International Council for the
Exploration of the Sea

C.M. 1980/G:1
Administrative Report

DEMERSAL FISH COMMITTEE

by

K. Hoydal

1979

Belgium

(R. De Clerck)

The determination of the density and the growth per year class of soles, plaice, dab, flounders and gadoids along the Belgian coast has been continued on the R.V. "Hinders".

Two cruises were carried out for the demersal young fish survey in collaboration with the Netherlands and the Federal Republic of Germany.

The market sampling was continued covering cod - North Sea, whiting - North Sea, haddock - North Sea, plaice - North Sea-English Channel-Celtic Sea-Irish Sea, sole - North Sea-English Channel-Celtic Sea and Irish Sea.

Species	Season	No. of samples		No. of samples	
		Research	Market	Measured	Aged
Sole IV	1	-	11	1236	210
	2	-	11	1318	210
	3	-	11	1215	210
	4	-	12	1169	200
VIIf, g	1	-	5	499	210
	2	-	5	527	70
	3	-	4	339	210
	4	-	4	370	210
VIIa	1	-	1	143	-
	2	-	14	1653	210
	3	-	1	70	70
	4	-	11	1226	278
VIId, c	1 - 4	-	6	420	420
Plaice IV	1	-	11	671	140
	2	-	11	766	150
	3	-	10	553	88
	4	-	12	701	100
VIIf, g	1 - 4	-	14	735	380
VIIa	1 - 4	-	25	1374	310
VIId, e	1 - 4	-	7	383	250
Cod IV	1	-	6	340	340
	2	-	7	289	289
	3	-	5	252	252
	4	-	5	280	280
Whiting IV	1	-	6	236	235
	2	-	7	180	180
	3	-	3	125	125
	4	-	7	212	212
Haddock IV	1 - 4	-	5	433	-

Canada

(R.G. Halliday)

Canadian vessels did not fish in the ICES area in 1979 nor was any research conducted in the area. The Canadian annual report to NAFO describes the Canadian fisheries and research carried out in the Northwestern Atlantic.

Denmark

(E. Ursin)

The R.V. "Jens Chr. Svabo" participated in the International Young Herring Survey February-March 1979.

PLAICE.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	12	1310	1310	-
	2	"	-	12	1265	1265	-
	3	"	-	12	1215	1215	-
	4	"	-	12	1205	1205	-
Skager-rak	1	Mixed	-	6	986	986	-
	2	"	-	6	1066	1066	-
	3	"	-	6	621	621	-
	4	"	-	6	720	720	-
Katte-gat	1	Mixed	-	14	1385	1385	-
	2	"	-	14	1382	1382	-
	3	"	-	18	2263	2263	-
	4	"	-	18	1559	1559	-

SANDEEL.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	3	321	116	-
	2	"	-	84	9483	8926	-
	3	"	-	29	3841	3841	-
	4	"	-	3	526	526	-
Skager-rak	1	Mixed	-	-	-	-	-
	2	"	-	12	1507	1381	-
	3	"	-	13	2237	2237	-
	4	"	-	5	506	504	-

NORWAY POUT

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	89	10 919	10 919	-
	2	"	-	32	3 291	3 291	-
	3	"	-	43	4 573	4 454	-
	4	"	-	40	4 311	4 311	-
Skager-rak	1	Mixed	-	7	537	537	-
	2	"	-	5	613	613	-
	3	"	-	6	216	216	-
	4	"	-	5	146	143	-
Katte-gat	1	Mixed	-	3	23	23	
	2	"	-	-	-	-	-
	3	"	-	1	3	3	-
	4	"	-	2	6	6	-

WHITING

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	31	69	6815	6447	-
	2	"	-	50	304	298	-
	3	"	-	53	497	497	-
	4	"	-	40	284	284	-
Skager-rak	1	Mixed	-	13	454	454	-
	2	"	-	14	123	123	-
	3	"	-	22	707	707	-
	4	"	-	23	2 314	2 224	-
	1	Mixed	-	14	370	370	-
	2	"	-	13	272	272	-
	3	"	-	7	2 049	2 049	-
	4	"	-	19	1 627	1 627	-

COD.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	32	33	1687	1687	-
	2	"	-	28	559	559	-
	3	"	-	26	732	732	-
	4	"	-	18	674	674	-
Skager-rak	1	Mixed	-	24	368	368	-
	2	"	-	19	275	275	-
	3	"	-	23	615	615	-
	4	"	-	30	992	992	-
Katte-gat	1	Mixed	-	25	500	500	-
	2	"	-	21	529	529	-
	3	"	-	18	1 044	1 044	-
	4	"	-	44	1 250	1 250	-

HADDOCK.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	19	74	1539	1539	-
	2	"	-	44	527	527	-
	3	"	-	50	584	584	-
	4	"	-	43	1 170	1 170	-
Skager-rak	1	Mixed	-	12	587	587	-
	2	"	-	2	3	3	-
	3	"	-	16	253	253	-
	4	"	-	17	95	95	-
Katte-gat	1	Mixed	-	1	2	2	-
	2	"	-	2	3	3	-
	3	"	-	8	242	241	-
	4	"	-	14	39	39	-

Faroe Islands (K. Hoydal)

The R.V. "J. Chr Svabo" worked in Faroese waters in January and from April to November. It participated in the Young Herring Survey in the North Sea in February-March.

Sampling

cod ICES Vb1

VESSEL CAT.	QUARTER	NUMBER OF MONTHS SAMP.	WEIGHT SAMP.KG	MEASUR. NO.	AGED NO.	YIELD TONS	CATCH NO. X10^{-3}	YIELD/ SAMP.WEIGHT	CATCH/ MEASUR	AVERAG WEIGHT
1	2	2	1171	284	.	1554	453	1327	1595	4.12
1	4	3	2287	434	.	434	96	190	221	5.27
2	1	3	2212	643	.	1228	319	555	496	3.44
2	2	5	5657	1992	.	2195	946	388	475	2.84
2	3	1	645	160	.	984	244	1526	1525	4.03
4	2	4	1215	744	.	551	307	453	413	1.63
4	3	2	618	249	.	609	284	985	1141	2.48
5	1	5	2830	725	.	1921	440	679	607	3.90
5	2	2	2010	717	.	376	94	144	131	3.04
6	1	6	4905	2478	.	1999	991	408	400	1.98
6	2	4	1217	524	.	478	181	393	345	2.32
6	3	1	233	193	.	104	86	446	446	1.21
6	4	5	20346	10878	.	2136	1196	105	110	1.87
7	1	3	1515	527	.	449	167	296	317	2.87
7	2	2	2849	1080	.	976	355	343	329	2.64
7	3	1	690	406	.	1117	657	1619	1618	1.70
7	4	4	2480	793	.	142	36	57	45	3.13
8	1	2	1108	585	.	604	264	545	451	1.89
8	2	2	1165	700	.	232	134	199	191	1.06
8	4	1	128	31	.	36	9	281	290	4.13
9	1	2	828	264	.	532	132	643	500	3.14
9	4	5	7623	2126	.	800	206	105	97	3.59
TOTAL		65	64332	26533	3011	19457	7597	302!	286	2.56

cod /ICES Vb2

5	2	1	1740	324	.					
9	4	3	3038	535	.					
TOTAL		4	4778	859	99					

haddock ICES Vb1

SEL T.	QUARTER	NUMBER OF MONTHS SAMP.	WEIGHT SAMP.KG	MEASUR. NO.	AGED NO.	YIELD TONS	CATCH NO. X10^{-3}	YIELD/ SAMP.WEIGHT	CATCH/ MEASUR	AVERAG WEIGHT
	2	1	350	182	.	568	295	1623	1621	1.92
	1	3	3708	3160	.	2101	1804	567	571	1.17
	2	1	1383	1256	.	549	499	397	397	1.10
	3	1	492	453	.	599	552	1217	1219	1.09
	4	3	13547	11696	.	2910	2501	215	214	1.16
	1	1	430	304	.	1921	1358	4467	4467	1.41
	2	1	464	297	.	77	49	166	165	1.56
	3	1	464	476	.	254	261	547	548	0.97
	1	2	1983	1658	.	524	439	264	265	1.20
	4	3	3413	2673	.	478	367	140	137	1.28
TAL		17	26234	22155	1749	9981	8125	380	370	1.23

haddock ICES Vb2

9	4	2	929	686	.					
TAL		2	929	686	0					

saithe ** 1979 ** ices VB **

VESSEL CAT.	QUARTER	NUMBER OF MONTHS SAMP.	WEIGHT SAMP.KG	MEASUR. NO.	AGED NO.	YIELD TONS	CATCH NO. X10^{-3}	YIELD/ SAMP.WEIGHT	CATCH/ MEASUR	AVERAG WEIGHT
1	1	3	5213	1176	.	4706	1076	903	915	4.43
1	4	3	9635	1410	.	2344	366	243	260	6.83
2	1	3	3441	752	.	1990	429	578	570	4.58
2	2	3	4809	1360	.	3048	871	634	640	3.54
2	3	2	1180	489	.	3310	1371	2805	2804	2.41
2	4	1	418	164	.	1072	421	2565	2567	2.55
5	1	3	5967	1198	.	1180	243	198	203	4.98
8	1	2	1714	243	.	479	67	279	276	7.05
8	4	3	6962	1137	.	1079	186	155	164	6.12
9	4	1	388	66	.	21	4	54	61	5.88
TAL		24	39727	7995	1507	19229	5034	48403	63	3.82

Sebastes mentella + S. marinus. ICES Vb

Weight sampled 7969 **Numbers** 6594 **(measured)**

***** VESSEL CATEGORIES *****

CAT.	TYPE
1	TRAWLERS > 1000 HP
3	TRAWLERS < 400 HP
5	GILL NETTERS
7	SMALL VESSELS TRAWL
9	LARGER VESSELS LONGLINE
2	TRAWLERS 400-1000 HP
4	OPEN BOATS HANDLINE
6	SMALL VESSELS LONGLINE
8	LARGER VESSELS HANDLINE

Finland

(V. Sjöblom and E. Aro)

No work was carried out on demersal fish other than that reported to the Baltic Fish Committee.

