

International Council for the
Exploration of the Sea

C.M. 1985/G:1
Report of Activities

DEMERSAL FISH COMMITTEE

by

B. Vaske

1984

BELGIUM

(R. De Clerck)

Recording of densities and growth rates of the 1983 and 1984 year classes of sole, plaice, dab, flounder, cod and whiting was carried out.

Two cruises were also undertaken for the international demersal young fish survey.

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

Species Area	Season	N° of samples		N° of samples	
		Research	Market	Measured	Aged
Cod	1	-	4	390	85
IV	2	-	6	478	175
	3	-	4	300	170
	4	-	6	349	150
Whiting	1	-	8	606	105
IV	2	-	7	558	95
	3	-	9	644	110
	4	-	6	338	115
Haddock	1-4	-	7	471	180
IV					

CANADA

(R. Wells)

Canada had no fisheries and no research activity in the ICES area in 1984. Activities in the Northwest Atlantic in 1984 have been reported to NAFO.

DENMARK

(No report received)

FINLAND

(V. Sjöblom and E. Aro)

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

Species	Season	N° of samples		N° of samples	
		Research	Market	Measured	Aged
Sole	1	-	11	1103	210
IV	2	-	9	882	200
	3	-	12	1181	210
	4	-	12	1250	210
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VII f,g	1	-	5	437	200
	2	-	7	666	210
	3	-	5	442	210
	4	-	4	396	140
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VII a	1	-	2	189	70
	2	-	3	275	70
	3	-	-	-	-
	4	-	3	336	210
<hr/>					
VII d,e	1	-	2	140	140
	2	-	2	110	110
	3	-	2	130	130
	4	-	2	185	70
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Plaice	1	-	11	666	120
IV	2	-	8	509	100
	3	-	12	751	133
	4	-	12	752	140
	<hr/>				
VII f, g	1	-	5	238	120
	2	-	7	375	130
	3	-	1	40	40
	4	-	-	-	-
<hr/>					
VII a	1	-	2	99	40
	2	-	3	147	40
	3	-	-	-	-
	4	-	3	194	120
<hr/>					
VII d,e	1	-	2	100	100
	2	-	1	20	20
	3	-	-	-	-
	4	-	-	-	-
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FRANCE

(B. Mesnil)

I. CAMPAGNES SCIENTIFIQUES A LA MER

Le N/O "THALASSA" a participé, du 29 janvier au 25 février 1984, à la campagne internationale Young Fish Survey. Ont été effectuées 11 stations en IV A, 20 en IV B, 13 en IV C et 20 en VI A.

Les programmes de suivi des ressources en Golfe de Gascogne (VIII A-B) se sont poursuivis à bord du N/O "PELAGIA" avec les campagnes trimestrielles SOLMER (23 stations du 10 au 19 février, 27 du 7 au 16 juin, 28 du 8 au 17 août et 35 du 28 octobre au 7 novembre 1984), et avec la campagne annuelle CRUGAS (35 stations du 12 au 27 novembre 1984).

II. ECHANTILLONNAGE ET AGEAGE

Les opérations d'échantillonnage à terre et à la mer sont résumées dans les tableaux joints. Les remarques formulées dans le rapport d'activité 1983 s'appliquent également à ces tableaux.

ESPECE	SECTEUR CIEM	SAISON	NOMBRE D'ECHANTILLONS		NOMBRE DE POISSONS		
			NAVIRES DE RECHERCHE	APPORTS COMMERCIAUX	MESURÉS	AGÉS	AUTRES MESURES
Lieu noir	IV A	1er T	2	+	41	216	
		2ème T		+	+	240	
		3ème T		+	+	225	
		4ème T		7	+	157	
	VI A	1er T	7	+	86	86	
		2ème T		+	1 695	435	
		3ème T		+	1 760	440	
		4ème T		+	1 125	240	
MORUE	IV A	1er T	13	+	234	830	
		2ème T		+	+	1 106	
		3ème T		12	+	406	
		4ème T		10	+	325	
	IV B	1er T	20	+	1 612	+	
		2ème T		+	+	+	
		3ème T		+	+	+	
		4ème T		+	+	+	
	IV C	1er T	12	+	+	668	
		2ème T		+	+	966	
		3ème T		+	+	608	
		4ème T		+	+	260	
	IV A	1er T	14	+	381	301	
		2ème T		+	842	176	
		3ème T		+	1 225	353	
		4ème T		+	840	208	
4ème T		+		1 007	156		
VII A	1er T		+	96			
	2ème T		+	820			
	3ème T		+	1 030			
	4ème T		+	132			

ESPECE	SECTEUR CIEM	SAISON	NOMBRE D'ECHANTILLONS		NOMBRE DE POISSONS		
			NAVIRES DE RECHERCHE	APPORTS COMMERCIAUX	MESURÉS	AGÉS	AUTRES MESURES
MORUE	VII D	1er T		+	+	715	
		2ème T		7	+	1 013	
		3ème T		+	+	854	
		4ème T		10	+	285	
	VII F-G	1er T		+	1 081	210	
		2ème T		+	1 671	353	
		3ème T		+	1 292	261	
		4ème T		+	1 304	316	
EGLEFIN	IV A	1er T	12	9	3 829	786	
		2ème T		+	+	384	
		3ème T		6	+	470	
		4ème T		5	+	356	
	IV B	1er T		9	+		
		2ème T		+	+		
		3ème T		+	+		
		4ème T		+	+		
	VI A	1er T	14		2 295	+	
		2ème T		+	1 322	305	
		3ème T		+	1 249	400	
		4ème T		+	993	251	
MERLAN	IV A	1er T	11	4	1 707	1 525	
		2ème T		+	+	416	
		3ème T		8	+	617	
		4ème T		+	+	454	
	IV B	1er T	20		422		
		2ème T		+	+		
		3ème T		+	+		
		4ème T		+	+		

