

DEMERSAL FISH (NORTHERN) COMMITTEE

(A. Hylen)

1974



Digitalization sponsored
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Belgium

(P. Hovart)

Work at sea

The determination of the density and the stock composition of juvenile soles, plaice, dab, flounders, gadoids along the Belgian coast has been continued by means of monthly cruises by the RV "Hinders".

Two cruises were carried out for the demersal young fish survey in collaboration with Holland and Germany.

Work on fish

The market sampling was continued covering several species and areas : Cod : North Sea; whiting : North Sea; plaice : North Sea, English Channel, Bristol Channel, Irish Sea; sole: North Sea, English Channel, Bristol Channel, Irish Sea.

Species	Season	No. of samples		No of Fish	
		Research vessel	Market samples	Measured	Aged
<u>Sole</u> IV	1	-	11	1352	190
	2	-	11	1177	210
	3	-	9	1145	209
	4	-	12	1413	210
VIII f	1	-	11	1181	200
	2	-	8	886	220
	3	-	13	1938	210
	4	-	11	1457	210
VII a	1	-	7	683	247
	2	-	9	796	257
	3	-	6	845	140
	4	-	5	666	210
VII d, e	1-4	-	3	278	200
<u>Plaice</u> IV	1	-	11	713	150
	2	-	12	659	150
	3	-	7	486	148
	4	-	12	711	140
VIII f	1-4	-	10	390	240

Species	Season	No. of Samples		No. of Fish	
		Research Vessel	Market Samples	Measured	Aged
VIIa	1-4	-	8	418	250
VII d, e	1-4	-	3	198	50
<u>Cod</u> IV	1	-	9	280	205
	2	-	11	369	229
	3	-	15	403	350
	4	-	7	529	265
<u>Whiting</u> IV	1	-	5	60	60
	2	-	4	111	80
	3	-	4	155	110
	4	-	8	395	200
Haddock IV	1-4	-	7	417	-

Canada

(A. W. May)

A more extensive report on demersal fish research by Canada in 1974 is contained in the Canadian research report to the 1975 Annual Meeting of ICNAF. Sampling data have also been reported in detail to ICNAF. Heavy emphasis continued on stock assessment in relation to ICNAF quota regulations, and new assessments were prepared for a number of demersal stocks. All the major demersal stocks off the Canadian Atlantic coast are now under quota regulation. To provide the data base necessary for continued revision and updating of stock assessments, intensive research vessel surveys and commercial sampling from national fisheries were continued in 1974, and associated biological data collected for all species.

Analysis of changes in stocks of American plaice on the Grand Bank revealed a decline of about 50% in adult stock size between 1956-58 and 1968-69 in response to increased fishing on a relatively unfished stock. Increases in growth rate were closely correlated with the decrease in stock size. Decline in abundance of yellowtail flounder on the northern Grand Bank, indicated by research vessel surveys, was probably associated with very low water temperatures during the past several years.

Declines in inshore cod catch, catch per man, average age and percentage of mature fish in the catches in inshore Labrador and eastern Newfoundland were associated with increased fishing intensity in the offshore cod fisheries.

Analysis of data from survey cruises in the Gulf of St Lawrence revealed good correlation between catches of 2 year old juvenile cod and the size of the same year classes at age 4 in the commercial fishery. Also analysis of larval catches of cod in the Gulf shows good correlation with survey vessel catches of 2 year old juveniles.

As a basis for assessment of the use of parasites in stock identification of flatfish, a study is being carried out of the species and abundance of intestinal parasites of the common flatfish species of the Scotian Shelf and Gulf of St Lawrence.

Results of cod tagging experiments off southwestern Nova Scotia confirm the hypothesis that the cod on offshore banks form a population distinct from those inshore. Overexploitation of the offshore stock has reduced the population well below that giving maximum sustainable yield.

The southwestern Nova Scotia haddock stock has received moderately good recruitment in 1969, 1971 and 1972 and should show modest increases in spawning stock abundance through imposition of quota regulations, following a dangerously low spawning stock level in 1974.

Denmark

(H.Knudsen)

RV "Dana" took part in the Young Fish Survey in the North Sea in February.

Market samples were collected in Esbjerg, Hvide Sande, Thyborøn (North Sea), Skagen, North Sea, Skagerak and Kattegat, Grenå (Kattegat).

Species and Area	Season	No. of Samples		No. of Fish	
		Research Vessel	Market Samples	Measured	Aged
<u>Cod</u>	1	22	9	1 073	784
North Sea, IV	2	-	13	515	495
	3	-	16	821	790
	4	-	31	476	404
Kattegat, IIIa	1	-	6	120	107
	2	-	3	137	122
	3	-	6	149	122
	4	-	20	568	371
<u>Haddock</u>	1	16	23	3 117	2 050
North Sea, IV	2	-	10	112	63
	3	-	15	269	71
	4	-	72	525	413
Kattegat, IIIa	1	-	7	28	18
	2	-	2	35	-
	3	-	2	53	23
	4	-	14	75	32
<u>Whiting</u>	1	25	64	6 358	1 390
North Sea, IV	2	-	28	910	756
	3	-	41	972	1 406
	4	-	85	1 376	1 053
Kattegat, IIIa	1	-	12	183	83
	2	-	3	109	-
	3	-	8	707	474
	4	-	22	1 563	825
<u>Norway Pout</u>	1	9	33	7 455	6 595
North Sea, IV	2	-	11	967	743
	3	-	13	1 615	1 476
	4	-	25	3 830	3 829

Area	Season	No. of Samples		No. of Fish	
		Research Vessel	Market Samples	Measured	Aged
<u>Plaice</u> North Sea, IV	1	-	1	-	195
	2	-	3	-	585
	3	-	3	-	535
	4	-	1	-	188
Kattegat, IIIa	1	-	4	-	622
	2	-	4	-	519
	3	-	5	-	483
	4	-	6	-	500
<u>Sole</u> North Sea, IV	1	-	-	-	-
	2	-	-	3 605	479

France
(G. Lefranc)

Travail en mer

Du 23 avril au 14 mai une campagne du NO "Thalassa" conduite dans les secteurs Vb et plus spécialement dans la région septentrionale du plateau des Iles Faeroes puis sur les banc Faeroes, Bill Bailey et Rosemary, nous a permis d'une part, de prospector les fonds mal connus situés au-delà de l'isobathe 350 et, d'autre part, d'étudier la répartition des différentes espèces (lingue bleue, sébaste, lieu noir, églefin, grenadier, flétan noir et merlan bleu), en fonction de la profondeur, des conditions hydrologiques et de la nature des fonds. En fin de campagne quelques journées ont été consacrées à des observations biologiques sur les concentrations de lieu noir aux accores du plateau continental situé au nord de l'Ecosse.