France

(J. Guéguen)

I - Travaux réalisés par l'Institut Scientifique et Technique des Pêches Maritimes

1) Travaux à la mer

."Thalassa":

- I.Y.F.S. 1979 - du 6 février au 12 mars 1979

Objectif : Cette campagne s'inscrit dans le cadre de programme d'étude et d'inventaire des principaux stocks de harengs et de gadidés coordonnés par le CIEM en Mer du Nord. Elle regroupe plusieurs navires de nationalités différentes permettant ainsi de couvrir l'ensemble de la Mer du Nord depuis 52°N jusqu'à 61° 30N.

- Campagne internationale d'inventaire des gadidés du groupe "O_1" dans le secteur des Iles Faroe (du 10 mai au 1er juin 1979)

Objectif : Connaître l'abondance et le recrutement des nouvelles classes d'âge, base des estimations des stocks.

- Campagne d'inventaire des gadidés du groupe "O_1" en Mer d'Irlande (1 au 15 juin)

Objectif : Etude du prérecrutement - Campagne préliminaire de reconnaissance des zones de concentration des larves avant prospection systématique dans les années ultérieures.

- D.Y.F.S. 1979 - du 10 au 26 septembre 1979

Objectif : Dresser un inventaire des espèces démersales qui fréquentent le littoral français à l'intérieur des 3 milles. Cet inventaire permet de faire une évaluation quantitative de l'abondance et de la localisation des prérecrues et recrues de merlan, morue et surtout de plie, sole et limande.

- Troisième campagne d'inventaire de gadidés en Mer Celtique et dans le sud de la Mer d'Irlande (divisions VII a, e, f, g) du 30 novembre au 19 décembre 1979

Objectifs - déterminer un indice d'abondance pour les merlans et morues de ces zones de pêche

- établir un inventaire des espèces démersales rencontrées.

"Pélagia":

- Etude de la sélectivité des chaluts en polyamide dans la pêche de la sole du Golfe de Gascogne - du 6 au 27 février 1979 :

Objectif : obtenir un coefficient de sélectivité de la sole pour les maillages utilisés dans la pêche du céteau (Dicologoglossa cuneata) 40 mm et pour les maillages correspondant aux espèces protégées (60 mm). Les facteurs calculés sont respectivement de 3,7 et 3,6 avec des écarts de sélection de 21 et 29 mm.

- Evaluation du recrutement du merlu dans le Golfe de Gascogne - nov. déc. 1979 -

40 stations de chalutage ont été réalisées dans les zones de concentrations maximales identifiées au cours des deux années précédentes.

"Roselys II" et navires loués :

Le programme d'étude des nurseries situées au long des côtes françaises du sud de la Mer du Nord, de la Manche et de l'Atlantique a été poursuivi de mai à novembre 1979 :

Campagne de marquages de soles du groupe I en novembre 1979 : 1 018 poissons ont été marqués en baie de Vilaine (division VIII a).

.Navires commerciaux : échantillonnage des captures et évaluation des rejets.

2) Travaux à terre -

Ils ont porté sur :

- l'échantillonnage des captures commerciales dans les marchés aux poissons en vue de la détermination de la structure démographique des stocks exploités,

- l'établissement de relations taille-poids
- la collecte de données sur l'effort de pêche.

On trouvera ci-après les espèces concernées et le niveau d'échantillonnage.

II - Travaux réalisés par d'autres organismes

Depuis septembre 1979 le Centre Océanologique de Bretagne a entrepris une étude des populations de bars (Dicentrarchus labrax) présentés sur les côtes de Bretagne.

Les travaux portent sur l'étude de la croissance et l'identification des populations dans sept stations différentes. Des prélèvements d'écailles et d'otolithes ont eu lieu dans ces stations sur des échantillons de 100 poissons.

CENTRE DE RECHERCHES OCEANOGRAPHIQUES D'ABIDJAN

Poissons de chalut -

Les études en cours en 1978 se poursuivent actuellement et doivent déboucher à terme sur un modèle analytique permettant d'optimiser la pêche chalutière en Côte d'Ivoire. Une estimation des stocks par les modèles globaux (PRODFIT de Fox) et les campagnes de prospections vient d'être achevée.

Les investigations en cours sur la biologie des principales espèces concernent Balistes capriscus et Pomadasys jubelini, elles compléteront la connaissance de l'ensemble des espèces démersales quantitativement importantes. Un synopsis sur les connaissances actuelles concernant la première espèce a été réalisé et paraîtra début 1980. L'échantillonnage au port des prises des chalutiers s'est traduit en 1979 par une augmentation du nombre des mensurations qui passent de 62 000 en 1978 à 73 000 en 1979.

L'année 1979 a vu la poursuite des campagnes de chalutage de prospection CHALCI commencées en 1978. La campagne CHALCI 79.01 s'est déroulée du 13.03.79 au 31.03.79 et a vu la réalisation de 112 traits de chalut : 68 traits pour l'échantillonnage stratifié du plateau continental ivoirien, 20 traits sur la radiale de référence de Grand-Bassam, et 24 traits - à raison de un toutes les deux heures sur les mêmes fonds - pour étudier les variations journalières d'abondance. De très nombreuses mensurations, ainsi que des observations biologiques, ont été effectuées. Les sorties sont également mises à profit pour estimer les abondances de requins profonds du genre Centrophorus, et qui font l'objet d'une petite pêche artisanale locale.

III - Echantillonnages effectués à bord de navires de recherches ou sur les marchés français par l'I.S.T.P.M.-

région	saison	Nb d'échantillons		Nb poissons	
		nav. recherche	marché	mesurés	dont âge déterm
Raja Clavata					
VII d	2ème trim	x		74	
VII e		x		100	
VIII a		x		136	
VII d	3ème trim	x		41	
VII e		x		215	
VII a	4ème trim	x		407	
VII d		x		122	
VII e		x		225	
VII f		x		155	
VII g		x		44	
VIIIa		x		38	
Raja Montagui					
VII a	4ème trim	x		29	
VII f		x		74	
Merlu					
VIII	1er trim	x	57	3 248	
VI	2ème trim		7	221	
VII		x	15	1 406	
VIII			69	2 633	
VIII a		x		2 953	
VII	3ème trim		49	1 701	
VIII			69	2 369	
VI	4ème trim		8	222	
VII			42	1 232	
VII a		x		51	
VII e		x		15	
VII f		x		64	
VII g		x		223	
VIII a		x		655	
VIII		x	63	8 060	5 975
Cabillaud					
IV	1er trim	x	1	1 713	462
VI a			3	533	
VII a			2	448	
VII f			2	292	
VI a	2ème trim		1	239	
VII a			1	196	
VII f			3	428	
VII g			2	413	

région	saison	Nb échantillons		Nb poissons	
		nav. recherche	marché	mesurés	dont âge déterm
cabillaud					
VI a	3ème trim		2	501	
VII a			2	438	
VII d		x		60	60
VII f			2	377	
VII g			1	221	
VI a	4ème trim		3	686	
VII a		1	3	1 179	120
VII e		1		22	
VII f			2	460	
VII g		1	2	359	36
merlan					
IV	1er trim	x		22 903	399
VI a			3	855	
VII			3	116	
VII a			3	848	
VII d		x		23	23
VII f			2	467	
VII g			1	131	
IV	2ème trim		1	156	156
V b		x		5 542	
VI a			1	235	
VII a			2	571	
VII d		x		198	123
VII e		x		764	
VII f			2	599	123
VII g			2	368	
VIII a		x		4 831	
IV	3ème trim		1	95	95
VI a			2	374	
VII			6	284	
VII a			1	257	
VII d		x		495	187
VII f			2	543	
VII g			3	770	
VIII a		x		864	
VIII			5	256	
IV	4ème trim		1	56	56
VI a			2	592	
VII			3	111	
VII a		x	2	1 984	80
VII d		x		379	106
VII e		x		2 304	
VII f		x	2	723	
VII g		x	2	1 401	85
VIII a		x		4 933	
VIII			1	40	

région	saison	Nb échantillons		Nb poissons	
		nav.recherche	marché	mesures	dont âge déterm
églefin					
IV	1er trim	x		7 432	294
VI a			3	800	
VII a			1	39	
VII f			1	78	
IV	2ème trim		1	152	152
VI a			2	651	
VII h			1	62	
IV	3ème trim		1	57	57
VI a			3	742	
IV	4ème trim		1	45	45
VI a			3	734	
VII e		x		12	
VII g		x		16	
lieu noir					
VI a	1er trim		3	721	150
V b	2ème trim	x		3 552	
VI a			3	851	170
VI a	3ème trim		3	798	135
IV	4ème trim		1	85	85
VI a			3	828	150
VII e		x		52	
dorade grise					
VII e	1er trim		5	1 057	
VIII a			2	319	
VIII a	3ème trim		4	1 525	65
VII e	4ème trim		4	1 450	
VIII a			5	1 471	
plie					
IV	1er trim	x		764	
VII d		x		33	33
VII			2	77	
VII d	2ème trim	x		2 808	1 263
VII e		x		663	
VIII a		x		341	
VII d	3ème trim	x		4 408	1 812
VII e		x		775	
VIII a		x		59	
VII a	4ème trim	x		160	
VII d		x		1 554	190
VII e		x		636	
VII f		x		30	
VII g		x		24	
VIII a		x		348	

région	saison	Nb échantillons		Nb poissons	
		nav. recherche	marché	mesurés	dont âge déterm
limande					
IV	1er trim	x		2 439	
VII d		x		45	45
VII d	2ème trim	x		2 450	775
VII e		x		143	
VIII a		x		96	
VII d	3ème trim	x		7 919	2 550
VII d	4ème trim	x		1 946	524
VII e		x		390	33
sole					
VII	1er trim		4	135	
VII d		x		3 407	126
VIII		x	30	5 932	468
VII	3ème trim		4	142	
VII d		x		3 431	3 050
VII e		x		1 325	
VIII a		x		5 527	
VIII			12	513	
VII d	2ème trim	x		390	243
VII e		x		488	
VIII a		x		5 107	
VIII			15	734	
VII	4ème trim		4	173	
VII d		x		579	412
VII e		x		3 002	
VIII a		x		2 906	
VIII			24	846	

