002</u>	<u>0.003</u>	<u>--</u>	<u>0.023</u>	<u>0.028</u>
Total groundfish	<u>0.565</u>	<u>1.527</u>	<u>1.302</u>	<u>0.043</u>	<u>0.023</u>	<u>3.460</u>

Source: DFO worksheets and MSB projections.



APPENDIX II

(population 23 671 000)

CANADIAN CONSUMPTION, 1979  
(000 tonnes, product weight)

	<u>Fresh &amp; frozen round or dressed</u>	<u>Fresh &amp; frozen fillets</u>	<u>Frozen blocks</u>	<u>Cured &amp; pickled</u>	<u>Canned</u>	<u>total</u>
Cod	6.8	14.1	17.0	1.0	--	38.9
Ocean perch	1.0	6.6	0.071	--	--	7.7
Haddock	1.4	3.7	3.3	0.047	--	8.4
Pollock	0.9	1.1	7.8	0.024	--	9.8
Hake	0.2	0.1	0.9	--	--	1.2
Flatfish	--	6.5	0.5	--	--	7.0
Halibut	2.2	0.1	0	--	--	2.3
Turbot	--	3.0	0.1	--	--	3.1
Other groundfish	<u>--</u>	<u>0.047</u>	<u>0.071</u>	<u>--</u>	<u>0.5</u>	<u>0.6</u>
Total groundfish	<u>12.5</u>	<u>35.2</u>	<u>29.7</u>	<u>1.1</u>	<u>0.5</u>	<u>79.0</u>

CANADIAN GROUND FISH CONSUMPTION, 1985 (population 25 700 000)

Cod	8.2	15.4	19.3	1.0	--	43.9
Ocean perch	1.2	7.7	0.077	--	--	9.0
Haddock	1.5	4.1	3.9	0.051	--	9.6
Pollock	1.0	1.2	8.5	0.026	--	10.7
Hake	0.3	0.1	1.0	--	--	1.4
Halibut	2.3	0.1	--	--	--	2.4
Flatfish	--	7.2	0.5	--	--	7.7
Turbot	--	3.3	0.2	--	--	3.5
Other groundfish	<u>--</u>	<u>0.051</u>	<u>0.077</u>	<u>--</u>	<u>0.6</u>	<u>0.7</u>
Total groundfish	<u>14.5</u>	<u>39.1</u>	<u>33.6</u>	<u>1.1</u>	<u>0.6</u>	<u>89.0</u>

Source: DFO worksheets and MSB projections.

APPENDIX III

CANADIAN GROUND FISH EXPORTS - 1979  
(tonnes, product weight)

Country	Fresh/ frozen, round/ dressed	Fresh/ frozen fillets	Frozen blocks	Cured	Total
<u>Cod</u>					
UK	121	998	779	--	1 898
Belgium-Luxembourg	--	--	18	11	29
Denmark	--	--	32	15	47
France	23	26	375	28	452
FRG	--	5	525	--	530
Greece	--	--	--	135	135
Italy	97	--	--	1 600	1 697
Norway	--	--	61	18	79
Portugal	1 523	185	--	117	1 825
Spain	188	20	--	668	876
Sweden	--	21	--	1	22
Zaire	--	--	--	300	300
Japan	17	--	37	--	54
Australia	--	2	--	73	75
New Zealand	14	14	--	--	28
Brazil	--	--	--	909	909
Venezuela	--	16	--	56	72
Bahamas	0	5	--	--	5
Bermuda	4	38	--	110	152
Barbados	6	--	--	322	328
Jamaica	0	--	21	459	480
Leew-Wind Is.	--	--	--	313	313
Trinidad-Tobago	51	38	--	812	901
Dominican Rep.	--	--	--	2	2
Haiti	--	--	--	7	7
Panama	--	--	--	4	4
Puerto Rico	197	115	24	4 019	4 355
St. Pierre-Miq.	--	--	8	--	8
US	3 305	20 967	41 364	8 465	74 101
	<u>5 546</u>	<u>22 450</u>	<u>43 244</u>	<u>18 444</u>	<u>89 684</u>
<u>Halibut</u>					
UK	28	--	--	--	28
Sweden	1	--	--	--	1
Singapore	3	--	--	--	3
Japan	14	--	--	--	14
US	1 033	--	14	--	1 047
	<u>1 079</u>	<u>--</u>	<u>14</u>	<u>--</u>	<u>1 093</u>