ESPECE	SECTEUR CIEM	SAISON	NOMBRE D'ECHANTILLONS		NOMBRE DE POISSONS					
			NAVIRES DE RECHERCHE	APPORTS COMMERCIAUX	MESURÉS	AGÉS	AUTRES MESURES			
MERLAN	IV C	1er T	13	+	3 042	1 914				
		2ème T					+	988		
		3ème T					+	792		
		4ème T					+	413		
	VI A	1er T	11	+	1 383	750				
		2ème T					+			
	VII A	1er T			+	538				
		2ème T						+	1 262	
		3ème T						+	1 209	
		4ème T						+	636	
	VII D	1er T			5	+	1 918			
		2ème T						2	972	
		3ème T						3	776	
		4ème T						1	413	
	VII F-G	1er T			+	1 821	352			
		2ème T						+	2 014	417
		3ème T						+	2 119	378
		4ème T						+	2 256	449
	MERLU	VI A	1er T			3	26			
			2ème T					9	289	
3ème T			3					70		
4ème T			10					315		
VII		1er T				13	471			
		2ème T						14	584	
		3ème T						15	594	
		4ème T						6	243	

ESPECE	SECTEUR CIEM	SAISON	NOMBRE D'ECHANTILLONS		NOMBRE DE POISSONS			
			NAVIRES DE RECHERCHE	APPORTS COMMERCIAUX	MESURÉS	AGÉS	AUTRES MESURES	
MERLU	VIII	1er T	23		1 105	470		
		2ème T	27	62	2 361			
		3ème T	28	42	3 125	458		
		4ème T	70	30	2 374			
					46	2 231	291	
				1 219				
				6 322	651			
				2 693				
TACAUD	IV C	1er T	10		1 413			
TACAUD NOR-VEGIEN	IV A	1er T	10		1 810	+		
	VI A	1er T	8		793	+		
BAUDROIE	VI	4ème T		5	173			
		VII ns	2ème T		6	82		
			3ème T		6	75		
			4ème T		11	339		
	ns						650	
	VII E-F	1er T			+	507		
		2ème T			+	493		
		3ème T			+	771		
		4ème T			+	700		
	VII A-G	1er T			+	537		
		2ème T			+	1 021		
		3ème T			+	2 513		
		4ème T			+	2 325		
	VII H + VIII A	1er T			+	1 709		
		2ème T			+	3 757		
		3ème T			+	3 218		
4ème T				+	2 475			

ESPECE	SECTEUR CIEM	SAISON	NOMBRE D'ECHANTILLONS		NOMBRE DE POISSONS		
			NAVIRES DE RECHERCHE	APPORTS COMMERCIAUX	MESURÉS	AGÉS	AUTRES MESURES
BAUDROIE	VIII A	1er T		+	2 275	143	
		2ème T		+	4 708	317	
		3ème T		+	4 262	117	
		4ème T		+	2 900	150	
	VIII ns	1er T		6		136	
		2ème T		27		553	
		3ème T		16		228	
		4ème T		11		148	
SOLE	IV C	2ème T	16		239	117	
		3ème T	20		163	97	
	VIII	1er T	23			1 135	599
					36	2 308	
		2ème T	27			460	340
					30	2 196	
		3ème T	28			660	380
					29	2 082	
4ème T	35			515	345		
			52	2 609			
PLIE	IV C	2ème T	16		313	302	
		3ème T	20		179	184	
LIMANDE	IV C	1er T		6	562	480	
		2ème T	16		178	119	
					8	1 570	358
		3ème T	20			322	135
				7	1 297	334	
		4ème T		6	670	599	
CARDINE	VII ns	ns				500	
	VII E-F	1er T		+	510		
		2ème T		+	850		
		3ème T		+	1 530		
		4ème T		+	170		

ESPECE	SECTEUR CIEM	SAISON	NOMBRE D'ECHANTILLONS		NOMBRE DE POISSONS			
			NAVIRES DE RECHERCHE	APPORTS COMMERCIAUX	MESURÉS	AGÉS	AUTRES MESURES	
CARDINE	VII A-G	1er T		+	1 870			
		2ème T		+	3 400			
		3ème T		+	3 740			
		4ème T		+	3 910			
	VII H + VIII A	1er T			+	1 870		
		2ème T			+	3 740		
		3ème T			+	4 080		
		4ème T			+	2 890		

GERMAN DEMOCRATIC REPUBLIC

(B. Vaske)

The following sampling of length and age distributions has been carried out in 1984:

Species/ Area	Season Quarter	No. of Samples		No. of Fish	
		Research vessel	Commercial vessel	Measured	Aged
<u>Greenland halibut</u>					
IIb	III	27	-	2575	948
<u>Redfish</u>					
IIa	II	-	20	3449	582
IIb	II	-	1	264	-
IIb	III	13	-	13418	624
XII	II	2	-	198	100
XIVa	I	7	-	552	340
XIVa	II	19	-	3326	879
XIVa	III	5	-	1500	-

Research vessel survey

<u>Area</u>	<u>Date</u>	<u>Objective</u>
Spitsbergen(Svalbard)	2,7,-9,7,1984	Redfish-Greenland halibut survey

FEDERAL REPUBLIC OF GERMANY

(G. Rauck)

The biological sampling programme of demersal species on board research vessels, commercial trawlers and on fish markets has been continued.

This sampling scheme, including length frequency measurements, otolith samplings, single weights of fish, tagging of fish, stomach sampling, as well as studies on fish density and distribution of demersal fish species were carried out during ground fish surveys.

The monthly bycatch analysis of the shrimp fishery as well as joint investigations in the Wadden Sea area of Niedersachsen and Schleswig-Holstein have been continued in spring and autumn together with vessels from the Netherlands and Belgium.

Investigations on cod discards in the commercial fisheries and cod selectivity studies using mesh sizes of 90 and 100 mm mesh openings were carried out in the German Bight.

The cod sampling scheme off Greenland has been intensified aiming at a stock separation by means of different otolith structures.