IV - Echantillonnage effectué par l'Office de la Recherche Scientifique et Technique d'Outre-Mer en 1979 -

1) Centre de recherches océanographiques d'Abidjan

ESPECE	Nb échantillons	Nb individus
Galeoides decadactylus	302	22 330
Pomadasys jubelini	205	15 640
Brachydeuterus auritus	70	5 820
Pseudotolithus senegalensis	250	16 980
Dentex angolensis	71	5 080
Pagellus coupei	65	3 500
Cynoglossus canariensis	72	3 970
TOTAL	1 035	73 320

2) Centre de recherches de Pointe Noire

région	saison	Nb échantillons	Nb poissons mesurés
Pseudotolithus senegalensis Pointe Noire - Congo	1er trim	12	3 276
	2ème trim	9	1 837
	3ème trim	10	1 858
	4ème trim	12	2 133
Pseudotolithus typus Pointe-Noire - Congo	1er trim	8	294
	2ème trim	7	464
	3ème trim	8	387
	4ème trim	10	524
Pteroscion peli Pointe-Noire - Congo	1er trim	6	937
	2ème trim	5	815
	3ème trim	5	817
	4ème trim	6	907
Brachydeuterus auritus Pointe-Noire - Congo	1er trim	5	723
	2ème trim	5	649
	3ème trim	5	669
	4ème trim	6	686
Pentanemus quinquarius Pointe-Noire - Congo	1er trim	6	1 186
	2ème trim	5	1 250
	3ème trim	4	769
	4ème trim	6	999
Galeoides decadactylus Pointe-Noire - Congo	1er trim	6	1 745
	2ème trim	5	1 311
	3ème trim	5	1 214
	4ème trim	6	1 361

German Democratic Republic

(H. Schultz)

Sampling Data

Species/ Area	Season	No. of Samples: Research-Vessel	Commercial Vessel	Market	No. of Fish: Measured	Aged
Redfish (S. mentella)						
II a	II-III	-	90	-	28732	1600
II b	III	18	-	-	5977	1351
	IV	-	2	-	166	-
XIV b (Reykjanes)	II	5	-	-	975	390
Greenland Halibut						
II b	III	17	-	-	2470	1400
	IV	-	4	-	367	176
II a	IV	-	16	-	2716	271
Cod						
II b	III	9	-	-	43	-
	IV	-	6	-	632	-
II a	III	-	-	1	296	296
Long Rough Dab						
II b	III	10	-	-	196	-
Roughhead Grenadier						
II b	III	16	-	-	136	-
Starry Ray						
II b	III	12	-	-	87	-

Research Vessel Surveys

Area	Date	Objectives
Bear Island-S-Spitsbergen	3.-9.8.	Greenland halibut and redfish trawling
Reykjanes	25.4.-7.5.	redfish, pelagic trawling

Federal Republic of Germany

(G. Rauck)

Continuation of the biological sampling program on board research vessels and fish markets including length frequency measurements, otoliths collection, single weights of fish etc.

Trips of research vessels related to the national sampling program

R.V. "Walther Herwig"

Months	Area	No. of trips	objectives
Febr. - March	VI and VII	1	pelagic species
April - May	XIV	1	Redfish, blue whiting
June	VIa and VIII	1	Ground fish survey
July - August	IIa	1	Ground fish survey
Oct. - Dec.	XIV	1	Ground fish survey

R.V. "Anton Dohrn"

Jan.	IV b, c	1	fish diseases
July	IV b, c	1	fish diseases

R.V. "Solea"

Jan.	IV a, b, c	1	groundfish, brown shrimps
March	IV a, b, c	2	IYHS, sole
April	IV b, c	1	sole
June	IV a, b, c	1	groundfish
Aug.	IV a, b, c	1	groundfish and eel
Oct.	IV a, b, c	1	groundfish

Species Area	Season	Research Vessel Samples				Market Samples		
			No. of Fish				No. Of Fish	
		No. of Samples	Measured	Aged	Racial Investig-ationn	No. of Samples	Measured	Aged
Redfish								
S. marinus								
S. mentella								
I and IIb	3	5	584	-				
		34	5949	1118				
IIa S. marinus								
	1					3	469	244
	2					7	866	344
	3					4	1292	300
	4					5	1837	100
S. mentella								
	3					1	129	129
	4					1	472	-
Va S. mentella								
	2	5	617	246				
Vb S. marinus								
	4					4	1561	497
S. mentella								
	1					5	866	359
	2					3	476	256
	3					9	2771	497
	4					4	1701	100
XIV S. marinus								
	1					5	875	486
	2	18	581	207		4	717	100
	3					6	2061	100
	4	15	2069	727		6	2465	-
S. mentella								
	2	15	1448	426		1	311	-
	3					4	1208	200
	4	7	1047	120		1	353	96

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish			No. of Samples	No. Of Fish	
			Measured	Aged	Racial Investig-ationn		Measured	Aged
Grenadierfish								
VIa	2	25	1898	650	Coryph.rup.			
XIV	2	3	323	323	Macrour b.			
	3					2	413	187
	4					2	469	199
Catfish					Anar.lup.			
XIV	4				Anar.minor	3	909	-
							133	-
Saithe								
IIa	1					6	1637	817
	2					8	1736	804
	3					8	1926	1322
	4					2	401	401
IVa	1					3	793	444
	2					5	1590	929
	3					5	1621	834
	4					4	1046	392
IV b	1					1	233	233
	2					2	586	221
	3					3	399	301
	4					5	775	285
Blue Ling								
Vb	4					4	736	212

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish			No. of Samples	No. Of Fish	
			Measured	Aged	Racial Investig-ationn		Measured	Aged
Cod								
IIa	1	-				4	891	429
	2					1	224	111
	3	2	40	31				
IIb	3	14	689	504				
IVa	1	24	197	197				
IVb	1	78	6091	329				
	2	16	163	79				
	3	32	1513	167				
	4	58	3758	365				
XIV	1					3	614	279
	2	16	978	447		2	387	238
	3					1	365	106
	4	12	434	431		2	344	174
Haddock								
IIa	1					3	1226	608
	3	3	262	144				
IVa	3	34	7478	1277				
IVb	1	17	1839	109				
Vb	1	5	176	110				
VIb	2	1	77	77				
Whiting								
IVa	1	22	2772					
IVb	1	38	4451					
	2	14	73					
	3	6	357					
	4	12	1808					

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish Measured	No. of Fish Aged	Racial Investig-ationn	No. of Samples	No. Of Fish Measured	No. Of Fish Aged
Norway pout								
IVa	1	24	3389					
	2	2	1007					
Poor cod								
IVb	1	4	139					
	4	1	17					
Plaice								
IVb	1	31	2620	6		3	1753	1107
	2	67	3818			6	5362	1567
	3	43	1253	12		7	5941	1339
	4	25	788			4	2203	1395
Sole								
IV b	1	1	37	-				
	2	3	1291	975		4	667	437
	3	44	1047	286		4	390	251
	4	4	32	-		3	2743	865
Flounder								
IV b	1	1	464	-				
	2	22	243					
	4	24	144					
Dab								
IV b	2	26	612	-				
	3	35	1362	-				
	4	6	330	-				

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish Measured	No. of Fish Aged	Racial Investig-ationn	No. of Samples	No. Of Fish Measured	No. Of Fish Aged
Brill								
IVb	2	1	38	33				
Turbot	1	1	10	-		1	169	162
	2	1	111	103		4	1092	796
	3	2	72	68		4	1163	691
	4	-				3	375	346
Lemmon sole								
IV b	1	1	323					

Iceland

(J. Jakobsson)

The research work on demersal species of fish was carried out in Iceland along the same lines as in previous years, both on landed demersal fish and on research vessel catches. But the collection of data on landed redfish and Greenland halibut was intensified.

Research Vessels were, however, less engaged in research on demersal species than in previous years because of other more immediate duties. Mainly the research on redfish, Greenland halibut and other deep-sea species suffered under these circumstances.

The special research programmes on the spawning cod, the immature population of cod and the behaviour of cod NW off Iceland were continued.

The three branches of the Marine Research Institute were operated throughout the year with the same tasks as in previous years. The fishery inspectors collected considerable amounts of data on demersal fish, particularly on cod, on board of commercial vessels.

The research vessel "Bjarni Sæmundsson" was engaged in research on demersal species, particularly cod, on some cruises. Also some very limited research work on demersal species was carried out by the research vessel "Árni Friðriksson." One short cruise was conducted on the chartered stern trawler "Guðsteinn", particularly attending to redfish research.