Les secteurs de l'Ile de l'Ours, de la côte occidentale du Spitsberg et de la côte mourmane ont été prospectés du 14 juin au 29 juillet 1974. De nombreuses données biologiques et biométriques concernant notamment la morue ont été rassemblées.

Travail au laboratoire

Les relevés statistiques des apports de lieu noir, de merlan, de morue, d'églefin et de lingue bleue en fonction des secteurs sont poursuivis par les laboratoires de Boulogne-sur-Mer et de Lorient, ce laboratoire effectue régulièrement un échantillonnage des captures commerciales. Les compositions en tailles et en âge des apports de lieu noir ont été définies pour les secteurs IVa et Vb₁.

Par ailleurs, l'exploitation des données recueillies au cours des campagnes du NO "Thalassa" nous a permis d'établir pour plusieurs gadidés des corrélations taille/poids plein, Taille/poids vide, de connaître les compositions en tailles et en âges des stocks exploités et notamment d'apprécier la très grande richesse de la classe d'âge 1970 pour la morue de la Mer de Barents et de la région Ile de l'Ours/Spitsberg.

Echantillonnage

MORUE

Région	Saison 1974	Nb. d'échantillons		Nb. de poissons mesurés	Nb. otolithes prélevés
		Bateau de recherche	Marché		
I	Juillet	6	-	5 673	1 868
IIb	Juin	13	-	6 072	1 532
Vb ₁	Avril - mai	8	-	36	36

MERLAN

VIIa	Janv.-Fév.-Mars	-	4	522	156
VIIa	Avril-Mai-Juin	-	2	417	34
VIIa	Juil.-Août-Sept.	-	4	492	94
VIIa	Oct. Nov.-Déc.	-	3	507	184

EGLEFIN

I	Juillet	3	-	173	-
IIb	Juin	3	-	65	-
Vb ₁	Avril-Mai	6	-	757	234
IVa	Avril-Mai	2	-	125	45

LIEU NOIR

Vb ₁	Avril-Mai	13	-	448	359
IVa	Avril-Mai	3	-	110	102
IVa	Juin	1	-	220	220
VIa	Janv.-Fév.-Mars	-	2	374	-
VIa	Avril-Mai-Juin	-	1	91	-
VIIa	Janv.-Fév.Mars	-	1	39	-

MERLU

Région	Saison 1974	Nb. d'échantillons		Nb. de poissons mesurés	Nb. otolithes prélevés
		Bateau de recherche	Marché		
IVa	Avril-Mai	3	-	112	-

LINGUE BLEUE

Vb ₁	Avril-Mai	13	-	600	-
Vb ₂	Avril-mai	7	-	427	-
VIa	Avril-Mai	5	-	34	-

SEBASTES

IIb	Juin	3	-	705	-
Vb ₁	Avril-Mai	12	-	550	-

FLETAN NOIR

IIb	Juin	2	-	273	-
Vb ₁	Avril-Mai	3	-	137	-
Vb ₂	Avril-Mai	1	-	3	-

German Democratic Republic

(H. Stein, P. Ernst)

Sampling

Species and Area	Quarter	Type of Fish	No. of Samples		No. of Fish		
			Research or Fish. Vessel	Market	Measured	Aged	Examined racially
<u>Redfish</u> ¹⁾	I	Immat.	7	-	2 441	400	-
IIa	II	and	6	-	908	200	-
Va ²⁾	III	Adults	15	-	2 488	600	-
Vb ₁	I	"	5	-	400	400	-
	I	"	10	-	1 385	355	-
<u>Cod</u>		Immat.					
I	III	and Adults	8	-	1 294	250	-
<u>Greenland Halibut</u>							
IIb	IV	Immat.	16	-	4 947	1 499	-
Va ²⁾	I	and	19	-	5 003	279	-
Vb ₁	I	Adults	21	-	1 919	767	-
<u>Saithe</u>							
Vb ₁	I		2	-	571	164	-
IIa	I	Immat.	16	-	1 910	1 240	-
IIa	II	and	5	-	629	492	-
IIa	III	Adults	28	-	3 185	2 423	200
IVa	II		6	-	1 862	639	-
IVa	III		10	1	1 667	1 001	-
IVa	IV		14	-	2 927	1 500	-
<u>Haddock</u>							
IIa	I	-	1	-	407	-	-
Vb ₁	I	Immat. and Adults	1	-	241	-	-
<u>Whiting</u>							
IVb	I	Immat. and Adults	3	-	771	100	-
<u>Cod</u>							
I	III	Immat. and Adults	10	-	1 394	350	-
<u>Great Silver Smelt</u>							
Vb ₁	I	Immat. and Adults	8	-	1 147	150	-

1) Sebastes mentella, marinus and viviparus

2) Only Rosengarten area.

Other activities: With the exception of Haddock (area IIa and Vb₁), Whiting (area IIb), and Silver Smelt, weight and contents and capacity of stomachs were carried out.

Samples of organs of saithe were taken for biochemical investigations.

Research Vessel Surveys

Area	Date	Objectives
Northern North Sea	21. - 22.1.74	Saithe
Kopytov	2.2.74	Redfish
Northwestern Coast of Norway	3.2. - 7.2.74	Saithe, Redfish
Faroe	26.2.-7.3.74	Redfish, Greenland Halibut, Saithe, Blue Ling
Rosengarten	9.3.-14.3.74	Redfish
East Iceland	15.3. - 23.3.74	Greenland Halibut
Northern North Sea	24.6. - 26.6.74	Saithe
Northwestern Coast of Norway	29.6. - 12.7.74	Saithe, Redfish
Northeastern North Sea	16.7. - 21.7.74	Saithe
Barents Sea	4.11. - 17.11.74	Greenland Halibut
Northern North Sea	21.11. - 25.11. and 7.12. - 16.12.74	Saithe

Tagging

No tagging experiments were carried out in 1974.