A North Sea groundfish survey with special emphasis on the gadoid and pelagic species covering the area IVa and b has been repeated.

Research vessel cruises related to the national sampling scheme of the demersal species were as follows:

R.V. "Walther Herwig"

Months	ICES area	Objectives
Febr./March	V, VI, VII, XII, XIV	Groundfish and pelagic survey
July	VI	Groundfish and pelagic survey
<u>R.V. "Anton Dohrn"</u>		
January	IVb	Groundfish survey
February	IVabc	IYFS
May	IVb	Groundfish survey
June/July	IVab	Groundfish survey

R. V. "Solea"

Months	ICES area	Objectives
January	IVbc	Groundfish survey
February	IVbc	Groundfish survey
June	IVbc	Sole beamtrawl survey
July	IVb	Groundfish survey
August	IVb	Groundfish survey
November	IVab	Groundfish survey

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investigatinn		No. Of Fish	
			Measured	Aged			Measured	Aged
Cod IIa	I				5	1521	822	
	II				1	189	170	
IVa	I	49	398	386				
	II	82	457	466				
	III	10	135	-				
	IV							
IVb	I	135	9951	868	13	18531		
	II	194	3362	683				
	III	125	117					
	IV	111	3740	877	31	13405	200	
IVc	I	19	440	77				
	II							
	III							
	IV							
Va	I+II	11	900					
VIa	II	27	111					
	III	26	68					

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investigat- ationn		No. Of Fish	
			Measured	Aged			Measured	Aged
Cod								
VIIbc	II	14	33					
VIIIf	I	3	18					
VIIg-h	I	7	37					
	II	17	38					
XIVb	I				4	1463	385	
	II				39	5786	1300	
	III+IV				10	496	479	
	IV	64	1280	795	+			
Haddock								
IIa	I				4	721	390	
	II				1	230	195	
IVa	I	53	14885	1467				
	II	86	20040	464				
	III	16	4800					
	IV							

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investigat- ationn		No. Of Fish	
			Measured	Aged			Measured	Aged
Haddock IVb	I	42	3978	483	-	-	-	
	II	9066	660		2	1051	539	
	III	4	731		1	794	138	
	IV	13	44		2	1082	482	
VIa	II	43	7425					
	III	45	10487					
VIIb-c	II	22	583					
VIIIf	I	1	4					
VIIg-k	I	3	27					
	II	20	87					

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investigat- ationn		No. Of Fish	
			Measured	Aged			Measured	Aged
Whiting:								
IVa	I	49	4071	484				
	II	80	1539	199				
	III	14	3153					
	IV							
IVb	I	93	6066	58				
	II	207	7122	381				
	III	125	973					
	IV	112	1239					
IVc	I	5	720					
VIa	II	36	4210					
VIIbc	II	18	276					
VIIIf	I	4	535					
VIIg-h	I	7	739					
	II	15	330					
VIa	III	41	1865					

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investigat- ationn		No. Of Fish	
			Measured	Aged			Measured	Aged
Saithe								
IIa	I				7	2791	1340	
IVa	I	1	501	501	5	2443	1468	
	II				9	3828	1461	
	III	1	3414	908	9	3498	1428	
	IV				3	1324	671	
Vb	II				4	1150	703	
VIa	I				3	1227	674	
VI	I	1	167	167				
VII	I	1	12	12				
Pollack								
IVa	III	1	124	124				
VI	I	1	48	48				
Blue Ling								
Vb	I	1	178	178	5	1059	579	
	II				1	143	-	
	III				1	200	148	
	IV				2	500	279	

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investig- ationn		No. Of Fish	
			Measured	Aged			Measured	Aged
Blue Ling								
VI	I	2	555	555				
	III	1	184	184				
XIV	III+IV	1	511	511				
	III				6	1165	615	
	IV				2	486	259	
Norway Pout								
IVa	I	49	4937					
	II+III	77	8627					
IVb	I	20	1085					
	II+III	42	2518					

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investigat- ationn		No. Of Fish	
			Measured	Aged			Measured	Aged
Plaice IVa	I					2433	470	
	II					3758	740	
	III					3206	613	
	IV					2360	450	
IVb	I	62	3519					
	II	130	23712					
	III	121	14436					
	IV	182	11793					
IVc	I	5	231					
Sole IVb	I	1	11	1028				
	II	150	7232		2	874	185	
	III	121	1994		3	1309	546	
	IV	119	1914		2	408	191	
Dab IVb	I	37	7638					
	II	146	14140					
	III	121	3331					
	IV	154	16259					

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		No. of Fish		Aged	
			Measured	Aged				Racial Investigation
Dab IVc	I	1	250					
Flounder IVb	I	6	256					
	II	79	496					
	III							
	IV	47	226					
IVc	I	1	17					
Turbot IVb	II	49	170		2	88	58	
Greenland Halibut XIV	IV				11	1572	957	

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investigation		No. Of Fish	
			Measured	Aged			Measured	Aged
Hake II+IVa VI+VII	III	1	37	37				
	I	2	255	255				
	I+II	3	645	645				
	III	2	242	242				

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investigat- ationn		No. Of Fish	
			Measured	Aged			Measured	Aged
S.marinus XIV	I	-	-	-	-	1	501	-
	II	23	4184	512	-	-	-	-
	III	9	1436	744	-	-	-	-
	IV	10	2369	428	-	-	-	-
S.mentella XIV	I	-	-	-	-	1	320	-
	II	26	6750	261	-	-	-	-
	III	12	3233	378	-	3	1322	500
	IV	17	4911	288	-	-	-	-
S.mentella Vb	I	-	-	-	-	4	1517	393
	II	-	-	-	-	7	3553	929
	III	-	-	-	-	1	352	165
	IV	-	-	-	-	-	-	-
S.marinus IIa	I	-	-	-	-	6	2454	803
	II	-	-	-	-	3	1270	309
	III	-	-	-	-	-	-	-
	IV	-	-	-	-	-	-	-

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investigation		No. Of Fish	
			Measured	Aged			Measured	Aged
Macrourus berglax	I	-	-	-	-			
	XIV	1	61	-	-			
	III	4	919	-	-			
	IV	4	102	-	-			

ICELAND

(No report received)

IRELAND

(R. Grainger)

Port sampling continued of commercial catches of cod, whiting and haddock in Divisions VIa and VIIb, cod and haddock in Division VIb and cod, whiting and plaice in Division VIIa.