The number of fish sampled is shown in the attached tables.

Iceland - Sampling data for Cod 1979

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	332		64361	2058	481
"	"		96	13122	1800	-
"	Apr.-June	181		23864	1838	902
"	"		55	8367	1144	-
"	July-Sept.	275		35608	1595	2102
"	"		25	3433	200	-
"	Oct.-Dec.	264		44870	2014	711
"	"		36	5538	595	-
Total		1052	212	199163	11244	4196
XIV	July-Sept.	2	-	-	26	-

Iceland - Sampling data for Haddock 1979

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	65		8672	322	-
"	"		19	3054	70	-
"	Apr.-June	100		11908	1052	-
"	"		20	3459	301	-
"	July-Sept	33		4406	101	-
"	"		14	2416	43	-
"	Oct.-Dec	76		11453	615	-
"	"		14	1977	200	-
Total		274	67	47345	2704	-

Iceland - Sampling data for saithe 1979

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	5		667	104	-
"	"		8	737	299	-
"	Apr.-June	39		2539	300	-
"	"		21	3473	100	-
"	July-Sept	28		2644	394	-
"	"		20	3048	100	-
"	Oct.-Des.	30		3938	302	-
"	"		7	777	200	-
Total		102	56	17823	1799	-

Iceland - Sampling data for whiting 1979

Area	Season	No. of samples		No of fish	
		Researsh vessels	Market samples	Measured	Aged
Va	Jan.-March	3		126	
"	Apr.-June	25		1286	
"	"	2			200
"	Oct.-Des.	3		32	
Grand total		33		1444	200

Iceland - sampling data for Norway pout 1979

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	I -III	-	-	-	-	-
	IV - VI	2	-	1747	385	-
	VII- IX	-	-	-	-	-
	X - XII	-	1	-	55	-
		2	1	1747	440	

Iceland - sampling data for ling 1979

Area	Season	No. of samples		No. of fish	
		Research vessels	Market samples	Measured	Aged
Va	Jan.-March		4	127	
"	Apr.-Jun		8	441	
"	"	10		38	
"	"	1			1
"	July-Sept.		7	275	
"	Oct.- Dec.		3	44	
Grand total		11	22	925	1

Iceland - sampling data for blue ling 1979

Area	Season	No. of samples		No. of fish	
		Research vessels	Market samples	Measured	Aged
Va	Jan.-March		5	692	
"	Apr.-Jun	44		728	
"	"	11			202
"	"		8	136	
"	Jul.-Sept.		8	1000	
"	Oct.-Dec.		3	600	
Grand total		55	24	3156	202

Iceland - sampling data for tusk 1979

Area	Season	No. of samples		No. of fish	
		Research vessels	Market samples	Measured	Aged
Va	Jan.-March		6	297	
"	Apr.-Jun		9	714	
"	"	35		112	
"	July-Sept		2	148	
"	Oct.-Dec.		3	48	
Grand total		35	20	1319	

Iceland - sampling data for roundnose grenadier 1979

Area	Season	No. of samples		No. of fish	
		Research vessels	Market samples	Measured	Aged
Va	Apr.-Jun	4		151	
"	"	1			100
Grand total		5		151	100

Iceland - sampling data for roughhead grenadier 1979

Area	Season	No. of samples		No. of fish	
		Research vessels	Market samples	Measured	Aged
Va	Apr.-Jun	4		12	
XIV	Jul.-Sept.	5		13	
Grand total		9		25	

Iceland - Sampling data for Redfish 1979

Area	Season	No. of samples		No. of fish	
		Research vessels	Market samples	Measured	Aged
			S. marinus		
Va	Jan.-March	70		6029	
"	"		15	2407	100
"	Apr.-June	65		4882	200
"	"		15	2987	
"	Jul.-Sept.	1		50	
"	"		18	3177	100
"	Oct. Dec.	60		4103	
"	"		21	1301	899
Sub total:		196	69	24936	1299
XIV	Jul.-Sept	20		1861	205
			S. Mentella		
Va	Jan.-March	8		8	
"	"		3	257	
"	Apr.-June	50		6609	201
"	"		2	291	
"	Jul.-Sept.		3	88	
"	Oct.-Dec.	3		121	
"	"		4	140	200
Sub. total:		61	12	7514	401
XIV	Jul.-Sept	27		3915	720
			S. Viviparus		
Va	Apr.-June	4		15	
"	Oct.-Dec.	2		50	
Sub. total:		6		65	
Grand total:		310	81	38291	2625

Iceland - Sampling data for Catfish (A.lupus) 1979

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	I - III	3	4	666	400	36
	IV - VI	1	5		722	
	XII- IX	2	1	357		
	X -XII	3	1	1466	1056	1585

Iceland - Sampling data for Halibut 1979

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	I - III	2		23		63
	IV - VI	2		1		46
	VII- IX	1	1	612		52
	X -XII	3		76	48	100

Icelandic - Sampling data for silver smelt 1979

Area	Season	No. of samples		No. of fish	
		Research vessels	Market samples	Measured	Aged
Va	Jan.-March	32		1874	
"	"	7			122
Sub total:		39		1874	122
XIV	Jul.-Sept.	4		9	
"	"	3			53
Sub. total		7		9	53
Grand total		46		1883	175

Iceland - Sampling data for plaice 1979

Area	Season	No. of samples		No. of fish.		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	6			200	999
	Apr.-June	1	6	1220		
	July-Sept.	40	14	8337	802	500
	Oct.-Dec.	16	2	3493	995	
		63	22	13050	1997	1499

Iceland - Sampling data for Greenland halibut 1979

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	4	2	1388	200	
	Apr.-June	4	6	2298	416	
	July-Sept		7	833	634	
	Oct.-Dec.		1	216		
		8	16	4735	1250	

Ireland

(J. P. Hillis)

Sampling of Cod, Whiting and Plaice continued in Divisions VIa, VIIa and on a smaller scale in VIIb,c and VIIg-k, together with Haddock in VIa and VIIg-k and sole in VIIg-k. Examination of discards in the Killybegs (VIa) fishery continued.

WHITING

In addition to routine sampling investigations into Whiting as a by-catch of the Nephrops fishery were carried out in Division VIIa, sampling marketed catch (as shown for Skerries under "Sampling Data") and discards in July and August, and comparing catches made two chartered trawlers making parallel hauls with different Nephrops gears.

PLAICE

Spring and Autumn beam-trawl surveys for juveniles were carried out close inshore in Division VIIa.

Sampling Data - 1

Species	Division Port	Season	No. of samples (all market)	No. of fish	
				Measured	Otoliths taken
COD	VIa				
	Killybegs	(1	8	191	163
		(2	5	152	132
		(3	1	138	138
		(4	10	220	218
	Greencastle	3	2	617	569
		Total	26	1318	1220
	VIIa				
	Howth	(1	3	192	187
		(2	3	331	243
		(3	4	254	242
		(4	4	372	310
	Kilmore Quay	1	5	305	242
		Total	19	1454	1224
	VII b,c	Total			
	Galway	(all 4)	5	399	294
	VIIg-k				
	Castletownbere	2	4	121	78
		3		279	106
		Total	8	400	184
	OVERALL	TOTAL	55	2578	2929
HADDOCK	VIa				
	Killybegs	(2	6	335	263
		(3	10	1213	735
		(4	4	612	395
	Greencastle	1	2	139	64
		Total	22	2299	1457

Sampling Data - 2

Species	Division Port	Season	No. of samples (all market)	No. of fish Measured	No. of fish Otoliths taken
HADDOCK	VIIg-k				
	Castletownbere and Dingle	(2	4	194	110
		(3	3	150	78
		Total	7	344	188
	OVERALL	TOTAL	30	2649	1645
WHITING	VIa				
	Killybegs	(1	1	240	72
		(2	1	447	90
		(3	8	1795	928
		(4	1	300	73
		Total	11	2782	1163
	VIIa				
	Howth	(1	4	717	325
		(2	3	449	151
		(3	10	2761	874
		(4	4	890	251
	Skerries	3	5	327	0
		Total	26	5144	1601
	VII b,c	Total			
	Galway	(all 4)	5	1120	456
	VIIg-k				
	Castletownbere	(2	6	1244	331
		(3	4	1441	320
		Total	10	2685	651
	OVERALL	TOTAL	52	11731	3871

SAMPLING DATA - 3

Species	Division Port	Season	No. of samples (all market)	No. of fish Measured Male	Measured Female	Otoliths taken Male	Otoliths taken Female
PLAICE	VIA						
	Killybegs	(1	2	283	227	96	93
		(2	3	300	284	61	75
		(3	5	732	568	267	151
		(4	3	485	207	40	30
	Greencastle	3	5	296	451	264	424
		Total	18	2096	1737	728	773
	VIIA						
	Howth	(1	1	20	75	15	53
		(3	1	120	115	48	46
		(4	2	163	313	64	153
	Kilmore Quay	1	2	415	285	66	86
		3	5	206	688	163	375
		Total	11	924	1476	356	713
	VIIb,c						
	Galway	3	4	439	620	399	534
		4	4	279	265	147	172
		Total	8	718	885	546	706
	VIIg-k						
	Castletown-bere and Dingle	2	3	207	349	66	103
		3	5	458	107	569	131
		Total	8	665	456	635	234
	OVERALL	TOTAL	46	4407	4567	2269	2439
SOLE (BLACK)	VIIg-k						
	Castletown-bere and Dingle	2	3	144	98	48	46
		3	5	210	208	179	176
			-				
	OVERALL	TOTAL	8	354	306	227	222

Netherlands

(J.F. de Veen)

Work at sea

As in 1978 , a number of commercial ships have been chartered to act as research vessels in addition to the existing fleet of research ships.

