

International Council for the
Exploration of the Sea

C.M. 1989/G:1
Report of Activities

DEMERSAL FISH COMMITTEE

by

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1988

BELGIUM

(R. De Clerck)

Recording of densities and growth rates of the 1987 and 1988 year classes of sole, plaice, dab, flounder, cod and whiting was carried out. Two cruises were therefore undertaken according to the criteria of the International Demersal Young Fish Survey. The groundfish survey was continued in order to estimate the stock size of adult flatfish in the southern North Sea by means of a beamtrawl fishery in August. This was part of an international survey in collaboration with the Dutch Institute.

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. (see following tables).

Area	Season	No. of samples		No. of fish	
		Res. Vessels	Market	measured	aged
SOLE					
IV	1	-	9	840	210
	2	-	12	1,150	220
	3	1	10	1,296	303
	4	-	8		200
VIIIf,g	1	-	8	764	230
	2	-	4	350	139
	3	-	5	395	230
	4	-	7	685	160
VIIa	1	-	-	-	-
	2	-	5	448	140
	3	-	1	70	70
	4	-	-	-	-
VIIId,e	1	-	3	210	210
	2	-	1	70	70
	3	-	1	70	70
	4	-	2	160	160

Area	Season	No. of samples		No. of fish	
		Res. Vessels	Market	measured	aged
PLAICE					
IV	1	-	9	562	140
	2	-	12	758	130
	3	1	10	1,428	263
	4	-	8	524	140
VIIIf, k	1	-	8	490	130
	2	-	4	244	100
	3	-	5	252	180
	4	-	7	440	80
VIIa	1	-	-	-	-
	2	-	5	286	100
	3	-	1	40	40
	4	-	-	-	-
VIIId, e	1	-	3	150	150
	2	-	1	50	50
	3	-	1	50	50
	4	-	2	80	80
COD	1	-	6	280	280
IV	2	-	7	353	280
	3	-	8	350	350
	4	-	9	433	390
WHITING	1	-	9	336	200
IV	2	-	9	475	175
	3	-	18	610	310
	4	-	11	531	285
HADDOCK	1-4	-	2	100	100
IV					

DENMARK

(Henrik Gislason)

The Danish sampling for 1988 from the commercial catches is given in the following tables:

PLAICE

Sampling

SPECIES	AREA	QUARTER	NO. MEAS.	NO. AGED	NO. SAMP-L.
Plaice	North Sea Div. IV	1	3257	3203	12
		2	1975	1946	10
		3	1526	1504	6
	Skagerrak Div. IIIa N	1	1337	1271	10
		2	1383	1309	7
		3	1405	1317	5
		4	1157	1069	4
	Kattegat Div. IIIa S	1	1566	1513	12
		2	1054	1014	10
		3	1123	1084	7
		4	1411	1338	7

SAITHE

Sampling

			NO. MEAS.	NO. AGED	NO. SAMP-L.
SPECIES	AREA	QUARTER			
Saithe	North Sea Div. IV	1	700	696	3
		2	488	485	3
		3	250	250	3
		4	97	97	2
	Div. IIIa N Skager-rak	1	163	160	4
		2	158	158	3
		3	140	139	3
		4	88	88	3

HADDOCK

Sampling

			NO. MEAS.	NO. AGED	NO. SAMP-L.
SPECIES	AREA	QUARTER			
Haddock	North Sea Div. IV	1	1410	1399	19
		2	383	380	6
		3	793	791	4
		4	455	454	5
	Skager-rak Div. IIIa N	1	540	536	16
		2	549	548	7
		3	738	733	7
		4	704	702	5
	Kattegat Div. IIIa S	1	8	8	4
		3	1	1	1

NORWAY POUT

Sampling

			NO. MEAS.	NO. AGED	NO. SAMP-L.
SPECIES	AREA	QUARTER			
Norway Pout	North Sea Div. IV	1	1238	1194	16
		3	343	343	3
		4	809	809	9
	Skager-rak Div. IIIa N	1	103	103	10
		2	17	17	1
		3	3	3	2
		4	9	9	1
	Kattegat Div. IIIa S	1	3	3	3
		3	5	5	1
		4	79	79	2

