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Adequacy of sampling for TAC stocks, 1974

by

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Introduction

This assessment of the sampling efforts by ICNAF Member Countries towards the stocks for which total allowable catches (TACs) are set, is a continuation of previous assessments of the adequacy of sampling (ICNAF, 1975b). The Assessment Subcommittee of STACRES suggested the preparation of this report in an effort to identify those stocks for which commercial catch sampling data were inadequate in 1974. The assessment of sampling adequacy was done on an annual basis for both length and age sampling, and the use of two sampling indices facilitates comparisons between stocks and between countries. The results of analyzing the 1974 sampling data are compared to similar analyses of 1973 data, where possible. Less than 60% of the 59 stocks examined were adequately sampled.

Methods

Conforming with the 1973 sampling data analysis, the minimum sampling requirement was taken to be 200 fish per 1,000 tons of fish caught. This minimum requirement was applied to the total yearly catch, reported in Statistical Bulletin Vol. 24 (ICNAF, 1975a), to give the minimum number of fish expected to be sampled for the year. This figure was compared to the actual number of fish measured as reported in Sampling Yearbook Vol. 19 (ICNAF, 1976a). The resulting ratio,referred to as Sampling Index 1, will be 1.0 for actually doing the minimal sampling, greater than 1.0 for more extensive sampling than the minimum, and less than 1.0 for inadequate sampling. Sampling Index 1 is directly comparable with the "total" sampling efficiency of Table 1, Summ.Doc. 75/11 (ICNAF, 1975b). This ratio of reported sampling to required sampling is conservative and tends to accentuate the seriousness of the inadequacy represented by a value of less than 1.0 for Sampling Index 1.

A total of 59 stocks were considered for 16 member countries (Iceland reported no fishing activity in 1974). With the exception of Canada (Newfoundland) and Canada (Maritimes), breakdowns within countries were combined. Almost no detail is lost by this, however, as Denmark is represented in the sampling data as Denmark (Greenland) with a single exception (cod in Div. 3M) and France is entirely France (St. Pierre and Miquelon). The stocks considered were those that pertained to a single species (for example, flounders in SA 5+6 were omitted). These stocks include all of the species for which TACs were recommended by STACRES in 1976 for 1977.

Research data were not included in the analysis; it was considered that such data did not explicitly characterize removals from the stocks and therefore did not fulfill the requirements for commercial catch sampling data. USSR cod sampling data from exploratory vessels using regulation mesh trawls were included, as these were believed to represent commercial removals.

A second sampling index was calculated to answer a specific question: How do countries compare in sampling the different stocks that they fish? Sampling Index 2 was designed to be sensitive to failures to sample, and to disregard any potential weighting by stock removals. It is recognized to be an arbitrary performance indicator, yet it serves to identify countries that consistently fished stocks without returning any sampling data for those stocks. Sampling Index 2 is defined as

$$\frac{\Sigma \left(\frac{X-N}{X+N}\right)_i}{\Sigma i}$$

where X = number of fish   measured in stock i
and   N = minimum sampling requirement computed from the annual catch by stock and by country.

This function varies between -1.0 for failure to sample at all, 0.0 for sampling the minimum, and +1.0 (approached assymptotically) for sampling above the conservative requirement described. Figure 1 illustrates the relationship of the second index to the first.
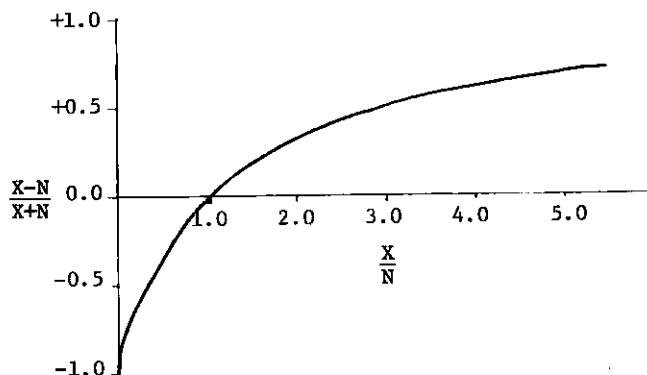

Figure 1. Relationship between the two sampling indices
for a single stock.