A beam trawl survey for juvenile plaice in shallow water off the east coast of Ireland in September was continued but the usual May survey was not carried out.

Groundfish surveys in the Irish Sea aimed at assessing pre-recruit whiting and cod were started in 1984 and were carried out in the northwest Irish Sea in June and September.

Species	Division	Port	Quarter	No. of samples	No. of fish	
					measured	aged
Cod	VIa	Killybegs & Greencastle	1	17	730	432
			2	19	736	465
			3	20	446	1009
			4	10	209	541
	VIIb	Killybegs	2	1	122	110
	VIIa	Howth, Dunmore East Kilmore Quay	1	22	972	255
			2	17	841	320
			3	12	550	354
			4	18	854	338
	VIIb	Rosaveal	1	0	0	0
			2	1	52	0
			3	5	224	146
			4	5	239	171
Totals				147	5975	4141

Species	Division	Port	Quarter	No. of samples	No. of fish measured	aged	
Haddock	VIa	Killybegs & Greencastle	1	9	1022	385	
			2	10	956	947	
			3	15	719	203	
			4	14	1036	294	
	VIb	Killybegs	3	4	513	184	
	VIIb	Rosaveal	1	0	0	0	
			2	3	212	0	
			3	4	194	83	
			4	1	128	89	
	Totals				60	4780	2185

Species	Divisions	Port	Quarter	No. of samples	No. of fish measured	aged	
Whiting	VIa	Killybegs & Greencastle	1	8	1964	174	
			2	11	2554	392	
			3	13	1778	301	
			4	11	1639	266	
	VIIa	Howth Dunmore East Kilmore Quay	1	15	2117	349	
			2	6	1090	329	
			3	15	3193	355	
			4	9	1962	346	
	VIIb	Rosaveal	1	1	129	0	
			2	0	0	0	
			3	5	1181	170	
			4	2	520	73	
	Whiting discards	VIIa	Skerries	1	8	877	42
				2	2	68	35
				3	2	100	0
				4	4	420	155
Totals				120	19592	2987	

Species	Division	Port	Quarter	No. of samples	No. of fish measured	aged
Plaice	VIIa	Howth	1	20	1685	598
		Dunmore East	2	7	998	392
		Kilmore Quay	3	14	1505	242
			4	12	1074	370
<u>Totals</u>				53	5262	1602

<u>Groundfish Surveys</u>	June		September	
	No. caught	No. aged	No. caught	No. aged
Whiting	2749	177	3797	148
Cod	67	67	48	48
Plaice	684	424	848	164
No. of Stations	26		26	

Beam Trawl Survey for Plaice in September

No. of hauls	41	
Age Group	0	1
Ncs. caught	157	514

NETHERLANDS

(F.A. van Beek)

In 1984 the market sampling of the Dutch landings was continued for the following species: brill, cod, haddock, plaice, sole, turbot and whiting. For roundfish the market sampling was stratified on area basis as in previous years (figure 2 in Administrative Report of 1982). Since January 1984 the stratification of the flatfish marked sampling is based on fishing harbours.

In 1984 R.V. "Isis", a 28 metres long stern trawler, joined the fleet of research vessels. This vessel was build especially for the coastal zones and the deeper parts of the estuaries. It will take over part of the surveys previously carried out by charters and by R.V. "Stern".

In April/May and September/Oktober two Demersal Young Fish surveys, directed to 0-, 1- and 2-group plaice and sole and brown shrimps were carried out in the continental nurseries from the English Channel to Jammer Bay. These surveys are carried out since 1969 in collaboration with Belgium and the Federal Republic of Germany. For The Netherlands R.V. "Tridens", R.V. "Isis", R.V. "Stern", R.V. "Schollebaar" and the charter GO 29 participated in both surveys.

From April to June a number of sole egg surveys were carried out in the southern and central North Sea and in the Waddensea and Zeeland estuary by R.V. "Isis", R.V. "Tridens", R.V. "Stern" and R.V. "Schollebaar" in collaboration with Belgium, Federal Republic of Germany and United Kingdom. The major aims of these surveys were to estimate the egg production of sole in the North Sea and to determine the localisation of the major spawning sites.

In February R.V. "Tridens" and R.V. "Isis" participated in the International Young Fish Surveys (IYFS). These surveys are carried out yearly since 1960.

In October/November R.V. "Tridens" and R.V. "Isis" carried out a survey in the southern North Sea with the GOV trawl directed to roundfish. This survey is held since 1980.

In the period February - April five larval surveys were done in the Waddensea by R.V. "Stern" and R.V. "Isis". In these surveys the migration of plaice larvae in this area is investigated.

In order to estimate the level of discards of commercial species in the Dutch fishery six trips were made on board of commercial vessels fishing for roundfish.