Germany, Federal Republic of (A. Meyer)

Continuation of the biological studies at sea on research vessels and the markets with length measurements, collection of otoliths, maturity data and food.

Research trips to the following areas :

<u>Months</u>	<u>Area</u>
2	IV
3	I, IIa, IIb
5	Vb ₁ , VIa
6	IV
7	I
8	IIb, IV
9	Va
11	VIa, IV
12	VIa

Sampling Data

Species Area	Season	Research Vessel Samples			Market Samples		
		No. of Samples	No. of Fish		No. of Samples	No. of Fish	
			Measured	Aged		Measured	Aged
<u>Cod</u>							
I	1	5	1281	582			
	2				1	416	145
	3	16	5793	1784			
IIa	1	8	237	237	6	1536	853
IIb	1	8	2217	725			
	3	30	8841	1478			
	4				1	296	189
IVa	1	11	197	134			
	3	1	438	250			
	4	13	414	319			
IVb	1	32	678	571	1	2	
	2	4	2633		149	135	
	3	2	854	500	158	103	
	4	2	5480	1708	97	273	
IVc	1	1	170	160			
	4	1	156	155			
Va	1				1	368	135
	2				1	370	172
	4				1	260	148
VIa	4	4	53	38	4	1510	697
XIV	1				4	1410	706

Sampling Data

Species Area	Season	Research Vessel Samples			Market Samples		
		No. of Samples	No. of Fish		No. of Samples	No. of Fish	
			Measured	Aged		Measured	Aged
<u>Haddock</u>							
I	1	3	327	265			
	3	7	947	515			
IIa	1	11	721	310	6	2577	985
IIb	1	3	171	146			
	3	9	1516	531			
IVa	1	17	6042	1793			
	3	3	2861	660			
	4	13	3437	926			
IVb	1	27	3327	1380			
	3	2	318				
IVc	1	1	4				
Va	1				1	654	119
	4				1	346	134
VIa	4	12	2126	508			
VIb	4	1	321	88			
<u>Saithe</u>							
IIa	1	30	1723	1122	6	2139	1260
	2	2	126	115	4	1321	897
	4				4	1710	675
IVa	1				9	3833	1556
	2				6	1873	873
	3	5	1256	816	3	811	539
	4	1	40		3	903	337
Va	1				2	625	625
	2				11	3362	2640
	3				11	3605	1514

Sampling Data

Species Area	Season	Research Vessel Samples			Market Samples		
		No. of Samples	No. of Fish		No. of Samples	No. of Fish	
			Measured	Aged		Measured	Aged
<u>Saithe</u>							
Va	4				7	1959	1290
Vb	1				2	713	363
	2				1	283	283
	3				1	257	257
	4				2	643	643
<u>Redfish</u>							
I	1	24	4212	950			
IIa	1	23	3097	600	3	1242	480
	2				3	695	
	3				1	288	100
	4				3	731	
Va	1				19	4485	600
	2	6	909	567	8	1941	300
	3				19	3730	1200
	4				24	4480	574
Vb	2				5	1176	200
	3				1	315	100
	4				2	200	200
XIV	1				3	1198	400

Sampling Data

Species Area	Season	Research Vessel Samples			Market Samples		
		No. of Samples	No. of Fish		No. of Samples	No. of Fish	
			Measured	Aged		Measured	Aged
<u>Whiting</u>							
IVa	1	15	1294				
	3	1	333				
	4	1	381				
IVb	1	30	5345				
	2	1	89		149	567	
	3	1	82		158	1069	
	4	7	3557		97	285	
IVc	1	2	1152				
	4	1	1006				
<u>Sole</u>							
IVb	1				5	25	
	2	5	186		168	690	
	3	5	181		158	474	
	4	3	18		97	104	
<u>Plaice</u>							
IVa	3	1	2				
	4	1	3				
IVb	1				11	4213	1292
	2	4	835		153	5091	684
	3	1	38		159	3484	
	4	1	9		102	3538	192
IVc	4	2	258				
<u>Dab</u>							
IVa	1				5	286	
	2				149	2526	
	3	1	7		158	2764	
	4	1	17		97	4622	

Sampling Data

Species Area	Season	Research Vessel Samples			Market Samples		
		No. of Samples	No. of Fish		No. of Samples	No. of Fish	
			Measured	Aged		Measured	Aged
<u>Flounder</u>							
IVb	2	1	37		50	30	
	3	1	16		120	27	
	4	1	22		116	15	
IVc	1	1	119				

Iceland
(J.Jónsson)

The RV "Bjarni Sæmundsson" and RV "Hafthor" were engaged for the greatest part of the year with a research programme on species within the scope of this Committee.

A total of 21 trips were made in the Iceland and East Greenland area.

Sampling from commercial fisheries was continued as in previous years.

The table below shows the material collected from the main commercial species in 1974.

Area/species	Length	Sex	Otoliths	Marked	Total
Iceland.					
Cod	41941	2853	9304	2140	56238
Haddock	37824	1515	4620	1026	44985
Saithe	5520	471	1913	-	7904
<u>S. marinus</u>	24288	5625	722	-	30635
<u>S. mentella</u>	224	1463	26	-	1713
<u>S. viviparus</u>	3847	252	-	-	4099
Plaice	-	-	2139	3847	5986
Halibut	10	-	359	816	1185
Greenl. Halibut	-	-	595	2640	3235
Catfish	14	-	1900	2498	4412
Norway Pout	124	-	1156	-	1280
Silver Smelt	1407	1344	492	-	3243
Grenadier	1229	367	364	-	1960
E. Greenland Irminger Sea.					
Cod	187	-	512	22	721
Haddock	39	-	-	-	39
<u>S. marinus</u>	3464	3445	551	-	7460
<u>S. mentella</u>	1638	1732	460	-	3830
<u>S. viviparus</u>	36	-	-	-	36
Silver Smelt	23	353	227	-	603

Ireland
(J.P. Hillis)

Cod

Cod from the Irish Sea (VIIa) were sampled at port. The fish examined were from commercial landings, fish from research vessels using commercial type equipment also being examined.