In producing the analysis, it occurred several times that a country with little or no catch would report sampling data. This tended to generate very large values for Sampling Index 1, although not in Sampling Index 2. Sampling Index 1 was computed for all stocks and countries in which more than 1,000 tons of fish were removed by the country and whenever sampling data were reported and absence of sampling by a country was ignored when removals were less than 1,000 tons (indicated by "+" in Table 1). Sampling Index 2 was computed for the same stocks as used in determining Sampling Index 1. This gives a somewhat higher value for Sampling Index 2 to countries that sampled stocks in which they did little fishing.

Results

Table 1 provides the catch, numbers of aged and measured fish, and Sampling Index 1 for the stocks and countries considered. Included as well is a classification of the ageing data adequacy to provide an age frequency of the stock removals: for the country collecting the age data (in the body of the table), and for the stock as a whole, using the ageing data of all countries (in the stock totals). Consideration of the relative times of sampling and fishing is included in assessing the adequacy of ageing data. The last row of entries in Table 1 (TOTAL) is considered independently of country, and the sampling index is computed from the total catch and total sampling. The key to the entries in the cells of Table 1 is shown at the bottom of each page of the table. In 1974, no sampling data were reported for 5 stocks and inadequate data for 18 stocks. Thus, only 60% of the TAC stocks were adequately sampled, according to the very conservative measure of adequacy. Less than 50% of the TAC stock were adequately sampled with respect to age. It should also be noted that sampling data are still not being reported by sex for those species requiring such sampling.

In Table 2 the values of Sampling Index 1 for the stocks considered in 1974 are compared with corresponding values for 1973 data, where possible. Of the 48 possible comparisons, only 56% of the stocks could be considered as adequately sampled for length in 1973 (Sampling Index >1) and 58% in 1974. There were four stocks, which were adequately sampled in 1973 but not in 1974: cod in Div. 4VsW, silver hake in Div. 5Y, yellowtail in Div. 3LNO, and roundnose grenadier in SA 0+1.

Table 3 is the comparison of countries by Sampling Index 2. This table is an attempt to identify where the sampling inadequacies originate and indicates the extent of fishing for TAC species by each country in terms of both number of stocks and total tonnage of fish removed. Some pertinent comments are included when required. The countries are listed in descending order according to Sampling Index 2.

Conclusions

The level of sampling in 1974 was still inadequate for many of the stocks under quota regulation. This was due largely to no sampling by some countries and generally inadequate sampling by others, while a few countries concentrated their sampling effort on selected stocks. In particular, no sampling data were reported in 1974 for the following stocks: cod in Div. 2GH; American plaice in Div. 3M; witch in

in Subdiv. 3Ps; and capelin stocks in SA 2 + Div. 3K and in Subdiv. 3Ps. In general, there has been no improvement in the level of sampling between 1973 and 1974, considering that less than 60% of the stocks could be considered as adequately sampled in those years.

References

ICNAF. 1975a. Tables 3 and 4 *in* Int. Comm. Northw. Atlant. Fish. Stat. Bul. Vol. 24:34-92.

ICNAF. MS 1975b. Efficiency of sampling the major fisheries of the Northwest Atlantic in 1973. Int. Comm. Northw. Atlant. Fish. Sum. Doc. 75/11, Serial No. 3466 (mimeographed).

ICNAF. 1976a. Sampling Yearbook for 1974, Int. Comm. Northw. Atlant. Fish. Sampling Yearbook Vol. 19: 1-50.

TABLE 1. Sampling Adequacy by Selected TAC Stocks, by Countries.

Each cell lists: Sampling Index and age-data flag (I/A) / number of length measurements and number of age measurements / catch in thousands of tons.