AREA	PERIOD	NBR. of fish sampled		
		M A R K E T		RES.Vessel
		measured	aged	aged
North Sea	1st quarter		1047	-
	2nd ,,		1758	762
	3rd ,,		919	-
	4th ,,		825	625
Waddensea- estuary	1st quarter			-
	2nd ,,			143
	3rd ,,			-
	4th ,,			46
Zeeland- estuary	1st quarter			-
	2nd ,,			137
	3rd ,,			-
	4th ,,			106
Irish Sea	1st quarter		-	
	2nd ,,		331	
	3rd ,,		-	
	4th ,,		-	
Golf of Biscay	1st quarter		-	
	2nd ,,		165	
	3rd ,,		-	
	4th ,,		-	
	1st quarter			
	2nd ,,			
	3rd ,,			
	4th ,,			
	1st quarter			
	2nd ,,			
	3rd ,,			
	4th ,,			

AREA	PERIOD	NBRS. of fish sampled		
		M A R K E T		RES.Vessel
		measured	aged	aged
North Sea	1st quarter			-
	2nd ,,			1188
	3rd ,,			-
	4th ,,			1158
Waddensea- estuary	1st quarter			-
	2nd ,,			198
	3rd ,,			-
	4th ,,			91
Zeeland- estuary	1st quarter			-
	2nd ,,			42
	3rd ,,			-
	4th ,,			52
	1st quarter			
	2nd ,,			
	3rd ,,			
	4th ,,			
	1st quarter			
	2nd ,,			
	3rd ,,			
	4th ,,			
	1st quarter			
	2nd ,,			
	3rd ,,			
	4th ,,			

SAMPLING DATA FOR BRILL 1984

AREA	PERIOD	NBRS. of fish sampled		
		M A R K E T		RES.Vessel
		measured	aged	aged
North Sea	1st quarter	788	336	-
	2nd ..	814	509	49
	3rd ..	665	312	-
	4th ..	1224	387	56
Waddensea- estuary	1st quarter			-
	2nd ..			-
	3rd ..			-
	4th ..			-
Zeeland- estuary	1st quarter			-
	2nd ..			-
	3rd ..			-
	4th ..			7
	1st quarter			
	2nd ..			
	3rd ..			
	4th ..			
	1st quarter			
	2nd ..			
	3rd ..			
	4th ..			
	1st quarter			
	2nd ..			
	3rd ..			
	4th ..			
	1st quarter			
	2nd ..			
	3rd ..			
	4th ..			
	1st quarter			
	2nd ..			
	3rd ..			
	4th ..			

AREA	PERIOD	NBRS. of fish sampled		
		M A R K E T		RES.Vessel
		measured	aged	aged
North Sea	1st quarter	1253	290	-
	2nd ..	1312	553	135
	3rd ..	1354	292	-
	4th ..	1645	376	127
Waddensea- estuary	1st quarter			-
	2nd ..			-
	3rd ..			-
	4th ..			11
	1st quarter			
	2nd ..			
	3rd ..			
	4th ..			
	1st quarter			
	2nd ..			
	3rd ..			
	4th ..			
	1st quarter			
	2nd ..			
	3rd ..			
	4th ..			
	1st quarter			
	2nd ..			
	3rd ..			
	4th ..			

SAMPLING DATA FOR FLAICE 1984

AREA	PERIOD	NBRS. of fish sampled		
		M A R K E T		RES.Vessel
		measured	aged	aged
North Sea	1st quarter		2844	-
	2nd ,,		1663	2055
	3rd ,,		1348	-
	4th ,,		1439	2054
WadGensea- estuary	1st quarter			-
	2nd ,,			416
	3rd ,,			-
	4th ,,			386
Zeeland- estuary	1st quarter			-
	2nd ,,			100
	3rd ,,			-
	4th ,,			168
	1st quarter			
	2nd ,,			
	3rd ,,			
	4th ,,			
	1st quarter			
	2nd ,,			
	3rd ,,			
	4th ,,			
	1st quarter			
	2nd ,,			
	3rd ,,			
	4th ,,			
	1st quarter			
	2nd ,,			
	3rd ,,			
	4th ,,			
	1st quarter			
	2nd ,,			
	3rd ,,			
	4th ,,			

AREA	PERIOD	NBRS. of fish sampled		
		M A R K E T		RES.Vessel
		measured	aged	aged
1 Northern North Sea	1st quarter	-	15	30
	2nd "	73	-	-
	3rd "	-	-	-
	4th "	-	-	-
2 Central North Sea	1st quarter	50	94	54
	2nd "	212	476	447
	3rd "	328	100	-
	4th "	197	-	-
3 North Western North Sea	1st quarter	-	73	112
	2nd "	86	-	-
	3rd "	-	-	-
	4th "	-	-	-
4 Western North Sea	1st quarter	460	157	20
	2nd "	205	50	-
	3rd "	185	-	-
	4th "	429	100	-
5 South Western North Sea	1st quarter	236	74	41
	2nd "	588	105	-
	3rd "	1055	100	-
	4th "	282	72	23
6 Southern North Sea	1st quarter	2012	275	223
	2nd "	1542	253	-
	3rd "	1416	140	-
	4th "	2044	584	565
7 Eastern North Sea	1st quarter	-	13	13
	2nd "	50	50	-
	3rd "	40	-	-
	4th "	-	13	21
Total Annually		11490	2744	1549

AREA	PERIOD	NBRS. of fish sampled		
		M A R K E T		RES.Vessel
		measured	aged	aged
1 Northern North Sea	1st quarter	-	152	263
	2nd ..	-	-	-
	3rd ..	-	-	-
	4th ..	-	-	-
2 Central North Sea	1st quarter	-	29	120
	2nd ..	243	169	163
	3rd ..	274	-	-
	4th ..	149	-	-
3 North Western North Sea	1st quarter	-	138	220
	2nd ..	80	-	-
	3rd ..	-	-	-
	4th ..	-	-	-
4 Western North Sea	1st quarter	46	-	-
	2nd ..	158	45	-
	3rd ..	101	-	-
	4th ..	165	-	-
5 South Western North Sea	1st quarter	-	1	29
	2nd ..	6	-	-
	3rd ..	138	77	-
	4th ..	52	-	-
6 Southern North Sea	1st quarter	115	56	67
	2nd ..	174	25	-
	3rd ..	389	75	-
	4th ..	442	155	103
7 Eastern North Sea	1st quarter	-	-	-
	2nd ..	89	50	-
	3rd ..	37	-	-
	4th ..	-	27	31
Total Annually		2658	999	996