Haddock

Studies on the Donegal Bay population (VIa/VIIb-e) were commenced with a port sampling programme during July and August. Fish were sampled in two strata imposed at sea, gutted and "round" (ungutted), length, age and weight data being collected.

Plaice

A programme of research on plaice in the Irish Sea (VIIa) was initiated by collection of specimens, where feasible, from mixed species research vessel catches during the year.

Sole

A long-term programme of survey cruises was commenced in the Irish Sea (VIIa) and off the south coast (VIIg-k) measurements and age of the total catch being taken. It is hoped that these surveys will gradually yield a composite picture of the exploited stock, but owing to the low density of the species, especially in the Irish Sea, this is expected to take some time.

Sampling Data

Species	ICES Area	Months	Source ^{*)}	Number sampled				
				L(cm)	Wt(kg)	Age	Sex	Food
<u>Cod</u>	VIa	Jul	C	41	41	41	-	-
	VIIa	Jan-Mar	R	516	516	516	-	-
	VIIa	Apr-May	R	152	152	152	-	-
	VIIa	Oct-Dec	R/C	567	330	330	330	330
Area Total				1 235	998	998	330	330
<u>Haddock</u>	VIa	Jul-Aug	C	2 134	1 396	1 296	-	-
<u>Plaice</u>	VIIa	Feb-Mar	R	144	144	144	144	-
	VIIa	Nov	R	88	88	88	88	-
Area Total				232	232	232	232	-
<u>Sole</u>	VIIa	Jan-Mar	R	30	-	30	-	-
	VIIg-k	Mar-May	R	312	-	312	-	-

^{*)}C = Commercial sample; R = research vessel sample.

Netherlands

(J.F. de Veen)

Work at Sea

The RV "Tridens" made 25 cruises in the Committee's area of which 9 were mainly devoted to work within the scope of the Demersal Fish (Northern) Committee. The corresponding numbers of cruises by the RV "Willem Beukelsz" were 32 and 16. The RV "Stern" and the RV "Scholle vaar" made together 23 cruises devoted to demersal topics in the Netherlands estuaries. The RV "Stern", RV "Tridens", RV "Willem Beukelsz" and RV "Scholle vaar" made two joint cruises (in April and October) to analyse the stocks of juvenile sole, plaice, dab, flounder, gadoids, brown shrimp and other organisms in the nurseries of Belgium, Holland, Germany and part of Denmark in cooperation with Belgian and German research vessels.

Work on Fish

Plaice

The stock analysis by means of market sampling was continued. Analysis of the catches of the young fish cruises in the southern and central North Sea continental coastal areas revealed that the 1973 year class is about average and the 1974 year class poor.

Sole

The stock analysis by means of market sampling of soles from different localities in the North Sea, Irish Sea and the Bristol Channel was continued.

One cruise was made to the Irish Sea for census purposes. Another cruise was devoted to the Gulf of Biscay and to the Gulf of Cadiz also for census purposes.

An analysis of the catches of undersized sole in the Belgian, Dutch and German coastal areas was made in April and October for prognosis purposes. Year class 1973 appeared to be above average, but year class 1974 was very poor indeed.

The year class 1972 which as 0- and I-group appeared to be poor in the nurseries covered, turned out to be good as II-group, mainly in the lines of stations worked by "Tridens" near the Danish and the German coasts, and gave rise to an increase in autumn 1974 in the Dutch commercial catches.

This year class is an example of how we failed to assess the real strength of a year class as 0- and I-group because of incomplete coverage of the nurseries by the Waddensea programme. More than 50% of all continental nurseries are not sampled. Research on factors influencing recruitment to the North Sea sole stock was continued. Sole larvae and newly metamorphosed baby soles appear to live only in the first 40 cm above the bottom and feed (for a greater part) on Harpacticidae. The plankton sampling device for bottom layers proved to be successful and will be refined further to take samples from all layers between 0 and 80 cm above the bottom.

In the list giving details on sampling some changes in relation to corresponding lists for preceding years can be noticed.

Only in the first quarter soles were measured in the fish market but not in the other seasons. Soles are sorted in the fish market by means of a board with marks giving the limits of the market categories used throughout the Netherlands. These boards are used in all fish markets. Thus, total Dutch landings are now given per market category and instead of length-age keys only age samples per category are necessary, which can be used to raise to total catch per category.

Summing the total categories' age composition gives the age composition of the total catch.

In order to give fairly accurate estimates of this age composition the number of age samples and thus the number of soles aged has been doubled as compared with preceding years.

The following numbers of fish per species were tagged :

	<u>Adults</u>	<u>Juveniles</u>
Sole	2 603	689
Plaice	-	4 487
Flounder	-	399

Cod

The study of consumption and production, started some years ago, was finished. A small scale stomach analysis project was started on whiting and possibilities of extension of this type of work to other species is presently investigated.

Cod, haddock and whiting

The stock analysis by means of market sampling was continued. A study was made of discarding of cod and haddock on board of otter-trawlers and pair-trawlers.

Special attention was paid to growth aspects of whiting. In June the Institute participated in a joint O-group survey of gadoids with England and Scotland.

For the fifth year in succession a cod egg/larvae survey was carried out in the southern North Sea. Since the RV "Willem Beukelsz" will be taken out of service, this project has to be stopped.

O-group estimates of gadoids derived from the Young Herring cruises showed a strong year class 1974 for cod, haddock and whiting in the northern North Sea.