COUNTRY	COD 1	COD 2GH	COD 2J 3KL	COD 3M	COD 3NO	COD 3Ps	COD 4T+4Vn(1-4)	COD 4Vn(5-12)
BUL								
CAN(MQ)			+		+	+	2.3 A / 11203 1771 / 25	1.0 A / 930 234 / 5
CAN(N)			3.7 A / 26364 5192 / 36	+	1.9 I / 482 178 / 1	3.4 / 13303 1467 / 20	1.0 A / 857 86 / 4	+
DEN	1.6[1] A / 7728 2350 / 25		1.4 I / 1128 252 / 4[3]	0 I / 0 0 / 2	+	+	0 I / 0 0 / 2	
FRA			0 I / 0 0 / 2			0 I / 0 0 / 6	0 I / 0 0 / 6	+
FRG	0 I / 0 0 / 2	+	1.8 A / 12736 1730 / 36	+			+	
GDR			0.4 / 2205 1099 / 25					
ITA								
JAP								
NOR	0 I / 0 0 / 4		0 I / 0 0 / 1	+		0 I / 0 0 / 1	+	+
POL		+	4.9 A / 30651 2888 / 32	+				
POR	0 I / 0 0 / 10		0 I / 0 0 / 84	0 I / 0 0 / 10	0 I / 0 0 / 6	0 I / 0 0 / 1	0 I / 0 0 / 9	+
ROM								
SPA	5.5 A / 6431 1134 / 6		0.3 I / 2778 890 / 56	0 I / 0 0 / 3	0.2 / 1594 178 / 38	0.2 I / 573 64 / 15	8.4 A / 3764 256 / 2	4.7 A / 803 161 / +
USSR	+	0 I / 0 0 / 2	0.8 I / 15837[4] 899 / 96	0 / 0 / 6	0 I / 0 0 / 27	0 I / 0 0 / 2		
UK	5.4 A / 1373 97 / 1		2.2 I / 385 34 / 1	1.3 I / 833 57 / 3		+		13.5 A / 165 40 / +
USA								
TOTAL	1.6 A / 15532 3581 / 48	0 I / 0 0 / 4	1.3 A / 93084 12984 / 373	0.2 I / 833 57 / 25	0.1 I / 2067 356 / 73	1.5 I / 13876 1531 / 47	1.6 A / 15824 2113 / 49	1.6 A / 1898 435 / 6

Sampling Index 1	I = inadequate age data A = adequate age data
Number of length measurements	Number of age measurements
Catch in thousands of tons	

Table 1. (continued)

COUNTRY	COD 4VsW	COD 4X[5]	COD 5Y	COD 5Z	HADDOCK 4VW	HADDOCK 4X	HADDOCK 5	REDFISH 2+3K
BUL								
CAN(MQ)	1.2 A 2133 | 323 9	0.4 A 1504 | 396 19	+	0.4 I 116 | 40 1	3.4 A 823 | 107 1	2.3 A 5702 | 885 12	8.0 A 1054 | 143 +	
CAN(N)	0 I 0 | 0 2				+			+
DEN	+				+			
FRA	+				+			+
FRG	+			+				0 I 0 | 0 7
GDR				+				1.0 I 520[2] | 0 2
ITA								
JAP	+							
NOR	+							+
POL				+				4.3 I 3132 | 0 4
POR	0 I 0 | 0 1							0 I 0 | 0 5
ROM				+				
SPA	0.8 I 4278 | 359 27	0 I 0 | 0 2	+	1.0 I 1243 | 103 6	+	+	+	
USSR	0 I 0 | 0 3	+		2.1 I 185[4] | 0 +	49.0 I 1300 | 0 +	186.0 I 1300 | 0 +	+	0.6 I 1531 | 0 12
UK	+		+		+	– – 90 | 0 –	+	+
USA	+	3.9 I 106 | 0 +	0.1 I 203 | 0 8		+	6.1 A 815 | 156 +	7.5 A 4530 | 1051 3	
TOTAL	0.7 A 6411 | 682 44	0.4 I 1610 | 396 22	0.1 I 203 | 0 8	1.5 I 7919 | 143 27	4.6 I 2132 | 107 2	3.0 A 7907 | 1041 8	5.5 A 5584 | 1194 5	0.9 I 5183 | 0 30