COD

Sampling

			NO. MEAS.	NO. AGED	NO. SAMP-L.
SPECIES	AREA	QUARTER			
Cod	North Sea Div. IV	1	816	816	16
		2	594	594	9
		3	397	397	12
		4	509	508	5
	Skager-rak Div. IIIa N	1	712	705	24
		2	503	503	12
		3	299	298	4
		4	342	342	5
	Kattegat Div. IIIa S	1	1152	1151	23
		2	368	364	12
		3	223	223	7
		4	343	341	7

SANDEEL

Sampling

			NO. MEAS.	NO. AGED	NO. SAMP-L.
SPECIES	AREA	QUARTER			
Sandeel	North Sea Div. IV	1	2917	2916	22
		2	8219	4843	65
		3	739	643	7
		4	112	112	1
	Skager-rak Div. IIIa N	2	448	448	5
	Katte-gat Div. IIIa S	2	239		1

WHITING

Sampling

			NO. MEAS.	NO. AGED	NO. SAMP-L.
SPECIES	AREA	QUARTER			
Whiting	North Sea Div. IV	1	310	211	26
		2	9	9	5
		3	304	304	16
		4	105	105	11
	Skager-rak Div. IIIa N	1	1622	1620	24
		2	194	186	8
		3	15	15	4
		4	80	80	1
	Kattegat Div. IIIa S	1	553	552	23
		2	112	112	10
		3	506	506	12
		4	525	525	5

FAROES

(J. Reinert)

The sampling programme for commercial catches of saithe, cod and haddock was continued in 1988. Samples of tusk and redfish were also taken; see table for more details.

The following research cruises took place in 1988.

In January-February *r/v Magnus Heinason* carried out a trawl survey in deeper waters around the Faroes, especially for redfish, blue ling and saithe.

In February-March *r/v Magnus Heinason* continued the Faroese Groundfish Surveys to get information on the stock sizes of saithe, cod and haddock; see table for more details.

In April *r/v Magnus Heinason* carried out a trawl survey for pelagic beaked redfish in the Irminger Sea especially to investigate relationship with beaked redfish from other areas.

In April-May and August a commercial vessel, *Verona*, was chartered to carry out surveys at the Faroes with gill nets for flatfishes.

In May *r/v Magnus Heinason* carried out a combined acoustic and trawl survey to get information on the distribution of silver smelt in Faroese waters.

In May-July a commercial longliner, *Hans Erik*, was chartered to carry out a survey with long line in deeper waters around the Faroes and in the Hatton Bank area; the target species were grenadier, black scabbard fish and sharks.

In June *r/v Magnus Heinason* continued the O-Group Surveys in Faroese Waters to get information on the year-class strength of cod, haddock, norway pout and sandeel.

In June-July *r/v Magnus Heinason* carried out a trawl survey in deeper waters around the Faroes for blue ling, grenadier and black scabbard fish.

In June and August a commercial vessel, *Agir*, was chartered to carry out selection studies in the Faroese summer fishery with bottom trawl inside the 12 nautical mile zone; the method was alternate hauls with 40, 100 and 135 mm mesh sizes in the codend.

In September-October selection studies on saithe, cod and haddock were carried out with *r/v Magnus Heinason* using alternate hauls with 40, 135 and 155 mm mesh sizes in the codend.

In October-November *r/v Magnus Heinason* carried out a combined acoustic and trawl survey around the Faroes as a part of a sampling programme to get more information on the population dynamics etc. on redfish (*S. marinus*, *S. mentella* and *S. viviparus*); in addition, selection studies for redfish were carried out using alternate hauls with 40, 135 and 155 mm mesh sizes in the codend.

In November-December *r/v Magnus Heinason* carried out a trawl survey in deeper waters around the Faroes for saithe and redfish.