AREA	PERIOD	NBS. of fish sampled		
		M A R K E T		RES.Vessel
		measured	aged	aged
1 Northern North Sea	1st quarter	-	111	154
	2nd "	-	-	-
	3rd "	-	-	-
	4th "	-	-	-
2 Central North Sea	1st quarter	68	52	70
	2nd "	290	130	97
	3rd "	81	-	-
	4th "	80	-	-
3 North Western North Sea	1st quarter	-	89	200
	2nd "	53	-	-
	3rd "	-	-	-
	4th "	-	-	-
4 Western North Sea	1st quarter	34	-	-
	2nd "	43	-	-
	3rd "	89	-	-
	4th "	131	-	-
5 South Western North Sea	1st quarter	390	107	175
	2nd "	507	100	-
	3rd "	789	100	-
	4th "	84	32	62
6 Southern North Sea	1st quarter	2333	194	227
	2nd "	1902	100	-
	3rd "	1190	100	-
	4th "	1994	418	634
7 Eastern North Sea	1st quarter	-	-	-
	2nd "	-	-	-
	3rd "	-	-	-
	4th "	-	37	70
Total Annually		10058	1570	1689

POLAND

(D. Dutkiewicz)

No research data on demersal fish in the Northeast Atlantic were collected by Poland in 1984.

PORTUGAL

(A. M. Caramelo and F. Cardador)

Biological sampling program

The program for demersal species was continued by INIP (Instituto Nacional de Investigaçã~o das Pescas), in 1984, at the most important Portuguese fishing harbours and on board of research vessels.

The following tables present the sampling data concerning hake (Merluccius merluccius), bib (Trisopterus luscus), Black scabbard-fish (Aphanopus carbo) and some species of seabreams. (Sparus pagrus, Pagellus erythrinus, Diplodus vulgaris, Pagellus acarne, Pagellus bogaraveo, Boops boops and Spondyliosoma cantharus).

Table 1 - Hake (Merluccius merluccius L.)

Area	Season (quarter)	Number of samples		Number of fish		
		Research vessels	Market samples	Measured	Aged*	racial** invest.
IXa	1 st	-	243	15 537	71	
	2 nd	54	241	18 257	1 008	
	3 rd	27	187	13 969	106	
	4 th	13	209	15 708	110	
	TOTAL 1984	94	880	63 471	1 295	

* To be aged

** no racial investigation
in INIP

Table 2 - Bib (Irisopterus luscus)

Area	Season (quarter)	Number of samples		Number of fish		
		Research vessels	Market samples	Measured	Aged	racial* invest.
IXa	1 st	-	200	13 800	-	
	2 nd	-	149	9 406	-	
	3 rd	-	147	9 081	-	
	4 th	-	189	13 311	-	
	TOTAL 1984	-	685	45 598	-	

* no racial Studies in INIP

Table 3 - Black scabbard-fish

Area	Season (quarter)	Nº of samples		Nº of fish		
		Research vessels	Market samples	Measured	Aged	Racial + invest.
IXa	1 st	-	-	-		
	2 nd	34	6	717		
	3 rd	-	7	449		
	4 th	-	5	455		
	Year 1984	34	18	1 621		

* No racial studies in INIP

Table 4 - Sparus pagrus

Area	Season (quarter)	Nº of samples		Nº of fish		
		Research vessels	Market samples	Measured	Aged	Racial + invest.
IXa	1 st	-	27	112		
	2 nd	1	27	261		
	3 rd	-	26	70		
	4 th	-	21	214		
	Year 1984	1	101	657		

* No racial studies in INIP

Table 5 - Pagellus erythrinus

Area	Season (quarter)	Nº of samples		Nº of fish		
		Research vessels	Market samples	Measured	Aged	Racial + invest.
IXa	2 nd	11		487		
	Year 1984	11		487		

* No racial studies in INIP

Table 6 - Diplodus vulgaris

Area	Season (quarter)	No of samples		No of fish		
		Research vessels	Market samples	Measured	Aged	Racial + invest.
IXa	2 nd	15		1 066		
	Year 1984	15		1 066		

* No racial studies in INIP

Table 7 - Paqellus acarne

Area	Season (quarter)	No of samples		No of fish		
		Research vessels	Market samples	Measured	Aged*	Racial** invest.
IXa	1 st	-	52	1 262	77	
	2 nd	23	75	3 270	63	
	3 rd	-	80	4 155	74	
	4 th	-	65	3 400	85	
	Year 1984	23	272	12 087	299	

* Otoliths and scales collected not read

** No racial studies in INIP

Table 8 - Paqellus boqaraveo

Area	Season (quarter)	No of samples		No of fish		
		Research vessels	Market samples	Measured	Aged	Racial + invest.
IXa	1 st	-	31	1 754		
	2 nd	10	17	302		
	3 rd	-	12	193		
	4 th	-	11	174		
	Year 1984	10	71	2 423		

* No racial studies in INIP

Table 9 - Boops boops

Area	Season (quarter)	No of samples		No of fish		
		Research vessels	Market samples	Measured	Aged	Racial * invest.
IXa	1 st	-	29	1 779		
	2 nd	21	48	3 070		
	3 rd	-	61	2 068		
	4 th	-	49	2 799		
	Year 1984	21	187	9 716		

* No racial studies in INIP

Table 10 - Spondyliosoma cantharus

Area	Season (quarter)	No of samples		No of fish		
		Research vessels	Market samples	Measured	Aged	Racial * invest.
IXa	1 st	-	36	465		
	2 nd	6	38	411		
	3 rd	-	41	435		
	4 th	-	43	720		
	Year 1984	6	158	2 031		

* No racial studies in INIP

SAMPLING DATA FOR Hake

(revised)

1983

AREA	SEASON	Nº OF SAMPLES		Nº OF FISH		
		RESEARCH VESSEL	MARKET SAMPLES	MEASURED	AGED	RACIAL INVEST.
VI	I		1	117		
	II		4	485		
	III		3	451		
	IV		1	112		
VII	I		16	5564		
	II		16	6311		
	III		15	4480		
	IV		14	4858		
VIIIa, b	I		35	4813		
	II		35	3661		
	III		39	4260		
	IV		39	3845		
VIIIc	I	38	48	11716	19	
	II		44	6460	26	
	III	32	72	24644	358	
	IV	65	61	11204	555	
IXa	I		59	8450	470	
	II		57	9618	307	
	III	24	53	18865	170	
	IV		54	6298	12	