The RV "Tridens" made 18 cruises in the area of the Council of which 8 were mainly devoted to work within the scope of the Demersal Fish Committee and 5 (ICES Young fish surveys) were partly pelagic partly demersal. The RV "Stern" made 39 trips of which 18 were dealing with demersal topics and the RV "Schollevaar" 37 trips with 15 for demersal aims. The commercial cutter KW 34 carried out 9 trips of which 7 were for demersal purposes including mesh experiments. The corresponding figures for the cutter WR 17 were 4 and 4.

The RV "Stern", RV "Schollevaar", RV "Tridens" and the cutter WR 17 made two joint cruises, one in April, May and the other in October to analyse the stocks of juvenile sole, plaice, dab, flounder, gadoids, brown shrimp and other organisms in the nurseries of Belgium, Holland, Federal Republic of Germany and part of Denmark in cooperation with Belgian and German research ships.

Work on fish

Plaice:

The stock analysis by means of market sampling in the North Sea was continued with the emphasis on the first quarter of the year. The work is made increasingly difficult by the decreasing quality of the fishery statistics.

Analysis of the catches of young fish surveys in the southern and central North Sea continental nurseries, showed that the very good yearclass 1978 did not suffer from the severe winter 1978/79 and is still the strongest on record since the beginning of the pre-recruit surveys.

The yearclass 1979 too appeared to be very good in the surveys carried out in the summer and the autumn. In addition to the pre-recruit surveys a special programme for estimating the numbers of 0-and I-group plaice and brown shrimp and the benthos on the tidal flats started in recent years, was carried out in May and September.

Sole:

The stock analysis by means of market sampling from different areas in the North Sea, Irish Sea and the Gulf of Biscay, was continued. The same difficulties as mentioned with plaice as regard fishery statistics were encountered. One cruise was devoted to the Irish Sea for census purposes.

Analysis of the catches of pre-recruit sole in the Belgian, Dutch, German and Danish nurseries showed that the 1978 yearclass which was strong at the end of 1978, suffered a high natural mortality, owing to the effect of the cold temperatures during the winter and is poor at present.

The first impression of the 1979 year class is very good. This yearclass

will give good prospects for the fishery in the years following 1981.

In October-November mesh experiments were carried out on board of the commercial beam trawler KW 34, (1235 hp engine) fishing with a high speed (5-6 knots). The calculated selection-factor for sole turned out to be slightly less than the value acquired by the English research ships for low speed fishing on board of a beam trawler, with a small engine horse power (400 hp)

Dab:

During the pre-recruit surveys in spring and autumn otoliths were taken to study the age-structure of the dab population in the nurseries and at sea.

Cod:

The analysis of cod stocks by means of market sampling was continued.

Saithe:

The analysis of saithe stocks by means of market sampling was continued.

Cod, Haddock and Whiting:

The RV "Tridens" participated in the ICES Young Fish Surveys in February for estimating the abundance of I-year old gadoids and in summer for estimating the O-group abundance of gadoids during the pelagic phase. In addition RV "Tridens" made one cruise in September in the northern North Sea for estimating O-group abundance of gadoids.

Discards

Discarding at sea of flatfish and gadoid species has been studied throughout the year in various areas of the North Sea on board of commercial ships.

1979 Sampling data for sole

area	season	No. of samples for age determination only		Number of fish	
		research vessel	market	measured	aged
Golf de Biscay	2nd quarter		1		50
VII a	1st quarter	-	-		-
	2nd ,,	8	20		1472
	3rd ,,	-	-		-
	4th ,,	-	-		-
IV b	1st quarter	-	15		750
	2nd ,,	12	65		3350
	3rd ,,	-	11		550
	4th ,,	11	9		618
IV c	1st quarter	-	9		450
	2nd ,,	3	43		2188
	3rd ,,	-	2		100
	4th ,,	5	5		308
Dutch Waddensea	2nd quarter	3			4
	3rd ,,	2			18
	4th ,,	6			89
Zeeland estuary	2nd ,,	1			20
	4th ,,	2			47
Total annually		53	180		10.014

1979 Sampling data for Plaice

area	season	No. of samples for age determination only		Number of fish	
		research vessel	market	measured	aged
VII a	1st quarter	-			-
	2nd ,,	8			825
	3rd ,,	-			-
	4th ,,	-			-
IV b	1st quarter	-	90		6300
	2nd ,,	15	24		2755
	3rd ,,	-	14		980
	4th ,,	15	11		1881
IV c	1st quarter	-	29		2030
	2nd ,,	3	9		840
	3rd ,,	-	4		280
	4th ,,	5	3		614
Dutch	2nd quarter	9			471
Waddensea	3rd ,,	4			171
	4th ,,	6			327
Zeeland	2nd ,,	3			87
estuary	4th ,,	-			-
Total annually		68	184		17.561

1979 Sampling data for dab

area	season	No. of samples for age determination only		Number of fish	
		research vessel	market	measured	aged
VII a	1st quarter	-			-
	2nd quarter	8			469
	3rd quarter	-			-
	4th quarter	-			-
IV b	1st quarter	-			-
	2nd ,,	15			924
	3rd ,,	-			-
	4th ,,	15			1040
IV c	1st quarter	-			-
	2nd ,,	3			204
	3rd ,,	-			-
	4th ,,	5			319
Dutch Waddensea	2nd quarter	7			200
	3rd	1			17
	4th ,,	5			163
Zeeland estuary	2nd ,,	3			20
	4th ,,	2			92
Total annually		64			3448

1979 Sampling data for COD

area	season	No. of samples for age determination only		Number of fish	
		research vessel	market	measured[1]	aged[2]
IV	1st quarter	7	8	2110	750
	2nd ,,	-	9	2720	520
	3rd ,,	3	9	1865	562
	4th ,,	-	7	2105	350
Total annually		10	33	8800	2182
1979 Sampling data for HADDOCK					
IV	1st quarter	7	4	820	503
	2nd ,,	-	4	958	200
	3rd ,,	4	5	907	519
	4th ,,	-	3	633	150
Total annually		11	16	3318	1372
1979 Sampling data for WHITING					
IV	1st quarter	8	6	2288	602
	2nd ,,	-	4	2703	200
	3rd ,,	4	5	2411	415
	4th ,,	-	5	2019	250
Total annually		12	20	9421	1467
1979 Sampling data for SAITHE					
IV	1st quarter	-	5	382	240
	2nd ,,	-	3	416	150
	3rd ,,	-	3	140	109
	4th ,,	-	1	96	50
Total annually		-	12	1034	549

1) market only

2) market and research ship

Norway

(C.J. Rørvik)

Sub-areas I and II

The research activities at sea were nearly the same in 1979 as in the last years. The distribution of young cod and haddock were investigated during the combined acoustic and trawl survey in the Barents Sea in February-March. In February-March the concentrations of mature Arcto-Norwegian cod were charted in Lofoten. The investigations on the distribution and the drift off cod egg and larvae were continued in March-May with surveys in Lofoten. Two 0-group surveys were conducted in IIa in June-August. The feeding of cod larvae was investigated. In April-May the resources of redfish, Greenland halibut and blue whiting in the Vesterålen-Bear Island area were studied with one research vessel. In August-September the annual international 0-group fish survey was carried out in the Barents Sea and adjacent areas. In October the distribution and abundance of cod, haddock, redfish, Greenland halibut and blue whiting were investigated in the Bear Island - West Spitsbergen area.

Tagging experiments of the major roundfish species were continued. In March-April mature cod were tagged in Lofoten. In August-November cod were tagged in coastal waters.

The abundance of 0-group saithe in the littoral zone was studied at selected localities along the Norwegian coast in August-September. Tagging of saithe and pollack was also conducted during this survey.

Sampling of Recommendation 2 fisheries was continued. In order to improve the marked sampling of Recommendation 4 species a new sampling program was initiated. In each quarter of the year a boat was hired to visit different landing sites along the coast.

Sub-area IV

The sampling of Recommendation 2 fisheries in Division IVa was continued.

As part of international surveys the distribution and abundance of I- and II-group gadoids were studied in February, and 0-group gadoids and young sandeel in June-July. In February-March the spawning grounds and the drift of egg and larvae of saithe in the North Sea were studied, and tagging was done. The influx of 0-group blue whiting to the Northern North Sea was investigated in November-December.