On all cruises with *r/v Magnus Heinason* biological samples are taken as a routine for most fish species from almost every haul and the measurements are entered into the vessel computer automatically. As all data have not been edited yet, the number of samples and measurements by species for the year 1988 can not be given at this point except for the Faroese Groundfish Surveys.

SAMPLING DATA FOR COD

AREA	SEASON	RESEARCH VESSEL			MARKET		
		No of samples	No of fish measured	No of fish aged	No of samples	No of fish measured	No of fish aged
Vb	1	150	7151	843	57	11959	599
	2	*			33	7648	546
	3	*			40	7797	645
	4	*			33	6757	547

SAMPLING DATA FOR HADDOCK

AREA	SEASON	RESEARCH VESSEL			MARKET		
		No of samples	No of fish measured	No of fish aged	No of samples	No of fish measured	No of fish aged
Vb	1	150	9037	647	28	8850	347
	2	*			10	3738	299
	3	*			19	7067	297
	4	*			20	6482	300

SAMPLING DATA FOR SAITHE

AREA	SEASON	RESEARCH VESSEL			MARKET		
		No of samples	No of fish measured	No of fish aged	No of samples	No of fish measured	No of fish aged
Vb	1	150	5484	483	25	6193	300
	2	*			25	7579	301
	3	*			20	5521	300
	4	*			20	5003	301

SAMPLING DATA FOR TUSK

AREA	SEASON	RESEARCH VESSEL			MARKET		
		No of samples	No of fish measured	No of fish aged	No of samples	No of fish measured	No of fish aged
Vb		*			2	7493	-

SAMPLING DATA FOR REDFISH

AREA	SEASON	RESEARCH VESSEL			MARKET		
		No of samples	No of fish measured	No of fish aged	No of samples	No of fish measured	No of fish aged
Vb		*			15	3114	-

*) Not possible to quantify at this point (see text).

FINLAND

(V. Sjöblom & E. Aro)

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

FRANCE

No report received.

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 the joint investigations in the Wadden Sea area of Niedersachsen and Schleswig-Holstein (young fish and brown shrimp survey) 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 different mesh openings were carried out in the German Bight.

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
January	IVb	Groundfish survey (fish disease)
Febr./March	IVabc	IYFS
March	VIab	Groundfish and pelagic survey
May/June	IVb	Groundfish survey (fish disease)
June/July	IVabc	Groundfish survey
August-October	XIVb	Groundfish survey
December	IVb	Groundfish survey (fish disease)

R. V. "Solea"

Months	ICES area	Objectives
January	IVbc	Groundfish survey
February	IVbc	Groundfish survey
April/May	IVb	Groundfish survey
June	IVb	Sole beamtrawl survey
July	IVb	Groundfish and pelagic survey
August	IVb	Groundfish survey
November	IVbc	Groundfish survey

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish	Aged	Racial Investigat-ionn		No. Of Fish	
			Measured				Measured	Aged
Cod		Groundfish surveys						
IIa	I					1	459	234
	II					1	356	169
	III					1	434	221
IIb	III	10	2935	287 ¹⁾				
IVa	I	54	533	502				
	II/III	51	387	377				
IVb	I	190	2652	886				
	II	221	4236					
	III	216	5302	1386				
	III	10	853 ¹⁾					
	IV	60	10403	1019				
IVc	I	2	88	88				
		Shrimp bycatch investigation						
IVb	I	5	60					
	II	22	43					
	III	18	51					
	IV	47	228					
1) sample taken on board commercial trawler								

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
Cod		Youngfish and brown shrimp surveys						
IVb	II	78	63					
	III	111	393					
		Groundfish surveys						
VIa	I	14	392	381				
VIb	I	3	19					
XIVb	I				47	11295	1249	
	II				3	1272	666	
	III	115	3899	1814				