APPENDIX III  
(CONT'D)

CANADIAN GROUND FISH EXPORTS - 1979  
(tonnes, product weight)

Country	Fresh/ frozen, round/ dressed	Fresh/ frozen fillets	Frozen blocks	Cured	Total
<u>Haddock, hake</u>					
UK	2	--	--	--	2
France	11	--	--	--	11
FRG	52	--	--	--	52
Greece	126	--	--	--	126
Portugal	89	--	--	--	89
Poland	38	--	--	--	38
Australia	297	--	--	--	297
Bermuda	2	--	--	--	2
Jamaica	37	--	--	--	37
Trinidad-Tobago	16	--	--	--	16
Dominican Rep.	15	--	--	--	15
Puerto Rico	44	--	--	--	44
US	4 422	--	--	--	4 422
	<u>5 151</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>5 151</u>
<u>Haddock</u>					
UK	--	5	11	--	16
FRG	--	5	--	--	5
Bermuda	--	2	--	--	2
Greenland	--	1	--	--	1
US	--	5 884	1 054	--	6 938
	<u>--</u>	<u>5 897</u>	<u>1 065</u>	<u>--</u>	<u>6 962</u>
<u>Haddock &amp; cusk</u>					
Bermuda	--	--	--	7	7
Barbados	--	--	--	0	0
Leew-Wind Is.	--	--	--	93	93
Puerto Rico	--	--	--	110	110
US	--	--	--	827	827
	<u>--</u>	<u>--</u>	<u>--</u>	<u>1 037</u>	<u>1 037</u>
<u>Hake</u>					
Belgium-Luxembourg	--	--	--	0	0
Italy	--	--	--	1	1
Australia	--	--	--	0	0
Barbados	--	--	--	27	27
Leew-Wind Is.	--	--	--	89	89
Trinidad-Tobago	--	--	--	176	176
Dominican Rep.	--	--	--	1 191	1 191
Haiti	--	--	--	136	136
Puerto Rico	--	--	--	102	102
US	--	--	--	734	734
	<u>--</u>	<u>--</u>	<u>--</u>	<u>2 456</u>	<u>2 456</u>

APPENDIX III  
(CONT'D)

CANADIAN GROUND FISH EXPORTS - 1979  
(tonnes, product weight)

Country	Fresh/ frozen, round/ dressed	Fresh/ frozen fillets	Frozen blocks	Cured	Total
<u>Hake, cusk, pollock</u>					
UK	--	2	--	--	2
Spain	--	2	--	--	2
Australia	--	14	--	--	14
Bermuda	--	2	--	--	2
Barbados	--	4	--	--	4
Dominican Rep.	--	20	--	--	20
Haiti	--	1	--	--	1
Puerto Rico	--	94	--	--	94
US	--	5 338	--	--	5 338
	--	<u>5 477</u>	--	--	<u>5 477</u>
<u>Pollock</u>					
Barbados	--	--	1	80	81
Surinam	--	--	--	23	23
Dominican Rep.	--	--	--	586	586
Leew-Wind Is.	--	--	--	126	126
Trinidad-Tobago	--	--	--	14	14
Haiti	--	--	--	49	49
Puerto Rico	--	--	--	619	619
US	--	--	468	1 104	1 572
	--	--	<u>469</u>	<u>2 601</u>	<u>3 070</u>
<u>Total - haddock, hake, pollock &amp; cusk</u>					
	5 151	11 374	1 534	6 094	24 153
<u>Flatfish</u>					
UK	--	9	--	--	9
France	--	148	--	--	148
FRG	--	68	--	--	68
Sweden	--	26	--	--	26
Singapore	--	3	--	--	3
Japan	--	2	--	--	2
Bermuda	--	7	--	--	7
Puerto Rico	--	2	--	--	2
US	--	16 098	4 811	--	20 909
	--	<u>16 363</u>	<u>4 811</u>	--	<u>21 174</u>