(F. J. Peretiro)

SPAIN

SAMPLING DATA FOR Hake

1984

AREA	SEASON	N° OF SAMPLES		N° OF FISH		
		RESEARCH VESSEL	MARKET SAMPLES	MEASURED	AGED	RACIAL INVEST.
VII	I		12	5277		
	II		9	2604		
	III		9	2044		
	IV		9	2517		
VIIIa, b	I		30	2840		
	II		43	5668		
	III		61	6639		
	IV		50	5557		
VIIIc	I		23	3630		
	II	84	32	13011	507	
	III	75	17	13647	278	
	IV		26	3441		
IXa	I		40	6706	515	
	II	25	33	8092	449	
	III	19	21	8283	190	
	IV		21	2450	242	

SAMPLING DATA FOR Monk

Lophius piscatorius

1984

AREA	SEASON	N° OF SAMPLES		N° OF FISH		
		RESEARCH VESSEL	MARKET SAMPLES	MEASURED	AGED	RACIAL INVEST.
VII	I		13	1167		
	II		11	900		
	III		9	714		
	IV		8	450		
VIIIa,b	I		9	516		
	II		13	447		
	III		15	643		
	IV		24	2043		
VIIIc	I		16	774		
	II	47	13	548	107	
	III	39	5	483	190	
	IV		10	653		
IXa	I		3	171		
	II	8	2	43	10	
	III	3	3	78	4	
	IV		5	138		

SAMPLING DATA FOR Monk

Lophius budegassa

1984

AREA	SEASON	N° OF SAMPLES		N° OF FISH		
		RESEARCH VESSEL	MARKET SAMPLES	MEASURED	AGED	RACIAL INVEST.
VII	I		13	1049		
	II		11	979		
	III		8	740		
	IV		7	1053		
VIIIa,b	I		6	217		
	II		12	280		
	III		11	351		
	IV		22	854		
VIIIc	I		16	361		
	II	14	11	221	18	
	III	21	5	148	42	
	IV		9	161		
IXa	I		3	136		
	II	4	2	112	8	
	III	7	3	134	7	
	IV		5	137		

SAMPLING DATA FOR Merrim *Lepidorhombus wiffiazonis* 1984

AREA	SEASON	N ^o OF SAMPLES		N ^o OF FISH		
		RESEARCH VESSEL	MARKET SAMPLES	MEASURED	AGED	RACIAL INVEST.
VII	I		13	4124	154	
	II		14	3530	287	
	III		14	3140	273	
	IV		11	2921	322	
VIIIa,b	I		6	313		
	II		12	650		
	III		12	554		
	IV		15	644		
VIIIc	I		15	1430		
	II	48	13	2112	181	
	III	43	6	3374	273	
	IV		8	977		
IXa	I		7	105		
	II	2	9	406	3	
	III	7	7	228	7	
	IV		7	394		

SAMPLING DATA FOR Megrim *Lepidorhombus boscii*

1984

AREA	SEASON	N° OF SAMPLES		N° OF FISH		
		RESEARCH VESSEL	MARKET SAMPLES	MEASURED	AGED	RACIAL INVEST.
VII	I		13	1326	68	
	II		14	751	1	
	III		11	209	41	
	IV		11	412	30	
VIIIa,b	I		7	196		
	II		10	72		
	III		10	69		
	IV		11	135		
VIIIc	I		15	1061		
	II	61	13	1724	173	
	III	38	6	853	138	
	IV		8	319		
IXa	I		7	900		
	II	18	9	1375	48	
	III	19	7	1922	140	
	IV		7	843		

SAMPLING DATA FOR

Seabream

Pagellus bogaraveo

1984

AREA	SEASON	N° OF SAMPLES		N° OF FISH		
		RESEARCH VESSEL	MARKET SAMPLES	MEASURED	AGED	RACIAL INVEST.
VIIIa, b	I		18	1680		
	II		10	455		
	III		8	201		
	IV		14	783		
VIIIc	I		10	1477		
	II		9	971		
	III		7	671		
	IV		11	732		

SWEDEN

(B. Sjöstrand)

Sweden took part in the International Young Herring Survey in the North Sea and the Skagerrak. However, it has no other activities on which to report owing to reduced opportunities.

U.S.A.

(M.P. Sissenwine)

The USA did not fish or conduct research within the ICES region during 1984. USA conducted extensive studies relevant to demersal fish in the Northwest Atlantic. This work is reported in detail to the Northwest Atlantic Fisheries Organization. Only a few highlights are given here.

During 1984, 2208 biological samples of 180,123 specimens were collected portside for 36 species (including 22 demersal species) in the NW Atlantic. An additional 453 samples of 32,236 specimens were collected aboard commercial fishing vessels.

The USA continued standardized stratified random bottom trawl surveys for the twenty second consecutive year. Approximately 800 stations were sampled. Ichthyoplankton surveys continued six times per year. Age was determined for 49,546 specimens collected from both commercial fisheries and research surveys.

Numerous specific problems were researched during 1984. Three studies that are of broad interest are noted below.

During 1984, the Northeast Fisheries Center shifted the focus of its recruitment studies from larval to juvenile fish.

Cruises using two types of pelagic year, a 1 m² mouth opening Boothbay Depressor Trawl (BBDT) and the International Young Gadoid Pelagic Trawl (IYGPT) to sample pelagic juveniles and the 36 Yankee Bottom Trawl with and without rollers for demersal juveniles. The entire bank was surveyed.