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish				No. Of Fish	
			Measured	Aged	Racial Investig- ationn		Measured	Aged
Haddock		Groundfish surveys						
IIa	I					1	420	234
	II					1	435	222
	IV					1	384	201
IVa	I	51	9679	997		1	277	135
	II/III	37	7526	464				
IVb	I	60	4069	546				
	II/III	35	3864	495				
	IV	1	4					
VIa	I	15	1343	486				
VIIb	I	8	2448	360				
XIVb	III/IV	23	271	114				

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investig- ationnn		No. Of Fish	
			Measured	Aged			Measured	Aged
Whiting		Groundfish surveys						
IVa	I	47	7651	632				
	II/III	33	4268	418				
IVb	I	193	16393	436				
	II	221	4925					
	III	170	20580	744				
	IV	60	1014					
IVc	I	3	158					
		Youngfish and brown shrimp surveys						
IVb	II	78	867					
	III	111	216					
		Shrimp bycatch investigation						
IVb	I	3	14					
	II	57	470					
	III	48	281					
	IV	38	106					
		Groundfish surveys						
VIa	I	8	597	182				

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		No. Of Fish		Aged	
			Measured	Aged				Racial Investigat-ionnn
Blue Ling	I	1	1014	248	1	238	131	
Vb	IV				1	298	169	
Vlb	II				1	368	185	
XII	I	1	1014	321				
XIV	II				1	328	176	
	III	1	168	168	5	2120	1163	
	IV				1	323	174	

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		No. Of Fish			
			Measured	Aged			Measured	Aged
Saithe IIa	I				1	513	267	
	II				1	11571	220	
	III				1	303	160	
	IV				5	2282	1181	
IVa	I	1	1970	701	4	1825	900	
	II	1	130	130	12	5477	2748	
	III				9	3725	2031	
	IV				10	4874	2504	
VIa	I	1	2725	632	5	2377	1235	
VIb	I	1	374	57	1	565	288	

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		Racial Investigati- onnn		No. Of Fish	
			Measured	Aged			Measured	Aged
Plaice		Groundfish surveys						
IVb	I	151	5606	2408				
	II	221	7947					
	III	113	5493					
	IV	60	1381					
IVc	I	2	107					
		Youngfish and brown shrimp surveys						
IVb	II	121	9235	120				
	III	111	18053	150				
		Shrimp bycatch investigation						
IVb	I	8	1058					
	II	145	12929					
	III	139	13263					
	IV	84	10711					

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
Sole		Groundfish surveys						
IVb	II	164	2755	838		3	1595	1595
	III	3	14					
	IV	1	2			1	212	212
IVb		Youngfish and brown shrimp surveys						
	II	121	3205					
	III	111	1599					
		Shrimp bycatch investigation						
IVb	I	8	235					
	II	142	5762					
	III	114	807					
	IV	27	176					

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish				No. Of Fish	
			Measured	Aged	Racial Investig- ationn		Measured	Aged
Dab		Groundfish surveys						
IVa	II	2	50	50				
IVb	I	148	12312					
	II	221	14202	5810				
	III	110	14020					
	IV	40	876					
IVc	I	2	88					
		Youngfish and brown shrimp surveys						
IVb	II	121	6438					
	III	111	5410					
		Shrimp bycatch investigation						
IVb	I	7	301					
	II	92	1250					
	III	76	2424					
	IV	86	11369					

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish		No. of Fish		No. of Fish	
			Measured	Aged				Measured
Flounder		Groundfish surveys						
IVb	I	6	25					
	IV	5	26					
		Youngfish and brown shrimp survey						
IVb	II	121	3204					
	III	111	838					
		Shrimp bycatch investigation						
IVb	I	8	99					
	II	127	3552					
	III	108	547					
	IV	68	466					
		Groundfish surveys						
Turbot								
IVb	II	20	80					
	III	1	37	37 ¹⁾				
	IV	1	2					
Brill	II	20	26					
Greenland halibut								
XIV	II					2	302	
	III	27	182			1	114	