Sampling data for Plaice

area	season	<u>No. of samples</u> for age-determination only		Number of Fish		
		research vessel	market	measured	aged	racial investigations
IVb	1st quarter	-	71	6510	4970	4970
	2nd quarter	12	5	1330	1248	1248
	3rd quarter	-	7	1680	490	490
	4th quarter	13	8	1260	1326	1326
IVc	1st quarter	-	33	3500	2310	2310
	2nd quarter	6	3	910	560	560
	3rd quarter	-	5	1120	350	350
	4th quarter	6	8	840	849	849
Dutch Waddensea	2nd quarter	8	-	3139	246	246
	4th quarter	14	-	2793	510	510
Zeeland estuary	2nd quarter	3	-	663	215	215
	4th quarter	1	-	1014	93	93
Total annually		63	140	24759	13167	13167

Sampling data for Sole

area	season	<u>No. of samples</u> for age-determination only		Number of Fish		
		research ship	market	measured	aged	racial investigations
IVb	1st quarter	-	12	1700	600	600
	2nd quarter	5	75	-	3775	3775
	3rd quarter	-	8	-	400	400
	4th quarter	13	7	-	568	568
IVc	1st quarter	-	6	1275	300	300
	2nd quarter	4	30	-	1529	1529
	3rd quarter	-	5	-	250	250
	4th quarter	6	6	-	451	451
VIIa	1st quarter	-	-	-	-	-
	2nd quarter	9	8	-	975	975
	3rd quarter	-	-	-	-	-
Dutch Waddensea	2nd quarter	6	-	928	98	98
	4th quarter	6	-	441	92	92
Zeeland estuary	2nd quarter	1	-	642	8	8
	4th quarter	-	-	483	-	-
Total annually		50	157	5469	9046	9046

Sampling data for Cod

area	season	<u>No. of samples</u> for age-determination only		Number of Fish		
		research ship	market	measured	aged	racial investigations
IVa	1st quarter	6	2	1040	560	-
	2nd quarter	-	2	600	140	-
	3rd quarter	-	1	285	50	-
	4th quarter	-	2	480	110	-
IVb	1st quarter	-	-	-	-	-
	2nd quarter	-	2	300	140	-
	3rd quarter	-	4	800	200	-
	4th quarter	-	2	700	100	-
IVc	1st quarter	-	4	1500	200	-
	2nd quarter	-	4	900	240	-
	3rd quarter	-	2	900	100	-
	4th quarter	-	3	700	150	-
Total annually		6	28	8205	1990	-

Sampling data for Haddock.

area	season	<u>No. of samples</u> for age-determination only		Number of Fish		
		research ship	market	measured	aged	racial investigations
IVa	1st quarter	3	3	1100	300	-
	2nd quarter	-	2	700	100	-
	3rd quarter	-	1	600	50	-
	4th quarter	-	3	1000	150	-
IVb	1st quarter	1	1	720	85	-
	2nd quarter	-	2	550	100	-
	3rd quarter	-	3	600	150	-
	4th quarter	-	2	600	100	-
IVc	1st quarter	-	-	-	-	-
	2nd quarter	-	-	-	-	-
	3rd quarter	-	1	180	50	-
	4th quarter	-	2	295	100	-
Total annually		4	20	6345	1185	-

Sampling data for Whiting.

area	season	<u>No. of samples</u> for age-determination only		Number of Fish		
		research ship	market	measured	aged	racial investigations
IVa	1st quarter	2	3	600	250	-
	2nd quarter	-	2	450	100	-
	3rd quarter	-	1	235	50	-
	4th quarter	-	2	500	100	-
IVb	1st quarter	2	-	425	100	-
	2nd quarter	-	2	600	100	-
	3rd quarter	-	3	900	150	-
	4th quarter	-	1	450	50	-
IVc	1st quarter	2	3	1700	250	-
	2nd quarter	-	2	800	100	-
	3rd quarter	-	2	1500	100	-
	4th quarter	-	5	1295	250	-
Total annually		6	26	9455	1600	-

Sampling data for Saithe.

area	season	<u>No. of samples</u> only for age- determination		Number of Fish		
		research ship	market	measured	aged	racial investigations
IVa	1st quarter	-	4	885	325	-
	2nd quarter	-	2	320	100	-
	3rd quarter	-	2	218	100	-
	4th quarter	-	3	495	150	-
IVb	1st quarter	-	-	-	-	-
	2nd quarter	-	-	-	-	-
	3rd quarter	-	-	-	-	-
	4th quarter	-	-	-	-	-
Total annually		0	11	1918	675	-

Norway

(O. M. Smedstad)

Sub-areas I and II

The major roundfish species were sampled on the same scale as in 1973. Stock assessment programmes of Arcto-Norwegian cod and haddock, saithe and Greenland halibut have continued.

The distribution of Arcto-Norwegian cod was charted three times in February-March during the spawning season in Lofoten. In March mature cod was tagged in the same area.

The distribution and abundance of young cod and haddock was studied during April-May in the southern Barents Sea. In August, investigations on cod were carried out in the area Bear Island - Spitsbergen. The annual International O-Group Survey was carried out in August-September in the Barents Sea and adjacent waters.

Young saithe were tagged in May-June and in the southern part of Division IIa. Cod, haddock and saithe were tagged in August in the coastal waters of Northern Norway.

Investigations on post larvae of saithe were carried out in May in the southern part of Division IIa. In September the abundance of O-group saithe was studied in the littoral zone at selected localities along the Norwegian coast.

Sub-area IV

Landings of Recommendation 4 species from Division IVa and the southern part of Division IIa were sampled throughout the year to determine the age composition of these species in the landings and to estimate the landings of each species.

The distribution and abundance of the major Recommendation 4 species were studied on cruises in January-February and in October-November.

Spawning grounds of saithe were charted in February. Young saithe were tagged in May-June along the coast of Norway.