SPECIES / AREA		RESEARCH VESSEL					MARKET			
		Aged		Measured		Tagged	Aged		Measured	
		No.of samples	No.of fish	No.of samples	No.of fish		No.of samples	No.of fish	No.of samples	No.of fish
Cod										
I	1	13	2358	16	1450		8	757	16	3529
	2	17	1662	190	13774		17	1787	46	6031
	3	1	100	100	1465		19	1503	22	1284
	4			9	153		419	920	36	2591
IIa	1	15	1141	18	1588	1796	1011	4361	37	6771
	2	12	1045	84	5304	1404	81	2773	79	13114
	3	2	175	35	581	997	478	811	17	662
	4	3	230	13	396	917	803	948	35	2202
IIb	2			4	34					
	3			43	575					
	4	6	338	41	428					
IVa	1	4	54	11	26				55	120
	2								58	91
	3						42	42	16	20
	4								34	470
IVb	1	4	358	27	439					

SPECIES / AREA		RESEARCH VESSEL					MARKET			
		Aged		Measured		Tagged	Aged		Measured	
		No.of samples	No.of fish	No.of samples	No.of fish		No.of samples	No.of fish	No.of samples	No.of fish
Haddock										
I	1	14	1098	20	782				7	1642
	2	8	652	122	8177		5	305	15	742
	3			41	504		28	2741	21	3468
	4			3	160		10	831	21	2838
IIa	1	8	692	24	1400	1	7	451	14	2708
	2	z 7	465	35	1365	2	7	566	27	2530
	3			31	119	73	6	546	12	828
	4			8	57	6	3	278	19	2871
IIb	2			3	7					
	3			24	146					
	4			8	25					
IVa	1	5	291	36	2660				83	1390
	2								87	497
	3								27	179
	4								40	344
IVb	1	3	87	22	595					

SPECIES / AREA		RESEARCH VESSEL					MARKET			
		Aged		Measured		Tagged	Aged		Measured	
		No.of samples	No.of fish	No.of samples	No.of fish		No.of samples	No.of fish	No.of samples	No.of fish
Saithe										
I	1	1	83	5	125					
	2			1	1		4	470	13	788
	3	1	99	3	475		7	637	6	538
	4								3	551
IIa	1			6	86	80	10	1038	13	2383
	2			2	512		9	946	37	4833
	3	4	383	13	2157	3599	17	1727	35	4936
	4			2	2		3	359	13	2268
IIb	3			9	72					
IVa	1						2	226	29	1125
	2						1	125	31	471
	3	2	203	2	758	928	1	120	19	53
	4								25	2105
IVb	1								1	194
Pollack	3					160				
Greenland Halibut										
I	1			6	19					
	2			12	84		6	561		
	3			7	13					
IIa	1			4	13					
	2			3	8		2	208	2	521
	4	1	5							
IIb	2			2	18					
	3			19	167					
	4	13	325	13	600		1	212		

SPECIES / AREA		RESEARCH VESSEL					MARKET			
		Aged		Measured		Tagged	Aged		Measured	
		No.of samples	No.of fish	No.of samples	No.of fish		No.of samples	No.of fish	No.of samples	No.of fish
Ling										
I	2			2	2					
IIa	2			1	3				1	190
	3								1	224
	4								1	183
IVa	1			7	8				6	15
	2								15	30
	3								9	428
	4								4	28
IVb	1			1	1					
Tusk										
I	1			2	2					
	2			3	3					
IIa	1			7	12					
	2			10	21				3	462
	3			6	18					
	4			2	5					
IIb	2			1	2					
IVa	1			1	2				2	3
	2								6	6
	4								3	9

SPECIES / AREA		RESEARCH VESSEL				Tagged	MARKET			
		Aged		Measured			Aged		Measured	
		No.of samples	No.of fish	No.of samples	No.of fish		No.of samples	No.of fish	No.of samples	No.of fish
Whiting										
IIa	3			7	33					
IVa	1	5	233	18	1256				80	1436
	2								73	288
	3								21	61
	4								31	157
IVb	1	3	141	23	1418					
Norway pout										
I	1			8	179					
	2			10	265					
	3			2	19					
	4			1	20					
IIa	1	1	50	14	747					
	2			16	400				2	141
	3			4	30					
	4			1	10					
IVa	1	4	135	17	2073		5	182	24	2406
	2						1	29	40	3703
	3								44	3994
	4						2	62	53	5380

SPECIES / AREA		RESEARCH VESSEL					MARKET			
		Aged		Measured		Tagged	Aged		Measured	
		No.of samples	No.of fish	No.of samples	No.of fish		No.of samples	No.of fish	No.of samples	No.of fish
Blue whiting										
I	1			3	5					
	2			4	5					
	3			8	214					
	4			1	29					
IIa	1			5	443				2	124
	2			3	14				5	253
	3			10	45				3	183
	4								3	210
IIb	2			2	11					
	3			4	21					
	4			19	1445					
IVa	1			8	308				12	1034
	2								37	2827
	3								38	1011
	4								35	404
Silver smelt										
I	1			1	9					
	3			1	2					
IIa	1			6	188				7	392
	2			6	37				4	140
	3			2	3					
IVa	1			11	19				11	412
	2								20	406
	3								33	402
	4								28	470

SPECIES / AREA		RESEARCH VESSEL					MARKET			
		Aged		Measured		Tagged	Aged		Measured	
		No.of samples	No.of fish	No.of samples	No.of fish		No.of samples	No.of fish	No.of samples	No.of fish
Sandeel										
I	3			23	511					
IIa	3			6	13					
IVa	1			2	175					
	2								4	406
	3								16	1667
	4								1	182
IVb	2								7	701
	3								2	202
Long rough dab										
I	1			22	1738					
	2			33	1573					
	3			42	442				11	72
IIa	1			24	1988					
	2			34	1466				2	21
	3			19	301				5	15
	4			2	14					
IIb	2			2	24					
	3			28	226				6	37
	4			55	2761					
IVa	1			20	673					
IVb	1			21	255					

SPECIES / AREA		RESEARCH VESSEL					MARKET			
		Aged		Measured		Tagged	Aged		Measured	
		No.of samples	No.of fish	No.of samples	No.of fish		No.of samples	No.of fish	No.of samples	No.of fish
Redfish										
I	1			54	2345					
	2			48	2065					
	3			55	4206				9	950
IIa	1			51	2193					
	2			58	2026				2	60
	3			75	5566				14	247
	4			2	8					
IIb	2			1	42					
	3			43	3212				2	3
	4			38	1922					
IVa	1								3	7
	2								5	12

Poland

(J. Piechura)

We are sorry to inform you that due to scarce and dispersed effort of our fleet directed towards demersal fish in Divisions IVa and IIa, our sampling team sent to the North Atlantic area in 1979 has not been able to collect any samples from that fishery.

Portugal

(M. Lima Dias)

During 1979, the Instituto Nacional de Investigação das Pescas undertook the sampling scheme of length frequencies of hake (Merluccius merluccius L.) in some of the most important harbours. The samples were collected from trawlers as well as artisanal boats, fishing in Portuguese waters (ICES Sub-area IX). In 1979 the cruise programmes on board the R.V. "Noruega" were also started.

From two cruises, the results of the sampling on hake are also presented. They were carried out in June and October/November in Portuguese waters.

Concerning the study of Micromesistius poutassou a sampling scheme on board the research vessel during the cruises of last year was also started.

Sampling on hake (Merluccius merluccius) - Portuguese Coast

ICES Sub-Area IX - 1979

Sampling on hake (Merluccius merluccius)

Sub-area	Quarter	Fishing harbour		Research vessel		TOTAL	
		No of samples	No of fishes	No of samples	No of fishes	No of samples	No of fishes
IX	1st	54	3281	-	-	54	3281
IX	2nd	67	3331	52	5106	119	8437
IX	3rd	51	2731	-	-	51	2731
IX	4th	41	1731	50	3947	91	5678
TOTAL		213	11074	102	9053	315	20127

Sampling on blue whiting (Micromesistius poutassou)

Sub-Area	Quarter	Sampling onboard	Research vessel
		No of samples	No of fishes
IX	2nd	4	550
IX	3rd	2	1347
IX	4th	9	4606
TOTAL		15	6503

Spain

(R. Robles)

Research Vessel Surveys 1979

Area	Dates	Objectives
IXa Galician waters	3-17 April	Selectivity trials for hake
IXa Galician waters	22-25 June	Selectivity trials for hake
IXa Galician and Portuguese waters	6 Aug.-6 Sept.	First demersal survey in the whole area with special attention to Norway lobster

Species:			Samples		Fish measured	
HAKE	Area	Quarter	Research vessel	Market	Research vessel	Market
	VIa	I				
		II				
		III	2	2		190
		IV		1		108
	VII	I		13		2193
		II		5		808
		III		4		1156
		IV		3		847

continued ....

HAKE	Area	Quarter	Samples: Research Vessel	Samples: Market	Fish measured: Research Vessel	Fish measured: Market
	VIIIab	I		5		460
		II		16		2038
		III		16		1748
		IV		17		1830
	VIIIc	I		10		993
		II	6	6	1076	1209
		III		6		1137
		IV		5		684
	IXa	I		16		1360
		II	27	9	1408	2207
		III	73	19	7060	1625
		IV		10		1081

SPECIES: MEGRIM (Lepidorhombus boscii and L. wiffiagonis)

Area	Quarter	Nº Samples: Research vessel.	Fish measured: Research vessel.
a	I	-	-
	II	13	619
	III	73	3433
	IV	-	-

Sweden

(O. Hagström)

In Sweden there is no organised sampling of gadoids in Divisions IIIa or Sub-Area IV.

Year class strength is only assessed from IYFS in IIIa, and the results from these have only given preliminary data so far, since thereare no age determinations.