1) sample taken on board commercial trawler

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
S. marinus IIa	I					8	2472	538
S. mentella IIa	I					4	1252	288
	II					1	349	138
	IV					1	472	120
Vb	II					2	607	200
	IV					2	615	100
S. marinus XIV	I					4	1481	
	II					4	1021	
	III	114	8221	657		1	221	
	IV					4	1380	
S. mentella XIV	II	79	19627	335		6	1754	
	III					10	3374	453
	III					44 ¹⁾	14596	343
1) Samples taken on board commercial trawler								

Species Area	Season	Research Vessel Samples				No. of Samples	Market Samples	
		No. of Samples	No. of Fish				No. Of Fish	
			Measured	Aged	Racial Investig- ationn		Measured	Aged
Norway pout	I	34	3482					
IVa	I	13	153					
IVb								

GERMAN DEMOCRATIC REPUBLIC

(L. Danke & E. Mahnke)

Species	Area	Month	No. of Research	Samples Commercial	No. of Fish	
			Vessels	Vessels	Measured	Aged
Redfish (S.mentella)	IIa	Feb	-	2	400	-
	IIb	Feb	-	1	200	-
		Mar	-	1	200	-
	XIVa	Apr	17	-	6142	1400
		May	15	-	5842	1100
		Jun	-	9	1069	-
Cod	IIa	Feb	-	2	400	-
		Mar	-	1	200	-
	I	Aug	-	25	2508	54
		Sep	-	13	1299	25
Greenland	IIb	Jun	-	2	463	131
Halibut		Jul	-	4	983	288
		Aug	-	3	756	228

ICELAND

No report received.

IRELAND

(R Grainger)

Port sampling of commercial catches of cod, haddock and whiting in Divisions VIa and VIIb and of haddock from Division VIb was undertaken, as in previous years. Landings of cod, whiting and plaice from Division VIIa and discards of whiting from the VIIa Nephrops fishery also continued to be sampled. In addition, sampling of hake, megrim and angler (L. piscatorius and L. budegassa) in Division VIa and Sub-area VII (except VIIa) was carried out. Sole was sampled from catches of beam trawlers fishing in Division VIIa for the first time.

A beam trawl survey for juvenile plaice in shallow water off the east coast of Ireland was carried out as usual in May.

Groundfish surveys in the Irish Sea in June and September aimed at pre-recruit whiting and cod were conducted as they have been since 1984.

Species	Div	Quarter	No. samples	No. meas'd	No. aged
Cod	VIa	1	15	946	267
		2	21	2383	234
		3	18	1449	69
		4	14	1206	224
	VIIa	1	7	877	219
		2	27	551	257
		3	39	927	325
		4	36	1936	256
	VIIb	1	1	75	71
		2	12	949	64
		3	18	1205	85
		4	12	936	228
Totals		220	13440	2299	

Species	Div	Quarter	No. samples	No. meas'd	No. aged
Haddock	VIa	1	12	995	272
		2	9	1966	176
		3	24	3915	137
		4	15	2296	199
	VIb	2	2	237	104
		3	1	316	70
	VIIb	1	2	339	102
		2	8	592	50
		3	9	307	66
		4	3	138	21
	Totals		85	11101	1197

Species	Div	Quarter	No. samples	No. meas'd	No. aged
Hake	VIa	3	1	76	0
		4	1	8	0
	VIIb	2	16	419	0
		3	15	641	0
		4	9	509	0
	VIIg	2	5	182	0
		3	14	277	0
	VIIj	1	4	206	0
		2	17	1306	0
		3	10	1294	0
		4	5	424	0
	Totals		97	5342	0

Species	Div	Quarter	No. samples	No. meas'd	No. aged
Megrin	VIIb	2	6	1049	0
		3	10	2074	0
		4	6	756	0
	VIIg	2	4	907	0
		3	5	432	0
	VIIj	1	6	814	0
		2	16	1857	0
		3	9	1484	0
		4	7	756	0
	Totals		69	10129	

Species	Div	Quarter	No. samples	No. meas'd	No. aged
Plaice	VIIa	1	7	1919	186
		2	9	938	159
		3	21	1480	159
		4	45	4765	503
Plaice ground fish survey	VIIa	2	27	2794	172
		3	23	2192	184
Totals			132	14088	1363
			No. of hauls	No. caught	No. aged
Plaice beam trawl survey		2	41	2130	188