APPENDIX III  
(CONT'D)

CANADIAN GROUND FISH EXPORTS - 1979  
(tonnes, product weight)

Country	Fresh/ frozen, round/ dressed	Fresh/ frozen fillets	Frozen blocks	Cured	Total
<u>Ocean catfish</u>					
US	--	946	--	--	946
	--	946	--	--	946
<u>Ocean perch</u>					
UK	--	2	--	--	2
FRG	--	55	--	--	55
Sweden	--	18	--	--	18
Bermuda	--	2	--	--	2
Puerto Rico	--	3	--	--	3
St. Pierre-Miq.	--	4	--	--	4
US	--	16 967	323	--	17 260
	--	17 051	323	--	17 374
<u>Turbot</u>					
UK	--	15	--	--	15
Finland	--	17	20	--	37
France	--	394	--	--	394
FRG	--	17	--	--	17
Italy	--	13	--	--	13
Sweden	--	42	--	--	42
Switzerland	--	41	--	--	41
Singapore	--	1	--	--	1
Japan	--	9	--	--	9
US	--	5 581	2 038	--	7 619
	--	6 130	2 058	--	8 188
Total groundfish exports	11 776	74 314	51 984	24 538	162 612
Total canadian exports	181 781	107 684	56 309	57 752	425 756 <sup>1</sup>
% groundfish/ Total	6.5%	69.0%	92.3%	42.5%	38.2%

1) Excludes roes, meal, oil, foods and feeds and miscellaneous. Total includes 22 230 tonnes of canned products.

Source: Statistics Canada, Exports by Commodities, Ottawa, 1979.

APPENDIX IV  
CANADIAN GROUND FISH EXPORTS - 1980  
 (tonnes, product weight)

Country	Fresh/ frozen, round/ dressed	Fresh/ frozen fillets	Frozen blocks	Cured	Total
<u>Cod</u>					
UK	563	1 348	3 388	--	5 299
Belgium-Luxemb.	--	12	36	69	117
Denmark	11	--	18	122	151
France	41	336	802	941	2 120
FRG	145	326	1 896	71	2 438
Greece	56	18	--	280	354
Italy	--	3	--	1 851	1 854
Norway	18	262	--	519	799
Portugal	1 995	--	42	7 432	9 469
Spain	1 433	--	54	4 408	5 895
Sweden	22	44	5	205	276
Japan	23	3	--	--	26
Australia	1	19	159	106	285
New Zealand	--	16	--	--	16
Brazil	--	--	--	814	814
Venezuela	38	--	--	--	38
Bahamas	--	7	--	--	7
Bermuda	1	24	--	98	123
Barbados	--	--	--	224	224
Leew-Wind Is.	--	--	--	191	191
Trinidad-Tobago	32	78	--	1 010	1 120
Dominican Rep.	--	--	--	19	19
Haiti	--	--	--	3	3
Panama	--	4	--	4	8
Puerto Rico	306	75	--	4 041	4 422
St. Pierre-Miq.	1	18	12	--	31
US	4 086	21 944	43 292	7 693	77 015
Fr. W. Indies	13	6	--	1	20
USSR	679	--	--	--	679
Taiwan	13	--	--	--	13
Malaysia	--	1	--	--	1
South Africa	--	--	--	1	1
Hong Kong	1	--	--	--	1
	<u>9 478</u>	<u>24 544</u>	<u>49 704</u>	<u>30 103</u>	<u>113 829</u>
<u>Halibut</u>					
UK	84	--	--	--	84
Sweden	25	--	--	--	25
Singapore	4	--	--	--	4
Japan	236	--	--	--	236
US	2 677	--	25	--	2 702
FRG	80	--	--	--	80
Norway	2	--	--	--	2
USSR	13	--	--	--	13
Taiwan	2	--	--	--	2
Netherlands	10	--	--	--	10
Switzerland	4	--	--	--	4
	<u>3 137</u>	<u>--</u>	<u>25</u>	<u>--</u>	<u>3 162</u>

APPENDIX IV  
(Cont'd)  
CANADIAN GROUND FISH EXPORTS - 1980  
(tonnes, product weight)