Norwegian sampling in the areas where industrial trawl fisheries take place

Species Area	Season	Research Vessel				Market		
		No. of Samples	No. of Fish			No. of Samples	No. of Fish	
			Aged	Measured	Tagged		Aged	Measured
<u>Cod</u>								
IV a	1	20	40	1 676	-	-	-	-
	4	31	165	2 451	-	-	-	-
IVb	4	2	-	90	-	-	-	-
<u>Haddock</u>								
IIa	2	-	-	-	-	7	-	30
	3	-	-	-	-	6	-	39
	4	-	-	-	-	1	-	6
IVa	1	14	-	335	-	15	-	125
	2	-	-	-	-	18	-	156
	3	-	-	-	-	13	-	623
	4	26	-	455	-	26	-	2 483
IVb	4	1	-	8	-	-	-	-
<u>Saithe</u>								
IVa	1	10	-	259	-	-	-	-
	4	24	233	640	-	-	-	-
<u>Blue Whiting</u>								
IIa	1	-	-	-	-	1	-	100
	2	-	-	-	-	9	-	450
	3	-	-	-	-	14	-	958
	4	-	-	-	-	1	-	50
IVA	1	8	100	336	-	17	-	1 558
	2	-	-	-	-	42	-	4 313
	3	-	-	-	-	13	-	286
	4	16	328	1 269	-	23	-	1 843
<u>Whiting</u>								
IVa	1	11	-	204	-	-	-	-
	4	15	238	735	-	-	-	-
IVb	4	4	-	240	-	-	-	-
<u>Norway Pout</u>								
IIa	1	-	-	-	-	5	-	512
IVa	1	17	64	2 057	-	22	-	1 655
	2	-	-	-	-	45	-	3 131
	3	-	-	-	-	17	-	1 814
	4	33	625	4 409	-	31	-	3 428
IVb	4	2	73	169	-	-	-	-
<u>Silver Pout</u>								
IVa	1	1	-	104	-	-	-	-
	2	-	-	-	-	3	-	274
	4	4	-	156	-	-	-	-

Norwegian sampling in the areas where industrial trawl fisheries take place

Species Area	Season	Research Vessel				Market		
		No. of Samples	No. of Fish			No. of Samples	No. of Fish	
			Aged	Measured	Tagged		Aged	Measured
<u>Silver Smelt</u>								
IIa	1	-	-	-	-	3	-	315
	2	-	-	-	-	9	-	450
	3	-	-	-	-	9	-	453
	4	-	-	-	-	1	-	50
IVa	1	7	-	240	-	17	-	684
	2	-	-	-	-	30	-	948
	3	-	-	-	-	13	-	191
	4	4	62	254	-	23	-	672
<u>Sandeel</u>								
IVa	2	-	-	-	-	3	-	315

Norwegian Sampling Data 1974

Species Area	Season	Research Vessel				Market		
		No. of Samples	No. of Fish			No. of Samples	No. of Fish	
			Aged	Measured	Tagged		Aged	Measured
<u>Cod</u>								
I	1	16	563	2 346		13	600	1 949
	2	11	596	4 032	778	51	1 907	13 846
	3	8	405	191	1 239	10	351	2 557
	4	-	-	-	-	13	800	3 219
IIa	1	50	3 733	9 343	4 000	150	3 106	9 824
	2	8	602	687	-	21	349	2 758
	3	7	390	-	998	3	198	397
	4	-	-	-	21	-	-	-
IIb	3	-	-	-	-	10	587	1 820
	4	-	-	-	-	12	602	2 357
<u>Haddock</u>								
I	1	5	283	335	-	3	100	522
	2	3	252	133	-	26	1 262	6 584
	3	8	153	278	593	14	690	2 710
	4	-	-	-	-	16	890	3 668
IIa	1	-	-	-	-	3	137	386
	2	10	707	2 857	-	7	178	1 149
	3	12	686	2 171	275	3	200	577
IIb	3	-	-	-	-	4	220	620
	4	-	-	-	-	4	173	345
<u>Sahe</u>								
I	2	-	-	-	-	12	428	1 926
	3	2	165	-	1 000	18	680	5 896
	4	-	-	-	-	6	380	1 457
IIa	1	32	968	1 972	-	18	1 211	4 045
	2	4	400	-	2 422	13	1 059	3 777
	3	3	158	13	1 000	18	1 100	6 439
	4	3	250	-	2 500	13	910	4 015
IVa	1	4	322	291	-	-	-	-
	2	4	400	-	2 395	-	-	-
Vb	1	1	120	427	-	-	-	-
<u>Greenland Halibut</u>								
I	2	13	300	800	-	-	-	-
IIa	2	18	383	4 475	-	-	-	-

Poland

See Addendum No. 1.

Portugal

(M. L. Dias)

No research has been carried out in the area covered by the Committee.

Spain

(O. Cendrero)

Aucun travail n'a été fait pendant 1974.

Sweden

(G. Otterlind)

No sampling or other activity to be reported has been performed outside the Baltic (cf. Baltic Fish Committee).

United Kingdom

1. England and Wales

(A.C. Burd)

1. Region I

Surveys of 0-group fish were made by RV "Cirolana" at Faroe in July and in the Barents Sea in August-September. A cruise in May-June continued the studies on the genetic composition of the Iceland-Greenland cod stocks.

2. Region II

As part of the international programmes, surveys of 0-group gadoids and I-group gadoids in the North Sea were made in May-June and February respectively. Expansion of research into the inshore fisheries continued with increased market sampling all round the coastline. In addition, there were 8 inshore research cruises and several commercial charters, on which tagging, sampling and plankton surveys were made, covering the North Sea, English Channel and Irish Sea.

The exploratory work on deepwater species to the West of Britain was continued with two cruises of RV "Cirolana" in January and June.

Release of Tagged Fish 1974 - ICES Regions

Region/Species	Plaice	Cod	Ray	Lemon Soles	Sole	Spurdog	Whiting	Turbot	Brill	Haddock	Coalfish	Total by Region
IVA	1228	266	-	11	-	-	-	3	-	-	-	1508
IVB	5559	723	-	338	-	-	5	23	1	81	4	6734
IVC	651	-	-	-	-	-	-	-	-	-	-	651
VIA	-	99	-	-	-	604	-	-	-	-	-	703
VIID	1087	27	23	52	662	-	-	-	-	-	-	1851
VIIIE	-	-	-	-	-	-	-	-	-	-	-	-
VIIIF	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL BY SPECIES	8525	1115	23	401	662	604	5	26	1	81	4	11447

SAMPLING DATA FOR PLAICE

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
I-IIA-IIB	Spread throughout the year		8	2330	-
VA	"		7	1142	95
IV	"		433	87836	4282
VIIA	"		111	20061	1652
VIIIB	"		-	-	-
VIIIF	"		26	6237	535
VIIIG	"		-	-	-
VIIIE	"		23	3233	395
VIID	"		-	-	240