Species	Div	Quarter	No. samples	No. meas'd	No. aged
Whiting	VIa	1	6	709	126
		2	13	4137	136
		3	42	9433	59
		4	24	3000	132
	VIIa	1	11	1412	213
		2	12	2209	184
		3	6	1184	119
		4	42	7171	334
	VIIf	1	2	462	123
		2	8	1398	73
		3	15	4600	75
		4	20	4707	126
Whiting Discards	VIIa	1	4	460	56
		2	8	369	0
		3	0	0	0
		4	2	620	66
Ground fish survey	VIIa	2	27	3721	121
		3	26	3565	188
TOTAL			268	49157	2131

Species	Div	Quarter	No. samples	No. meas'd
Sole	VIIa	1	5	1737
		2	4	1177
		Totals	9	2914

Species	Div	Quarter	No. samples	No. meas'd
L. budegassa	VIa	1	0	2
		2	2	9
		3	6	22
		4	1	2
	VIIb	2	7	205
		3	11	600
		4	5	160
	VIIg	2	1	9
		3	1	1
		4	1	3
	VIIj	1	4	121
		2	9	637
		3	9	498
		4	4	111
	Totals		66	2380
L. piscatorius	VIa	1	2	59
		2	6	385
		3	16	713
		4	2	44
	VIIb	2	12	380
		3	18	791
		4	7	490
	VIIg	2	9	326
		3	7	222
		4	2	217
	VIIj	1	5	103
		2	11	451
		3	9	972
		4	4	64
	Totals		110	5217

THE NETHERLANDS

(F.A. van Beek)

In 1988 the market sampling of landings of the Dutch fleet from the North Sea in The Netherlands was continued for the following species: brill (*Scophthalmus rhombus*), cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*), plaice (*Pleuronectes platessa*), sole (*Solea solea*), turbot (*Scophthalmus maximus*) and whiting (*Merlangius merlangus*). For roundfish the market sampling was stratified on an area basis. For the other species samples were stratified by harbour. All samples were also stratified by market category. The tables below indicate the level of sampling.

In January a survey was carried out with the R.V. "Isis" (1 week) using a 8 m. beam trawl in order to test a panel in the front of the net which is used in some areas during the Beam Trawl Survey (BTS).

In February R.V. "Tridens" (4 weeks) participated in the International Young Fish Survey (IYFS). These surveys, carried out since 1965, estimate the relative abundance of 1 and 2 year old herring and roundfish.

In the period January-March R.V. "Tridens" (4 weeks), R.V. "Isis" (6 weeks) and a chartered vessel (2 weeks) carried out egg-surveys on cod and plaice in the North Sea. The aim of these surveys is to estimate the egg production and stock size of these species in this area.

A combined egg survey in the second quarter on sole, mackerel and horse mackerel was carried out by R.V. "Tridens" (6 weeks), R.V. "Isis" (4 weeks) and a chartered vessel (2 weeks) in the southern North Sea.

In June 3002 flounders (*Platichthys flesus*) and 1975 dab (*Limanda limanda*) were tagged along the Dutch coast and in the Scheldt Estuary by R.V. "Isis" (2 weeks)

On board of R.V. "Isis" 2564 young plaice (range 15-24 cm) were tagged along the Danish coast with the Peterson mini tag in July (2 weeks). Part of the tagged fish were injected with tetra-cycline.

In August a survey was carried out on R.V. "Tridens" (1 week) in the southern and central North Sea with the standard GOV trawl in the framework of the ICES multispecies program.

In September-October R.V. "Tridens" (3 weeks), R.V. "Isis" (4 weeks), R.V. "Stern" (4 weeks) and R.V. "Schollebaar" (2 weeks) participated in the Demersal Young Fish Surveys (DYFS). These surveys estimate the relative abundance of brown shrimp and juvenile plaice and sole in the continental nursery areas. The surveys are carried out since 1969 in collaboration with Belgium and the Federal Republic of Germany. In

April a DYFS survey was carried out on a reduced station grid by R.V. "Tridens" (4 weeks).