Country	Fresh/ frozen, round/ dressed	Fresh/ frozen fillets	Frozen blocks	Cured	Total
<u>Haddock &amp; hake</u>					
France	14	--	--	--	14
FRG	5	--	--	--	5
Greece	5	--	--	--	5
Australia	35	--	--	--	35
Bermuda	1	--	--	--	1
Leew-Wind Is.	9	--	--	--	9
Trinidad-Tobago	16	--	--	--	16
Fr. W. Indies	1	--	--	--	1
Haiti	4	--	--	--	4
Puerto Rico	11	--	--	--	11
US	4 300	--	--	--	4 300
	<u>4 401</u>	<u>--</u>	<u>--</u>	<u>--</u>	<u>4 401</u>
<u>Haddock</u>					
UK	--	2	--	--	2
France	--	0	--	--	9
Bermuda	--	1	--	--	1
Leew-Wind Is.	--	0	--	--	0
US	--	5 753	1 871	--	7 624
	<u>--</u>	<u>5 765</u>	<u>1 871</u>	<u>--</u>	<u>7 636</u>
<u>Haddock &amp; cusk</u>					
Bermuda	--	--	--	6	6
Barbados	--	--	--	1	1
Jamaica	--	--	--	5	5
Leew-Wind Is.	--	--	--	131	131
Trinidad-Tobago	--	--	--	24	24
Dominican Rep.	--	--	--	6	6
Puerto Rico	--	--	--	138	138
US	--	--	--	892	892
	<u>--</u>	<u>--</u>	<u>--</u>	<u>1 203</u>	<u>1 203</u>
<u>Hake</u>					
Denmark	--	--	--	1	1
Italy	--	--	--	69	69
Portugal	--	--	--	46	46
Barbados	--	--	--	27	27
Leew-Wind Is.	--	--	--	102	102
Trinidad-Tobago	--	--	--	191	191
Dominican Rep.	--	--	--	1 593	1 593
Fr. W. Indies	--	--	--	5	5
Haiti	--	--	--	262	262
Puerto Rico	--	--	--	48	48
US	--	--	--	780	780
	<u>--</u>	<u>--</u>	<u>--</u>	<u>3 124</u>	<u>3 124</u>

APPENDIX IV  
(Cont'd)  
CANADIAN GROUND FISH EXPORTS - 1980  
(tonnes, product weight)

Country	Fresh/ frozen, round/ dressed	Fresh/ frozen fillets	Frozen blocks	Cured	Total
<u>Hake, cusk, pollock</u>					
UK	--	15	--	--	15
FRG	--	1	--	--	1
Israel	--	7	--	--	7
Australia	--	16	--	--	16
Bermuda	--	1	--	--	1
Barbados	--	5	--	--	5
Puerto Rico	--	27	--	--	27
US	--	2 569	--	--	2 569
	--	<u>2 641</u>	--	--	<u>2 641</u>
<u>Pollock</u>					
France	--	--	1	--	1
FRG	--	--	185	--	185
Norway	--	--	--	25	25
Portugal	--	--	--	71	71
Australia	--	--	355	--	355
Barbados	--	--	--	20	20
Leew-Wind Is.	--	--	--	172	172
Trinidad-Tobago	--	--	--	39	39
Dominican Rep.	--	--	--	1 487	1 487
Haiti	--	--	--	5	5
Puerto Rico	--	--	--	598	598
St. Pierre-Miq.	--	--	5	--	5
US	--	--	1 361	1 825	3 186
	--	--	<u>1 907</u>	<u>4 242</u>	<u>6 149</u>
Total- haddock, Hake, pollock & cusk	4 401	8 406	3 778	8 569	25 154
<u>Flatfish</u>					
UK	--	39	--	--	39
France	--	889	--	--	889
FRG	--	73	--	--	73
Sweden	--	102	4	--	106
Singapore	--	7	--	--	7
Japan	--	1	--	--	1
Bermuda	--	4	--	--	4
Puerto Rico	--	5	--	--	5
US	--	20 255	3 832	--	24 087
Belgium-Luxemb.	--	16	--	--	16
Lebanon	--	1	--	--	1
Barbados	--	1	--	--	1
Finland	--	40	--	--	40
Italy	--	14	--	--	14
Switzerland	--	18	--	--	18
Hong Kong	--	16	--	--	16
	--	<u>21 481</u>	<u>3 836</u>	--	<u>25 317</u>