An aggregation of juvenile cod and haddock was located on the Northeast Peak in about 60-80 m of water. Very few juveniles were found elsewhere on the bank. The aggregation persisted in essentially the same location for four months. Four thousand fish stomachs were examined in order to identify predators. There was a wide range of young fish in the stomachs of windowpane, fourspot flounder, winter skate, little skate, longhorn sculpin, goosefish and sea ravens, but cod and silver hake were not feeding heavily on fish.

A study of larval and juvenile winter flounder otoliths was conducted in order to interpret subannual growth markings and aid in identifying the first true annulus. Winter flounder samples were reared under controlled conditions from the egg stage to at least one year from hatch and compared to wild samples. A scanning electron microscope was used to examine the internal otolith structure. Evidence indicates that the smallest growth ring identified approximates a 24-hour light/dark cycle increment. Ring counts compiled from over 200 individual observations showed a high degree of variation in clarity and number of rings and their spacing on otoliths of a known age.

Automatic optical fourier transforms were used to examine haddock scales with various ages representing two different geographical areas in the Northwest Atlantic. One method of analysis involved the fitting of exponential and linear curves on the computer to the circuli differences per annulus for each scale age. The method is promising for distinguishing between haddock from Georges and Browns Banks.

U.S.S.R.
(S.A.Studenetsky)

In 1984 further investigations to estimate the abundance of the main commercial fishes were conducted through the trawl survey, possible recruitment to cod, haddock, redfish and other fish stocks was studied by means of ichthyoplankton and young fish surveys in the Barents Sea and adjacent waters.

The relationship between the peculiarities of fish distribution and behaviour, on the one hand, and hydrological conditions and food supply, on the other, was further revealed. The stock structure of main commercial fishes, their biological indices and migrations were investigated.

In the year under consideration the data relating length-age composition, distribution and feeding of cod, haddock, redfishes, wolffishes, Greenland halibut and other fishes were sampled in the main ICES regions: Subarea I, Divs. IIA and IIB. The data collected in 1984 by research, scouting and commercial ships are listed in Tables 1-8.

Table 1. Biological data on cod, 1984

ICES regions	Period, quarter of the year	Number of fish, spec.		
		measured	analysed for feeding	aged
Subarea I	I	10191	2077	863
	II	11691	1797	777
	III	25390	3128	600
	IV	9398	1613	600
Division II a	I	82	75	-
	II	8582	724	100
	III	17135	2934	871
	IV	5754	644	200
Division II b	I	44215	5124	900
	II	4594	1546	578
	III	207	50	-
	IV	-	-	-
Total		137239	19712	5489

Table 2. Biological data on haddock, 1984

ICES regions	Period, quarter of the year	Number of fish, spec.		
		measured	analysed for feeding	aged
Subarea I	I	29172	1259	803
	II	14700	439	389
	III	9867	1111	400
	IV	777	185	-
Division II a	I	-	-	-
	II	272	897	-
	III	112	-	-
	IV	23	-	-
Division II b	I	9200	1265	-
	II	272	234	234
	III	I	-	-
	IV	-	-	-
Total		64396	5390	1826

Table 3. Biological data on redfish, 1984

ICES regions	Period, quarter of the year	Number of fish, spec.		
		measured	analysed for feeding	aged
Subarea I	I	11213	186	-
	II	6665	25	-
	III	7247	179	-
	IV	18	-	-
Division II a	I	6970	1180	-
	II	6061	747	600
	III	5635	750	500
	IV	1143	55	-
Division II b	I	30478	3530	700
	II	27363	3453	1300
	III	2728	400	200
	IV	-	-	-
Total		105521	10505	3300

Table 4. Biological data on Greenland halibut, 1984

ICES regions	Period, quarter of the year	Number of fish, spec.		
		measured	analysed for feeding	aged
Subarea I	I	79	-	-
	II	94	80	-
	III	379	240	190
	IV	-	-	-
Division II a	I	1282	190	-
	II	30	-	-
	III	3036	690	400
	IV	405	25	-
Division II b	I	1072	391	200
	II	38	22	-
	III	61	-	-
	IV	-	-	-
Total		6476	1638	790

Table 5. Biological data on saithe, 1984

ICES regions	Period, quarter of the year	Number of fish, spec.		
		measured	analysed for feeding	aged
Subarea I	I	810	31	-
	II	485	40	-
	III	225	-	-
	IV	-	-	-
Division II a	I	-	-	-
	II	-	-	-
	III	2	-	-
	IV	-	-	-
Division II b	I	4167	510	400
	II	685	124	-
	III	313	63	-
	IV	-	-	-
Total		6687	768	400

Table 6. Biological data on wolffishes, 1984

ICES regions	: Period, : : quarter of : : the year :	Number of fish, spec.		
		: measured :	: analysed : : for feeding :	: aged :
Subarea I	I	522	86	6I
	II	158	-	-
	III	753	25	-
	IV	46	2I	2I
Division II a	I	-	-	-
	II	10	-	-
	III	1348	-	-
	IV	499	-	-
Division II b	I	147	-	-
	II	71	-	-
	III	46	-	-
	IV	-	-	-
Total		3600	132	82

Table 7. Biological data on plaice, 1984

ICES regions	Period, quarter of the year	Number of fish, spec.		
		measured	analysed for feeding	aged
Subarea I	I	1839	444	400
	II	372	-	-
	III	6273	1187	760
	IV	13755	1275	300
Division II a	I	-	-	-
	II	-	-	-
	III	-	-	-
	IV	-	-	-
Division II b	I	-	-	-
	II	-	-	-
	III	-	-	-
	IV	-	-	-
Total		22239	2906	1460

Table 8. Biological data on long rough dab, 1984

ICES regions	Period, quarter of the year	Number of fish, spec.		
		measured	analysed for feeding	aged
Subarea I	I	5012	125	-
	II	891	125	100
	III	5029	607	500
	IV	961	50	-
Division IIa	I	-	-	-
	II	115	25	-
	III	2469	475	200
	IV	3359	200	-
Division IIb	I	1054	394	184
	II	75	25	-
	III	-	-	-
	IV	-	-	-
Total		18965	2026	984