Sampling Index 1	I = inadequate age data A = adequate age data
Number of length measurements	Number of age measurements
Catch in thousands of tons	

Table 1. (continued)

COUNTRY	REDFISH 3M	REDFISH 3LN	REDFISH 3O	REDFISH 3P	REDFISH 4VWX	REDFISH 5	S. HAKE 4VWX	S. HAKE 5Y
BUL								
CAN(MQ)		+	+	0 / I; 0 / 0; 2	1.2 / I; 3168 / 0; 13	+	+	
CAN(N)	+	+	+	3.7 / I; 5622 / 0; 8	3.2 / I; 1961 / 0; 3			
DEN								
FRA	+	+	+	+	+			
FRG	+	+			+	+	+	
GDR						+		
ITA								
JAP		217 / I; 1043^2 / 0; +	60.0 / I; 534^2 / 0; +	10.5 / I; 1268^2 / 0; +	42.0 / I; 1441^2 / 0; +	+	+	
NOR								
POL	260.0 / I; 889 / 0; +	+			+	+		
POR	+	+		+				
ROM								
SPA								
USSR	3.3 / I; 19860 / 0; 30	0 / I; 0 / 0; 20	0 / I; 0 / 0; 13	0 / I; 0 / 0; 11	0 / I; 0 / 0; 7	1.2 / I; 400 / 0; 2	15.0 / A; 286033 / 1311; 95	+
UK	0 / I; 0 / 0; 4	+	+	+	+			
USA			+		3.8 / I; 6794 / 0; 9	4.6 / I; 7945 / 0; 9		0.8 / I; 773 / 0; 5
TOTAL	3.0 / I; 20749 / 0; 35	0.2 / I; 1043 / 0; 22	0.2 / I; 534 / 0; 13	0.3 / I; 6890 / 0; 22	2.0 / I; 13364 / 0; 33	4.0 / I; 8345 / 0; 10	15.0 / A; 286033 / 1311; 96	0.7 / I; 773 / 0; 5

Sampling Index 1	I = inadequate age data A = adequate age data
Number of length measurements	Number of age measurements
Catch in thousands of tons	

Table 1. (continued)

COUNTRY	S. HAKE 5Ze	S. HAKE 5Zw+6	R. HAKE 5Ze	R. HAKE 5Zw+6	POLLOCK 4VWX	POLLOCK 5	A. PLAICE 2+3K	A. PLAICE 3M
BUL	+	0 | I 0 | 0 2	+	+				
CAN(MQ)	+				1.3 | A 6535[6] | 972 25	0.9 | I 606 | 59 4		
CAN(N)					0 | I 0 | 0 21		18.0 | A 2005 | 311 +	+
DEN								
FRA					+	+		
FRG	+				+	+	+	
GDR	+	+					+	
ITA								
JAP	+	+			+			
NOR								
POL	+	+				+	75.0 | I 1374 | 0 +	
POR	+	+						
ROM	9.8 | − 400 | 300 +	−	+	+				
SPA			+		+	+		
USSR	4.8 | A 60690[2] | 925 63	0.5 | A 4787[2] | 273 49	9.8 | A 17878 | 602 9	1.0 | A 4400[7] | 965 21	0 | I 0 | 0 2		0 | I 0 | 0 5	0 | I 0 | 0 1
UK					+	+	+	+
USA	1.2 | I 557 | 0 2	0.6 | I 867 | 0 7	+	2.5 | I 1122 | 0 2	− | − 107 | 0 +	0.6 | I 946 | 0 8		
TOTAL	4.6 | A 61647 | 1225 66	0.5 | I 5763 | 373 58	9.4 | A 17878 | 602 10	1.2 | A 5522 | 965 24	1.3 | A 6642 | 972 25	0.6 | I 1552 | 59 12	3.0 | I 3379 | 0 6	0 | I 0 | 0 2