United Kingdom

1. England and Wales

(A.C. Burd)

1. Sampling

COD

Area			No. of samples		No. of fish	
			Research vessel	Market	Measured	Aged
NE Arctic	101,102,113			14	2 739	485
Faroe	105			13	1 607	370
North Sea	104	(offshore)	+	413	61 400	5 664
	104B	(inshore)	+	366	48 503	3 136
	104C	(")	+	63	8 896	669
North Sea	104	TOTAL	+	842	118 799	9 469
W. Scotland	106A		+	96	13 879	1 088
Rockall	106B			6	562	165
Irish Sea	107A	(offshore)	+	19	2 859	342
	107A	(inshore)	+	92	10 857	1 278
	107A	TOTAL	+	111	13 716	1 620
English Channel E	107D			62	2 863	176
" " W	107E			3	416	-
Bristol Channel	107F			-	-	-
S. Ireland	107G			5	572	53
Freezers						
Newfoundland				1	342	53
Labrador				1	337	-
NE Arctic	101,102,113			26	11 785	

HADDOCK

Area			No. of samples		No. of fish	
			Research vessel	Market	Measured	Aged
NE Arctic	101,102,113			12	1 991	189
Faroe	105			5	640	-
W. Scotland	106A			117	15 072	1 051
Rockall	106B			5	527	106
North Sea	104A,B,C		+	213	32 244	2 762
	104B		+	219	23 554	1 237
	104C			1	79	6
	104	TOTAL		433	55 877	4 005
Irish Sea	107A			2	202	76

SAITHE

Area		No. of samples		No. of fish	
		Research vessel	Market	Measured	Aged
NE Arctic	101,102,113		4	345	76
Faroe	105		8	532	129
W. Scotland	106A		67	7 062	571
North Sea	104	+	72	6 384	726

WHITING

Area			No. of samples		No. of fish	
			Research vessel	Market	Measured	Aged
North Sea	104	(offshore)	+	100	8 160	2 612
	104B	(inshore)		238	19 839	1 084
	104C	(")		2	100	308
	104	TOTAL	+	340	28 099	4 004
Irish Sea	107A		+	126	14 636	1 664
English Channel E	107D		+	15	1 279	137
" " W	107E			122	11 762	565
S. Ireland	107G			3	287	23

HAKE

Area		No. of samples		No. of fish	
		Research vessel	Market	Measured	Aged
Irish Sea	107A	+	21	3 495	4
English Channel W	107E		43	1 368	-
S. Ireland	107G		1	106	-
W. Scotland	106A		17	2 834	-

BLUE LING

Area		No. of samples		No. of fish	
		Research vessel	Market	Measured	Aged
W. Scotland	106A		2	236	80

PLAICE

Area		No. of samples		No. of fish	
		Research vessel	Market	Measured	Aged
North Sea	104 (offshore)	+	288	51 351	4 479
" "	104C (inshore)	+	25	1 700	370
" "	104 TOTAL	+	313	53 051	4 849
Irish Sea	107A (offshore)	+	20	3 872	1 406
" "	107A (inshore)	+	95	15 915	981
" "	107A TOTAL	+	115	19 787	2 387
English Channel E	107D		61	4 430	712
" " W	107E		144	13 227	1 581
Bristol Channel	107F		1	147	103
S. Ireland	107G		2	321	-

SOLE

Area		No. of samples		No. of fish	
		Research vessel	Market	Measured	Aged
North Sea	104C	+	153	16 945	797
Irish Sea	107A (offshore)	+	9	1 844	255
" "	107A (inshore)	+	61	9 450	553
" "	107A TOTAL	+	70	11 294	808
English Channel E	107D		93	8 749	725
" " W	107E		148	12 444	667
Bristol Channel	107F		1	210	-
S. Ireland	107G		4	897	-

LEMON SOLE

Area		No. of samples		No. of fish	
		Research vessel	Market	Measured	Aged
North Sea	104	+	-	368	368
English Channel W	107E		132	13 271	379

TURBOT

Area	No. of samples		No. of fish	
	Research vessel	Market	Measured	Aged
North Sea 104	+	1	56	9
Irish Sea 107A	+		4	4

SPURDOG

Area	No. of samples		No. of fish	
	Research vessel	Market	Measured	Aged
W. Scotland 106A		41	4 250	-
North Sea 104		96	7 080	-

SKATES AND RAYS

Area		No. of samples		No. of fish	
		Research vessel	Market	Measured	Aged
W. Scotland	106A		10	975	-
North Sea	104		3	150	-
Irish Sea	107A		53	5 170	-
Bristol Channel	107F		1	149	-
S. Ireland	107G		1	171	-

2. Research vessel surveys

Area		Month	Objectives
North Sea	104A	January	Gadoid tagging
" "	104B,C	January	Plaice fecundity
" "	104	February	International young fish survey and Norway pout
" "	104B	March	Cod larvae survey
" "	104A	March/April	Gadoid tagging
" "	104B,C	April/May	East coast groundfish survey
" "	104B	May/June	Predation on plaice larvae
" "	104A	May/June	Norway pout
" "	104	June/July	International 0-group gadoid survey
" "	104A	July	Norway pout
" "	104A,B,C	August/September	Groundfish survey
" "	104B,C	September/October	0-group flatfish survey
" "	104A,B,C	November/December	Norway pout, gadoid fecundity
Irish Sea	107A	September/October	I-group demersal fish survey
English Channel	107D,E	April/May	Demersal fish survey
" "	"	November/December	" " "

RELEASE OF ENGLISH TAGGED FISH IN I.C.E.S. AREAS DURING 1979

SPECIES \ REGIONS	104A	104B	104C	107D	107E	107A	106A	TOTAL
COD	64	-	120	-	-	477	468	1129
PLAICE	-	-	-	-	-	3675	-	3675
SOLE	-	-	202	-	-	1308	-	1510
HADDOCK	78	-	-	-	-	-	66	144
COALFISH	16	-	-	-	-	-	16	32
TURBOT	-	-	-	-	-	502	-	502
FLOUNDER	-	-	175	-	-	-	-	175
TOTAL	158	-	497	-	-	5962	550	7167

U.S.A.

(M.P. Sissenwine)

During 1979, the status of stocks of more than twenty species or species groups exploited along the Atlantic coast of the USA north of Cape Hatteras was assessed. The demersal (at least partially demersal) fish stocks that were assessed are cod of the (1) Gulf of Maine and (2) Georges Bank - southern New England area; haddock of Georges Bank; redfish of the Gulf of Maine - Georges Bank area; silver hake of (1) the Gulf of Maine, (2) Georges Bank and (3) southern New England - mid-Atlantic area; red hake of (1) Georges Bank and (2) southern New England - mid-Atlantic area; pollock of Georges Bank - Gulf of Maine - Nova Scotia area; yellowtail flounder of (1) Georges Bank, (2) the Cape Cod area (3) southern New England and (4) the mid-Atlantic area; summer flounder and all other flounder for the USA Atlantic coast north of Cape Hatteras; scup, weakfish, and other finfish (excluding species already considered, menhaden and large pelagics) for the USA Atlantic coast of north of Cape Hatteras. Stock assessment were based on length samples of commercial landings, research vessel trawl surveys, and age determinations of both commercial and research vessel catches. Commercial sampling, bottom trawl research survey and aging activity for 1979 is summarized in Tables 1, 2, and 3 respectively.

Along with the stock assessment work described above, the Southeast Fisheries Center of the US National Marine Fisheries Service conducted basic biological studies of various species of snapper and grouper. Also, much of the historic data base on the fecundity of demersal fish of the northeast coast of the US has now been entered into a computer data management system.

Considerable research was conducted in 1979 on the performance of fishing and research survey gear. For example, the Northeast Fisheries Center has initiated studies on the performance characteristics of Isaacs-Kidd midwater trawls and on cod end mesh selection of otter trawls.

The USA has continued research on the interactions between fish species. An analysis of emperical evidence of species interactions between approximately 25 stocks of fish of the northeastern USA was conducted. The results were described in a workshop on "Multispecies approaches to fisheries management" on 26-30 November 1979 in St. John's Newfoundland. Also, a preliminary energy budget for the Georges Bank area was also completed and presented at the same workshop. The USA continued to collect data on the stomach composition of numerous species of demersal fish of the northeast region. In 1979, laboratory studies of the digestion rate of some demersal fish species were also initiated.

In 1979, under the auspices of the National Marine Fisheries Service, a task force to study northeast fisheries management problems was established. The task force has fostered a broad reaching discussion of the strategic and tactical basis of fisheries management. The discussions have encompassed such subjects as fisheries management objectives, the characteristics of fisheries management methods, the legal authority of fisheries management, the scientific or technical basis of fisheries management, the definition of management units, and the decision process.

Marine research laboratories of individual States and universities also studied demersal fish during 1979. For example, the State of Florida Department of Natural Resources conducted research on the life history and ecology of various species of grouper and snapper; the State University of New York at Stony Brook studied the growth, maturity, fecundity, and stock separation of the north eastern spiny dogfish and the life history of black sea bass populations; the State of North Carolina conducted mesh selection studies during its winter trawl fishery; and the State of Rhode Island conducted studies on otter trawl induced damage of commercially important crustaceans such as the lobster.

A more in depth description of USA demersal fish research is presented each June at the Northwest Atlantic Fisheries Organization Annual Meeting.

Table 1. USA Northwest Atlantic Commercial Landings Sampling Summary, 1977-1979.

Species	1977 # of Samples	# of Individuals	1978 # of Samples	# of Individuals	1979 # of Samples	# of Individuals
Cod	167	12,823	121	9,319	90	7,749
Haddock	212	15,362	181	12,972	120	10,548
Pollock	49	4,695	23	2,159	55	5,716
Redfish	108	10,998	63	6,393	91	9,375
Whiting	63	6,776	44	4,442	34	3,668
Sea herring	371	---	500	---	648	---
Witch flounder	9	463	12	632	6	472
American Dab	17	1,306	17	1,401	26	2,392
Sand Dab	8	1,094	4	518	6	740
Mackerel	16	2,040	2	166	6	617
Sea scallops	94	28,172	103	25,042	118	28,391
Winter flounder	89	6,201	48	4,186	41	4,518
Squid, Sp.	36	2,966	---	---	---	---
Squid, L.	---	---	11	1,015	19	3,056
Squid, I.	---	---	1	53	9	496
Industrial	115	---	50	---	32	---
Butterfish	7	937	17	3,169	14	3,372
Fluke	58	4,059	48	3,394	47	3,687
Red hake	2	159	---	---	1	94
Scup	16	1,794	16	1,686	10	1,250
Tilefish	2	69	1	39	2	76
Menhaden	4	---	2	---	5	---
Surf clams	131	3,930	372	11,160	192	5,760
Ocean quahogs	6	180	110	3,300	46	1,380
Yellowtail	94	10,752	58	7,121	72	9,100
Bluefish	---	---	---	---	2	36
Cusk	---	---	---	---	1	112
Dogfish	---	---	---	---	2	76
Lobster	8	---	3	---	15	---
Red crab	4	---	---	---	---	---
Jonah crab	1	---	---	---	3	---
White hake	---	---	---	---	1	100
Total	1,687	114,776	1,807	98,167	1,714	102,781

Table 2. Fish Age Determination During 1979.