APPENDIX IV  
(Cont'd)  
CANADIAN GROUND FISH EXPORTS - 1980  
(tonnes, product weight)

Country	Fresh/ frozen, round/ dressed	Fresh/ frozen fillets	Frozen blocks	Cured	Total
<u>Ocean catfish</u>					
US	--	969	--	--	969
UK	--	42	--	--	42
	--	<u>1 011</u>	--	--	<u>1 011</u>
<u>Ocean perch</u>					
UK	--	5	--	--	5
FRG	--	91	--	--	91
Sweden	--	3	--	--	3
Bermuda	--	--	--	--	--
Puerto Rico	--	--	--	--	--
St. Pierre-Miq.	--	--	--	--	--
US	--	10 830	265	--	11 095
Netherlands	--	9	--	--	9
Switzerland	--	49	--	--	49
Israel	--	19	--	--	19
	--	<u>13 028</u>	<u>265</u>	--	<u>13 293</u>
<u>Turbot</u>					
UK	--	27	--	--	27
Finland	--	40	32	--	72
France	--	784	--	--	784
FRG	--	8	3	--	11
Italy	--	14	--	--	14
Sweden	--	68	26	--	94
Switzerland	--	18	--	--	18
Netherlands	--	--	20	--	20
Hong Kong	--	16	--	--	16
US	--	6 258	2 048	--	8 306
Belgium-Luxemb.	--	11	--	--	11
	--	<u>7 244</u>	<u>2 129</u>	--	<u>9 373</u>
Total groundfish exports	17 016	75 714	59 737	38 672	191 139
Total Canadian exports	173 001	101 357	63 576	68 623	430 610
% groundfish/ total	9.8%	74.7%	94.0%	54.4%	44.4%

1) Excludes roes, meal, oil, foods & feeds & miscellaneous.  
Total includes 24 053 tonnes of canned products.

Source: Statistics Canada, Exports by Commodities, Ottawa, 1980.

APPENDIX V

US groundfish consumption, 1977-1979 and 1985  
(000 tonnes, product weight)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1985</u>
<u>Round/Dressed</u>				
Cod	6	6	6	7
Haddock	3	3	3	4
Flatfish	10	10	14	16
Atlantic pollock	3	3	3	3
Ocean perch	9	10	11	13
Hake	13	13	13	16
Halibut	8	8	6	9
Total	<u>52</u>	<u>53</u>	<u>56</u>	<u>68</u>
<u>Fillets</u>				
Cod	63	78	81	94
Haddock <sup>1)</sup>	16	21	22	25
Flatfish	50	50	50	56
Turbot	19	19	18	21
Atlantic pollock	15	13	14	16
Alaska pollock	0.5	0.3	0.8	1
Ocean perch <sup>2)</sup>	33	30	31	40
Halibut	2.4	2.1	1.3	1.5
Total	<u>198</u>	<u>213</u>	<u>218</u>	<u>254</u>
<u>Blocks</u>				
Cod	84	94	92	104
Haddock	12	14	10	11
Flatfish	6	6	6	6
Turbot	3	2	2	2
Atlantic pollock	15	12	13	15
Alaska pollock	25	23	28	35
Whiting	11	18	23	30
Ocean perch	2	1	2	2
Other <sup>3)</sup>	13	16	14	9
Total	<u>171</u>	<u>186</u>	<u>190</u>	<u>214</u>
<u>Salted</u>				
Cod	8	8	8	10
Haddock	1	1	1	1
Atlantic pollock	2	2	2	2
Hake	1	1	1	1
Total	<u>12</u>	<u>12</u>	<u>12</u>	<u>14</u>
Grand total	433	464	476	550

1) Includes hake and cusk

2) Includes rockfishes

3) Includes minced blocks and fillet blocks of minor species.

Source: US Dept. of Commerce, Food Fish Market Review (NMFS) and MSB projections.