Sampling Index 1	I = inadequate age data A = adequate age data
Number of length measurements	Number of age measurements
Catch in thousands of tons	

Table 1. (continued)

COUNTRY	A. PLAICE 3LNO	A. PLAICE 3Ps	A. PLAICE 4VWX	WITCH 2J+3KL	WITCH 3NO	WITCH 3Ps	WITCH 4VWX	YELLOWTAIL 3LNO
BUL								
CAN(MQ)	+	+	1.3 A / 1391 331 / 5	+	+	+	1.9 A / 1802 323 / 5	+
CAN(N)	2.7 A / 18307 3631 / 34	1.7 A / 1998 737 / 6	0 I / 0 0 / 1	11.0 A / 4021 524 / 2	1.9 A / 1031 363 / 3	0 I / 0 0 / 2	0 I / 0 0 / 1	1.5 A / 4893 905 / 17
DEN								
FRA		+	+	+	+	+	+	
FRG	+			0 I / 0 0 / 1				
GDR				+				
ITA								
JAP								+
NOR								
POL	6.2 I / 762 0 / +			6.1 I / 6447 0 / 5				
POR				+		+		
ROM								
SPA								
USSR	0 I / 0 0 / 10		0 I / 0 0 / 10	0 I / 0 0 / 7	0 I / 0 0 / 5		0 I / 0 0 / 1	0 I / 0 0 / 7
UK	+		+	+	+		+	
USA			+				+	+
TOTAL	1.0 A / 19069 3631 / 46	1.5 A / 1998 737 / 7	0.4 A / 1391 331 / 17	3.3 A / 3192 524 / 16	0.6 I / 1031 363 / 8	0 I / 0 0 / 2	1.2 A / 1802 323 / 7	1.0 A / 4893 905 / 24

Sampling Index 1	I = inadequate age data A = adequate age data
Number of length measurements	Number of age measurements
Catch in thousands of tons	

Table 1. (continued)

COUNTRY	YELLOWTAIL 4VWX	YELLOWTAIL 5+6[8]	G. HALIBUT 0+1	G. HALIBUT 2+3KL	R.GRENADIER 0+1	R.GRENADIER 2+3	HERRING 4V[9]	HERRING 4WX
BUL								
CAN(MQ)	2.6 / I; 296 / 28; +	+					7.7 / A; 16660 / 2746; 11	3.6 / A; 108355 / 20354; 148
CAN(N)		+		1.0 / A; 1096 / 140; 6			1.0 / I; 200 / 0; 1	
DEN			2.3 / I; 1844[1] / 0; 4	+[1]	+			
FRA				+			+	+
FRG			+	+		+	+	+
GDR			6.7 / A; 801 / 93; +	0 / I; 0 / 0; 3	0.6 / I; 332[1] / 0; 3	26.0 / I; 9298[1] / 0; 2		
ITA								
JAP		+					+	0 / I; 0 / 0; 1
NOR			+	+				
POL				4.7 / I; 6715 / 0; 7		+		+
POR			+	+				
ROM								
SPA								
USSR			0 / I; 0 / 0; 10	0 / I; 0 / 0; 10	0 / I; 0 / 0; 10	0 / I; 0 / 0; 27	82.0 / I; 800 / 0; +	1.7 / I; 7976 / 0; 23
UK			+	0 / I; 0 / 0; 1				
USA	+	3.5 / A; 17266 / 7208; 25						
TOTAL	1.6 / I; 296 / 28; +	3.5 / A; 17266 / 7208; 25	0.9 / I; 2645 / 93; 14	1.4 / I; 7811 / 140; 27	0.1 / I; 332 / 0; 12	1.6 / I; 9298 / 0; 28	6.7 / A; 17860 / 2746; 13	3.36 / A; 116331 / 20354; 173