SAMPLING DATA FOR SKATES AND RAYS

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
VIA	Spread throughout the year		22	1898	-
VIIA	"		75	11625	323
VIIIF	"		19	3273	85
VIIIG	"		2	303	-

SAMPLING DATA FOR HAKE

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
IV	Spread throughout the year		11	1896	-
VIA	"		35	7293	47
VIIA	"		57	9976	-
VIIIF	"		9	2641	-

SAMPLING DATA FOR TURBOT

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
IV	Spread throughout the year		112	6236	-

SAMPLING DATA FOR LEMON SOLE

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
IV	Spread throughout the year		-	-	259
VIIIE	"		27	3361	84

SAMPLING DATA FOR SPURDOGS

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
VB	Spread throughout the year		1	67	-
VIA	"		48	4387	98
IV	"		121	9757	454
VIIA	"		3	288	-

SAMPLING DATA FOR SOLE

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
VIA	Spread throughout the year		2	592	-
IV	"		153	19274	861
VIIA	"		48	10726	344
VIIF	"		4	1271	162
VIIG	"		2	484	-
VIIIE	"		42	6296	101
VIID	"		-	-	22

SAMPLING DATA FOR WHITING

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
VIA	Spread throughout the year		1	106	-
IV	"		221	22220	1131
VIIA	"		107	11399	934
VIIF	"		13	1357	301
VIIG	"		1	96	25
VIIIE	"		37	5488	415

SAMPLING DATA FOR COALFISH

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
I-IIA-IIB	Spread throughout the year		85	6773	818
VA	"		82	5972	907
VB	"		34	3549	433
VIA	"		68	7147	509
IV	"		54	6196	479
VIIA	"		1	130	-

SAMPLING DATA FOR COD

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
I-IIA-IIB	Spread throughout the year		311	76480	2885
VA	"		399	85549	3016
VB	"		128	19306	1045
V1A	"		51	8406	654
1V	"		464	78958	3264
V11A	"		115	19197	1877
V11B	"				
V11F	"		6	599	86
V11G	"				

SAMPLING DATA FOR HADDOCK

Area	Season	Number of Samples		Number of Fish	
		Research Vessels	Market Samples	Measured	Aged
I-IIA-IIB	Spread throughout the year		253	48539	1256
VA	"		232	40127	1163
VB	"		92	18395	86
VIA	"		33	6019	608
IV	"		190	31717	491
VIIA	"		38	4209	-
VIIIB	"		1	187	21
VIIIF	"		13	1024	-
VIIIG	"		1	76	-

2. Scotland

(R. Jones)

Scottish research vessels undertook routine trawling surveys in the North Sea in February/March, April/May and December. A survey was also undertaken on the Scottish west coast in December. 0-group gadoids were sampled pelagically in the North Sea in June/July. The results of these cruises were used to obtain pre-recruit estimates of the year class strengths of haddock, whiting and Norway pout and also to determine the length and age compositions of the major demersal fish stocks.

The major roundfish and flatfish species were sampled at the principle Scottish trawl and seine net ports as in previous years. Samples were taken for age determination and these data form the basis for material supplied to Annales Biologiques and to the ICES Statistical News Letters. They have also been used to provide forecasts for the major Scottish fisheries and to make assessments at ICES Working Groups.

Further Norway pout fecundity material was collected to determine the relationship between fecundity and size and to investigate variation in these parameters with density and between areas.

Landings of Norway pout and sandeels for industrial purposes were sampled throughout the year to determine the age composition of these species in the landings and also to monitor the bycatch.

Tagging of the major round- and flat- species has been continued with particular emphasis on tagging in offshore North Sea waters.

Observations have continued on the behaviour of fish in west coast sea lochs using both conventional and acoustic tagging techniques together with low-light-level television. These studies have shown that shallower parts of the loch contain large numbers of juvenile fish, with individual animals occupying a relatively restricted home range. Fish displaced from their home range return to it almost immediately.

Further experiments have been performed to investigate the precision of directional hearing in cod.

Aquarium studies have continued on the efficiency of food conversion in gadoids and studies have been continued on the feeding behaviour of these species.

A biological tag study using the larval cestode Grillotia has indicated the existence of several different "stocks" of haddock in the North Sea and to the north and west of Scotland. It has also supported the results of previous studies in suggesting that there are two separate stocks of haddock round the Faroe Islands.

The numbers of fish measured and aged in 1974 are shown in the following table.

Numbers of fish measured and aged in 1974

Area	Cod		Haddock		Whiting		Saithe		Hake		T esmarkii		Sandeel		Plaice		Lemon Sole		Megrim	
	Meas.	Aged	Meas.	Aged	Meas.	Aged	Meas.	Aged	Meas.	Aged	Meas.	Aged	Meas.	Aged	Meas.	Aged	Meas.	Aged	Meas.	Aged
North Sea (1)	45299	13993	137439	17197	98196	17131	16056	6899	-	-	6760	805	2931	335	42706	8306	39330	5508	12480	3090
	(2)	2390	350	154235	3961	69430	4294	1582	217	253	100	11215	330	2700	374	48	-	532	-	77
West Coast (1)	9426	4172	35570	7820	39482	6959	11240	2814	3364	902	1597	406	-	-	8815	2047	5474	822	-	-
	(2)	430	261	19880	503	13500	822	478	290	628	273	3546	288	-	-	122	-	505	-	42
Faroe (1)	7180	-	21769	4628	5487	1761	5273	2510	-	-	-	-	-	-	5806	2192	20280	2354	-	-
	(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland (1)	2253	-	3918	1448	64	6	33	28	-	-	-	-	-	-						
	(2)	-	-	-	-	-	-	-	-	-	-	-	-	-						
White Sea (1)	1834	-	3809	1696	-	-	-	-	-	-	-	-	-	-						
	(2)	-	-	-	-	-	-	-	-	-	-	-	-	-						

(1) Market Sampling Data

(2) Research Vessel Data

U.S.A.

(B. Brown)

No research or fishing has been carried out in the ICES area. Research and fishing data from the ICNAF area have been reported to ICNAF.

U.S.S.R.