In August a Beam Trawl Survey (BTS) was carried out by R.V. "Isis" (5 weeks) in the southern North Sea in collaboration with Belgium in order to investigate the abundance and distribution of adult plaice and sole in these areas. A similar survey on a reduced station grid was carried out by R.V. "Tridens" in April in combination with the DYFS survey.

In October-November R.V. "Tridens" (3 weeks) and R.V. "Isis" (3 weeks) carried out a survey in the southern North Sea with the GOV trawl directed to roundfish. This survey is held since 1980 (Dutch Groundfish Survey).

SAMPLING DATA FOR : COD

1988

NETHERLANDS

AREA	PERIOD	NUMBERS OF FISH SAMPLED		
		MARKET		Res. Vessel
		measured	aged	aged
1 Northern North Sea	1st quarter	-	-	91
	2nd quarter	122	-	-
	3rd quarter	-	-	-
	4th quarter	-	-	-
2 Central North Sea	1st quarter	-	-	14
	2nd quarter	-	-	-
	3rd quarter	178	-	21
	4th quarter	-	-	-
3 North Western North Sea	1st quarter	-	-	30
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	-
4 Western North Sea	1st quarter	-	-	-
	2nd quarter	177	50	-
	3th quarter	63	-	79
	4th quarter	39	-	-
5 South Western North Sea	1st quarter	49	-	11
	2nd quarter	392	50	-
	3rd quarter	215	41	11
	4th quarter	34	-	-
6 Southern North Sea	1st quarter	3544	341	167
	2nd quarter	1620	290	-
	3rd quarter	2507	310	458
	4th quarter	2755	350	686
7 Eastern North Sea	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	44	-	-
Total Annually		11617	1432	1568

SAMPLING DATA FOR : **HADDOCK**

1988

NETHERLANDS

AREA	PERIOD	NUMBERS OF FISH SAMPLED		
		MARKET		Res. Vessel
		measured	aged	aged
1 Northern North Sea	1st quarter	139	88	255
	2nd quarter	-	-	-
	3rd quarter	-	-	-
	4th quarter	-	-	-
2 Central North Sea	1st quarter	-	-	12
	2nd quarter	91	47	-
	3th quarter	118	-	-
	4th quarter	32	-	-
3 North Western North Sea	1st quarter	-	-	185
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	-
4 Western North Sea	1st quarter	-	-	-
	2nd quarter	174	-	-
	3th quarter	55	-	-
	4th quarter	-	-	-
5 South Western North Sea	1st quarter	-	-	-
	2nd quarter	65	-	-
	3rd quarter	-	-	-
	4th quarter	-	-	-
6 Southern North Sea	1st quarter	139	-	1
	2nd quarter	233	100	-
	3rd quarter	738	150	-
	4th quarter	105	-	2
7 Eastern North Sea	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	40	-	-
Total Annually		1929	385	455

SAMPLING DATA FOR : **WHITING**

1988

NETHERLANDS

AREA	PERIOD	NUMBERS OF FISH SAMPLED		
		MARKET		Res. Vessel
		measured	aged	aged
1 Northern North Sea	1st quarter	-	-	137
	2nd quarter	-	-	-
	3rd quarter	-	-	-
	4th quarter	-	-	-
2 Central North Sea	1st quarter	-	-	122
	2nd quarter	-	-	-
	3th quarter	-	-	23
	4th quarter	-	-	-
3 North Western North Sea	1st quarter	-	-	147
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	-
4 Western North Sea	1st quarter	-	-	-
	2nd quarter	114	-	-
	3th quarter	78	-	33
	4th quarter	35	-	-
5 South Western North Sea	1st quarter	92	-	78
	2nd quarter	242	-	-
	3rd quarter	117	50	-
	4th quarter	50	50	-
6 Southern North Sea	1st quarter	2647	300	181
	2nd quarter	2246	300	-
	3rd quarter	2477	250	482
	4th quarter	2427	250	780
7 Eastern North Sea	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	-
Total Annually		10525	1200	1983