Sampling Index 1	I = inadequate age data A = adequate age data
Number of length measurements	Number of age measurements
Catch in thousands of tons	

Table 1. (continued)

COUNTRY	HERRING 5Y	HERRING 5Z+6	MACKEREL 3+4	MACKEREL 5+6	ARGENTINE 4VWX	CAPELIN 2+3K	CAPELIN 3L	CAPELIN 3NO
BUL				0.8 A / 3307 1946 / 21				
CAN(MQ)	1.0 I / 799 170 / 4	+	4.1 A / 12124 1789 / 15					
CAN(N)			6.2 A / 2405 2345 / 2			0 I / 0 0 / 1	0 I / 0 0 / 8	0 I / 0 0 / 4
DEN								
FRA		0 I / 0 0¹ / 4	+					
FRG	0 I / 0 0 / 2	0 I / 0 0¹ / 24	+	+				
GDR	2.66 A / 536 200 / 1	1.8 A / 11079 2632 / 32		1.4 A / 17182 597 / 60				
ITA				+				
JAP		8.1 I / 3971 0 / 2			483.0 I / 1160 0 / +			
NOR						+	56.0 A / 1483 667 / +	0.2 A / 1902 925 / 44
POL	67.0 / 1381 199 / +	4.7 A / 36927 7042 / 39	+	1.1 A / 21823 5748 / 96		0 I / 0 0 / 6	0 I / 0 0 / 4	
POR							0 I / 0 0 / 3	+
ROM	+	1.0 A / 400 300 / 2		2.6 A / 3635 1050 / 7				
SPA								0 I / 0 0 / 4
USSR		2.9 A / 24180 966 / 42	0 I / 0 0 / 27	2.3 A / 50203 1269 / 109	0 I / 0 0 / 17	0 I / 0 0 / 120	0 I / 0 0 / 43	0 I / 0 0 / 49
UK								
USA	2.7 A / 15841 3750 / 29	0.9 A / 593 339 / 3		1.44 / 300 0 / 1				
TOTAL	2.5 A / 18557 4319 / 37	2.67 A / 79782 11290 / 150	1.6 A / 14529 3723 / 45	1.6 A / 96450 9560 / 295	0.3 I / 1160 0 / 17	0 I / 0 0 / 120	0.1 A / 1483 677 / 58	0.1 I / 1902 925 / 101

Sampling Index 1	I = inadequate age data A = adequate age data
Number of length measurements	Number of age measurements
Catch in thousands of tons	

Table 1. (continued)

COUNTRY	CAPELIN 3Ps	ILLEX 3+4[10]	SQUID(NS) 5+6[11]					
BUL			+					
CAN(MQ)		+	+					
CAN(N)	0 | I / 0 | 0 / 2	+						
DEN								
FRA		+						
FRG								
GDR								
ITA			0 | – / 0 | 0 / 4					
JAP			3.3 | – / 11166 | 0 / 17					
NOR			4.7 | –. / 6309 | 0 / 7					
POL								
POR								
ROM								
SPA		+	0 | – / 0 | 0 / 16					
USSR		+	3.4 | – / 5750 | 0 / 8					
UK								
USA		– | – / 149 | 0 / –	3.1 | – / 1517 | 0 / 24					
TOTAL	0 | I / 0 | 0 / 2	1.8 | – / 149 | 0 / +	2.23 | – / 24742 | 0 / 55					

[1] Research sampling data was also forwarded, but not counted towards the commercial catch sampling.
[2] Unsexed data only; although this was applied toward the commercial catch sampling, its value is questionable.
[3] Catch mainly by Denmark (Faroes), sample from Denmark (Greenland).
[4] USSR cod sampling data was described as research, but mesh size suggested that it be best classed as indicative of commercial catches.
[5] This column refers to all of Div. 4X, including the inshore portion excluded from the TAC.
[6] Includes 1114 lengths and 83 ages classed as 4X+5Z by Canada(Maritimes).
[7] USSR red hake 5Zw+6, for April to December, only the age-length keys were reported, without length frequencies.
[8] Yellowtail are not reported by management areas for SA 5 and 6.
[9] Herring in 4V for all of 1974, not seasonally.
[10] All squid from SA 3 and 4 are assumed to be *Illex*.
[11] *Illex* and *Loligo* are not fully separated for all countries in the catch statistics for 1974.