Species	Number
Redfish	2,637
Yellowtail	19,961
Mackerel	1,447
Cod	3,278
Haddock	7,114
Pollock	1,573
Scup	
Silver hake	6,703
Blackback	0
Sea herring	7,629
Alewives	
Red hake	3,704
White hake	
Butterfish	3,514
Fourspot flounder	0
Longhorn sculpin	0
Ocean pout	0
Bluefish	1,966

Table 3.

BOTTOM TRAWL SURVEY CRUISES FOR 1979

Vessel	Date	No. of Stations	Area	Trawl Type
OFFSHORE				
Alb. IV & Del. II	21 Mar-12 May	348	Nova Scotia-Cape Hatteras	#41 Yankee
Delaware II	23 Mar-27 Mar	22	Cape Hatteras-Cape Fear	#41 Yankee
Alb. IV & Del. II	25 Jul- 1 Sep	288	Gulf of Maine-Cape Hatteras	#36 Yankee
Delaware II	27 Jul-30 Jul	20	Cape Hatteras-Cape Fear	#36 Yankee
Alb. IV & Del. II	12 Sep-19 Nov	442	Nova Scotia-Cape Hatteras	#36 Yankee
Delaware II	15 Sep-21 Sep	33	Cape Hatteras-Cape Fear	#36 Yankee
Anton Dohrn(FRG)	10 Feb- 4 Mar	59	S. New England-Gulf of Maine	180' Herring
INSHORE				
Delaware II	25 Mar-27 Mar	18	Cape Hatteras-Cape Fear	#41 Yankee
Alb. IV & Del. II	21 Mar-12 May	89	Gulf of Maine-Cape Hatteras	#41 Yankee
Alb. IV & Del. II	2 Aug-31 Aug	101	Gulf of Maine-Cape Hatteras	#36 Yankee
Delaware II	29 Jul- 2 Aug	35	Cape Hatteras-Cape Fear	#36 Yankee
Delaware II	21 Sep- 9 Nov	89	Cape Hatteras-Cape Cod	#36 Yankee
Delaware II	18 Sep-21 Sep	37	Cape Hatteras-Cape Fear	#36 Yankee

U.S.S.R.

(K.A. Zemskaya)

In 1979 investigations were carried out to determine the main commercial fish abundance by trawl surveys and possible recruitment of the stock through young fish assessment in the Barents Sea area and adjacent waters. The amount, quality and peculiarities of ichthyoplankton distribution as well as the conditions for the survival of young fish were studied.

Work continued to determine the relationship between the peculiarities of distribution and behaviour of fish on the one hand and the hydrographical conditions, and the nature of the nutrition base on the other hand. By this, the methods of fishery forecasting were improved.

In 1979 data were collected to characterise size/age composition, distribution and feeding pattern of cod, haddock, redfish, catfish, Greenland halibut and other species in the ICES fishing areas I, IIa and IIb. The amount of data, collected by research, scouting and fishing vessels in 1979 is given in Tables 1-8.

In spring 1979 the AtlantNIRO vessel participated in the International Young Fish Survey in the North Sea. The composition of the commercial trawl catches of saithe from the eastern North Sea was studied in February through May. A total of 2 020 otolith pairs was collected. In 1980 data on saithe stock size are planned to be collected from July.

Table 1. Sampling data (cod)

Area	Season	Number of specimens		
		Measured	Dissected	Aged
the Barents Sea sub-area	I	139659	10050	2913
	II	40866	4929	2721
	III	39300	4767	2861
	IV	26472	5074	1800
Bear Island - Spitsbergen area	I	19	-	-
	II	2824	663	645
	III	6249	2757	265
	IV	4025	552	-
the Norwegian Sea sub-area	I	1984	832	476
	II	18460	3496	1349
	III	298	100	-
	IV	2472	450	300

Table 2

Sampling data (haddock)

Area	Season	Number of specimens		
		Measured	Dissected	Aged
the Barents Sea sub-area	I	42404	3885	I238
	II	22249	2I20	I957
	III	5I04	46I	408
	IV	I2684	I368	I505
Bear Island - Spitsbergen area	I	-	-	-
	II	2I6	I04	-
	III	6I	26	-
	IV	-	-	-
the Norwegian Sea sub-area	I	I5I8	604	630
	II	I2I74	3226	2685
	III	3	-	-
	IV	II3	25	-

Table 3

Sampling data (redfish)

Area	Season	Number of specimens		
		Measured	Dissected	Aged
the Barents Sea sub-area	I	4101	576	-
	II	9110	550	-
	III	4291	565	290
	IV	429	25	-
Bear Island - Spitsbergen area	I	539	200	-
	II	13437	1873	600
	III	24401	2548	300
	IV	711	100	-
the Norwegian Sea sub-area	I	14085	1071	1200
	II	48068	4203	2946
	III	5516	450	-
	IV	264	138	40

Table 4

Sampling data (Greenland halibut)

Area	Season	Number of specimens		
		Measured	Dissected	Aged
the Barents Sea sub-area	I	853	370	-
	II	I039	I94	-
	III	97	-	-
	IV	I33	42	-
Bear Island - Spitsbergen area	I	I0	-	-
	II	2922	625	-
	III	3I5I	7I3	300
	IV	-	-	-
the Norwegian Sea sub-area	I	I549	350	299
	II	I090	I82	300
	III	-	-	-
	IV	I2	-	-

Table 5

Sampling data (wolffish)

Area	Season	Number of specimens		
		Measured	Dissected	Aged
the Barents Sea sub-area	I	1937	55	-
	II	3131	689	469
	III	4464	499	596
	IV	1476	176	100
Bear Island-Spitsbergen area	I	6	-	-
	II	566	89	19
	III	2256	49	-
	IV	-	-	-
the Norwegian Sea sub-area	I	148	-	-
	II	492	75	71
	III	6	-	-
	IV	11	-	-

Table 6

Sampling data(long rough dab)

Area	Season	Number of specimens		
		Measured	Dissected	Aged
the Barents Sea sub-area	I	7430	550	-
	II	I4673	2330	740
	III	5388	625	200
	IV	8729	II23	-
Bear Island-Spitsbergen area	I	-	-	-
	II	3396	225	-
	III	I9338	I875	500
	IV	-	-	-
the Norwegian Sea sub-area	I	33I	25	-
	II	3554	450	-
	III	-	-	-
	IV	I56	-	-

Table 7

Sampling data (saithe)

Area	Season	Number of specimens		
		Measured	Dissected	Aged
the Barents Sea sub-area	I	9	-	-
	II	20	-	-
	III	3	-	-
	IV	-	-	-
Bear Island - Spitsbergen area	I	-	-	-
	II	-	-	-
	III	235	-	-
	IV	-	-	-
the Norwegian Sea sub-area	I	371	147	110
	II	609	234	173
	III	14	-	-
	IV	-	-	-

Table 8

Sampling data (plaice)

Area	Season	Number of specimens		
		Measured	Dissected	Aged
the Barents Sea sub-area	I	3728	472	400
	II	I5260	2997	I778
	III	2843	46I	3I2
	IV	4054	774	574
Bear Island - Spitsbergen area	I	-	-	-
	II	-	-	-
	III	-	-	-
	IV	-	-	-
the Norwegian Sea sub-area	I	-	-	-
	II	-	-	-
	III	-	-	-
	IV	-	-	-

In 1979 eight cruises were made to different areas of the Central-East Atlantic.

Area	Month	Objective
Morocco	January-February	Acoustic survey
Morocco	January-February	Ichthyoplankton, oceanographic and shrimp surveys
Morocco	May-June	Trawl survey on abundance, oceanographic and ichthyoplankton
Guinea-Bissau	February-March	Trawl survey on abundance
Guinea-Bissau	February-March	Ichthyoplankton and oceanographic surveys
Sao-Tome, Principe, Republic of Equatorial Guinea	May-June	Research activities on tuna with purse-seine
Sierra-Leone	June-July	Trawl survey on abundance and hydrological survey, research activities
Morocco	December	Oceanographic and ichthyoplankton surveys

A total of 714 hauls was made and 931 hydrological stations occupied.

The data on the major fish species are given in the table:

Area	Species (demersal)	No. of samples collected		No. of samples collected		
		from vessels	from market	Mass measurements	Biological analyses	Age samples
Morocco	Pagellus acarne	4 800	-	3 220	1 430	150
	Boops bocps	1 520	-	935	485	100
	Diplodus vulgaris	620	-	240	380	-
	Dentex polli	2 435	-	1 420	665	350
	Pagellus erythrinus	820	-	340	380	100
	Pagellus centrodontus	780	-	380	255	145
	Merluccius merluccius	1 420	-	1 230	95	95
	Spicara chriselis	555	-	425	130	-
Guinea-Bissau	Pagrus ehrenbergii	820	-	340	380	100
	Mullus barbatus	570	-	275	245	50
	OTHERS:	70 500	-	63 000	5 450	2 050

The minimum abundance and biomass of 20 fish species were estimated.

Sparids, Sciaenidae, Pomadasyidae, sea bass, sea catfish, etc. prevailed among the groundfish.