(D. Bogdanov)

Atlantic Research Institute of Marine Fisheries and Oceanography

In 1974 investigations of changes in abundance and condition of the North Sea cod stocks were continued. In spring and fall 1974 trawl surveys with the purpose of assessing the abundance of different cod year classes, their distribution and age composition were conducted. In July and August 1974 a trawl survey for assessing 0-group cod was conducted.

The collection and processing of biological data from the North Sea haddock, whiting, saithe, cod, blue whiting and Norway pout were continued. Ecological surveys with the view of studying environmental factors which influenced the abundance of haddock stocks were carried out.

The following biological material of commercial species in the North Sea was collected and processed in 1974:

Species	Mass measurements (specimens)	Age determination (specimens)	Biological analyses (specimens)	Tagging (external hydrostatic tags)
Haddock	447 992	3 518	115 001	524
Saithe	23 063	3 675	3 000	-
Whiting	91 881	2 373	11 500	168
Cod	462	462	-	-
Blue Whiting	2 800	1 100	2 000	-
Norway Pout	30 000	1 000	800	-

In 1975 investigations will be conducted according to the same programme.

Polar Research Institute of Marine Fisheries and Oceanography

The work in the Barents Sea, Norwegian Sea, Greenland Sea and the North Sea continued as in previous years. Data were collected to characterise the abundance, age-length composition and distribution of cod, haddock, polar cod, redfish, Greenland halibut and other bottom fishes in the ICES zone. Samples were collected only by research vessels. No racial investigations were performed.

Besides, work towards refining the assessment of the stock state of main commercial fishes were continued, the survival conditions of young fishes at different stages of development were studied; ichthyoplankton was gathered and analysed; fisheries forecasts were compiled; the forecasting technique was improved.

SAMPLING DATA

Area Species	Season	No. of Samples	No. of Fish	
		R/V	Measured	Aged
<u>Cod</u>				
I	1	17	165 224	3 504
	2	13	68 712	1 918
	3	24	70 514	3 631
	4	17	89 223	3 130
IIb	1	7	28 449	1 865
	2	5	12 596	1 106
	3	2	92 331	600
	4	7	45 200	1 710
IIa	1	-	213	-
	2	-	140	-
	4	2	1 328	192
Va	2	-	84	-
XIV	2	-	153	-
Vb	1	1	137	100
IV	1	-	25	-
	4	4	574	295
<u>Haddock</u>				
I	1	1	15 422	300
	2	23	14 252	2 447
	3	8	6 122	808
	4	5	7 627	1 300
IIb	1	1	1 831	82
	2	3	823	407
	3	1	728	298
	4		1 219	
IIa	1	1	1 147	302
	2	-	181	-
	4	1	1 823	290
IV	1	-	142	-
	4	-	8	-
XIV	2	-	7	-
Vb	1	-	165	-

SAMPLING DATA

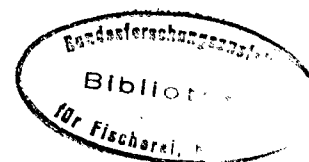
Area Species	Season	No. of Samples	No. of Fish	
		R/V	Measured	Aged
<u>Saithe</u>				
I	1	-	64	-
	2	-	10	-
	3	-	299	-
	4	-	9	-
IIb	1	-	8	-
	2	-	142	-
	4	-	5	-
IIa	1	3	4 264	630
	2	-	352	-
	3	-	890	-
	4	3	3 151	603
IV	1	1	260	225
	4	-	156	-
Vb	1	-	40	-
<u>Redfish</u>				
I	1	20	23 885	-
	2	-	2 539	-
	3	-	836	-
	4	2	23 818	-
IIb	1	7	13 663	1 000
	2	6	61 232	-
	3	3	5 616	-
	4	14	32 237	-
IIa	1	-	530	-
	2	-	2 062	-
	3	-	720	-
	4	-	1 375	-
Va	2	-	2 041	-
IV	4	-	64	-

SAMPLING DATA

Area Species	Season	No. of Samples	No. of Fish	
		R/V	Measured	Aged
<u>Greenland halibut</u>				
I	1	-	334	-
	2	-	100	-
	3	-	3	-
	4	-	1 776	-
IIb	1	2	2 666	608
	4	5	18 091	1 204
IIa	1	-	1	-
	4	-	20	-
Va	2	2	5 994	500
	3	-	50	-
IV	4	-	4	-
<u>American plaice</u>				
I	1	3	1 629	635
	2	-	154	-
	3	-	145	-
	4	-	26	-
IIb	1	1	874	202
	2	-	551	-
	4	-	79	-
IIa	4	2	505	125
IV	-	-	2	-
VI-VII	1	1	107	100

DEMERSAL FISH (NORTHERN) COMMITTEE

1974

Poland
(J. Janusz)

During 1974 the following material on demersal fish was collected on board research/scouting vessels or on board commercial trawlers.

Vessel	Area	Season	Species	No. of Fish	
				measured	analysed [*]
"Wieżno" Research Vessel	IVa, IVb, Vb VIa, VIIb,c VIIg,h,i,k VIII, VIId,e IVc	May - July	Cod	750	300
			Coalfish	5 842	1 300
			Haddock	14 430	2 390
			Whiting	1 809	500
			Blue Whiting	737	100
			Picked Dogfish	1 544	-
			Hake	84	-
"Auriga" Commercial Stern trawler (freezing/ factory)	I, IIb, IIa	Sept- October	Cod	2 731	1 014
			Haddock	734	153
			Halibut	6 852	1 200
"Walpusza" Scouting trawler	IIIa, IVa, IIa, Vb, IVb, VIa, VIb	Jan, Feb, Mar, Apr, May, Jun, Jul, Oct, Nov, Dec.	Coalfish	2 763	300
			Haddock	8 917	600
			Cod	372	100
			Picked Dogfish	1 000	-
"Walpusza" and "Kwisa" Scouting trawlers	IIIa, IVa, IVb, VIa, IIa, VIb, Vb	Jan, Feb, Mar, Apr, May, Jun, Jul, Aug, Oct, Nov, Dec.	Whiting	3 538	1 500
			Norway Pout	5 786	-
			Coalfish	10 860	1 180
			Haddock	9 037	1 700

^{*}) Determination of sex and maturity.
Collection of otoliths or scales (in Greenland halibut only).