Table 2. Sampling adequacy for stocks, 1973 and 1974.

Species	Stock Area	Sampling Index 1 1974	1973
Cod	1	1.6	3.0
	2J+3KL	1.3	1.6
	3M	0.1	0.1
	3NO	0.1	0.8
	3Ps	1.5	1.6
	4VsW	0.7	1.8
	4X	0.4	0.3
	5Y	0.1	0.0
	5Z	1.5	1.6
Haddock	4VW	4.6	3.2
	4X	3.0	3.1
	5	5.5	7.4
Redfish	2+3K	0.9	0.5
	3M	3.0	3.5
	3LN	0.2	0.0
	3O	0.2	0.0
	3P	0.3	0.8
	4VWX	2.0	4.7
	5	4.0	1.8
Silver hake	4VWX	15.0	3.1
	5Y	0.7	1.7
	5Ze	4.6	3.6
	5Zw+6	0.5	0.9
Red hake	5Ze	9.4	4.7
	5Zw+6	1.2	0.7
Pollock	4VWX	1.3	0.8
	5	0.6	0.5
Yellowtail	3LNO	1.0	1.5
	4VWX	1.6	88.5
	5+6	3.5	3.3
American plaice	2+3K	3.0	1.8
	3M	0.0	0.0
	3LNO	1.0	0.9
	3Ps	1.5	0.6
	4VWX	0.4	0.3
Witch	2J+3KL	3.3	1.6
	3NO	0.6	0.1
	3Ps	0.0	0.0
	4VWX	1.2	0.3
Greenland halibut	0+1	0.9	0.9
	2+3KL	1.4	1.8
Roundnose grenadier	0+1	0.1	7.9
	2+3	1.6	0.6
Herring	5Y	2.5	1.3
	5Z+6	2.7	4.3
Mackerel	5+6	1.6	1.5
Squid (NS)	3+4[1]	1.8	2.2
	5+6	2.2	2.3

[1] Assumed to be *Illex*

Table 3. Sampling adequacy by countries using Sampling Index 2.

Country	Sampling Index 2[1]	No. of Stocks in the index[2]	Catch total[3]	Comments
Japan	+.63	8 (5)		Extensive effort on small catches. unsexed redfish lengths.
Poland	+.42	12 (4)	188	
Romania	+.42	3 (1)	9	
USA	+.24	18 (1)	135	Only haddock and yellow-tail ages reported.
Canada(MQ)	+.18	18 (2)	305	
UK	+.15	7 (2)	10	
GDR	+.11	9 (1)	128	Includes unsexed redfish from 2+3K.
Bulgaria	-0.11	1	25	
Canada(N)	-0.13	24 (1)	185	No sampling of the 4 capelin stocks.
Spain	-0.33	12 (1)	175	
Norway	-0.34	6 (1)	57	The only capelin data for 1974.
Denmark	-0.37	6	37	Includes unsampled cod from 3M by Denmark (Faroes).
USSR	-0.41	33 (3)	1011	Includes ages without corresponding lengths.
FRG	-0.79	6	72	
Italy	-1.00	1	5	No sampling data.
France (SP+M)	-1.00	4	18	Research data only.
Portugal	-1.00	9	129	No sampling data.

[1] See text for definition.
[2] Numbers in brackets are numbers of stocks for which sampling was reported but catches were less than 1,000 tons.
[3] Catches (000 tons) of the TAC stocks in Table 1 only.