SAMPLING DATA FOR : NORWAY POUT

1988

NETHERLANDS

AREA	PERIOD	NUMBERS OF FISH SAMPLED		
		MARKET		Res. Vessel
		measured	aged	aged
1 Northern North Sea	1st quarter	-	-	62
	2nd quarter	-	-	-
	3rd quarter	-	-	-
	4th quarter	-	-	-
2 Central North Sea	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	-
3 North Western North Sea	1st quarter	-	-	50
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	-
4 Western North Sea	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	-
5 South Western North Sea	1st quarter	-	-	-
	2nd quarter	-	-	-
	3rd quarter	-	-	-
	4th quarter	-	-	-
6 Southern North Sea	1st quarter	-	-	-
	2nd quarter	-	-	-
	3rd quarter	-	-	-
	4th quarter	-	-	-
7 Eastern North Sea	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	-
Total Annually		-	-	112

SAMPLING DATA FOR : **PLAICE**

1988

NETHERLANDS

AREA	PERIOD	NUMBERS OF FISH SAMPLED		
		MARKET		Res. Vessel
		measured	aged	aged
North Sea	1st quarter	-	1314	-
	2nd quarter	-	1069	1399
	3rd quarter	-	1080	586
	4th quarter	-	1079	2044
Wadden Sea estuary	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	237
Zeeland estuary	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	175
Total Annually		-	4542	4441

SAMPLING DATA FOR : **BRILL**

1988

NETHERLANDS

AREA	PERIOD	NUMBERS OF FISH SAMPLED		
		MARKET		Res. Vessel
		measured	aged	aged
North Sea	1st quarter	557	39	-
	2nd quarter	717	111	21
	3rd quarter	602	72	43
	4th quarter	461	97	11
Zeeland estuary	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	-
Total Annually		2337	319	75

SAMPLING DATA FOR : **SOLE**

1988

NETHERLANDS

AREA	PERIOD	NUMBERS OF FISH SAMPLED		
		MARKET		Res. Vessel
		measured	aged	aged
North Sea	1st quarter	-	849	-
	2nd quarter	-	1504	577
	3rd quarter	-	809	430
	4th quarter	-	700	613
Irish Sea	1st quarter	-	50	-
	2nd quarter	-	50	-
	3rd quarter	-	-	-
	4th quarter	-	-	-
Wadden Sea estuarium	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	58
Zeeland estuarium	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	92
Total Annually		-	3962	1770

SAMPLING DATA FOR : **FLOUNDER**

1988

NETHERLANDS

AREA	PERIOD	NUMBERS OF FISH SAMPLED		
		MARKET		Res. Vessel
		measured	aged	aged
North Sea	1st quarter	-	363	-
	2nd quarter	-	140	-
	3rd quarter	-	-	48
	4th quarter	-	-	-
Total Annually		-	503	48

SAMPLING DATA FOR : **DAB**

1988

NETHERLANDS

AREA	PERIOD	NUMBERS OF FISH SAMPLED		
		MARKET		Res. Vessel
		measured	aged	aged
North Sea	1st quarter	-	-	-
	2nd quarter	-	-	757
	3rd quarter	-	-	215
	4th quarter	-	-	1230
Wadden Sea estuarium	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	260
Zeeland estuarium	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	92
Total Annually		-	-	1582

SAMPLING DATA FOR : **TURBOT**

1988

NETHERLANDS

AREA	PERIOD	NUMBERS OF FISH SAMPLED		
		MARKET		Res. Vessel
		measured	aged	aged
North Sea	1st quarter	801	80	-
	2nd quarter	1137	145	29
	3rd quarter	1260	77	113
	4th quarter	717	96	94
Zeeland estuarium	1st quarter	-	-	-
	2nd quarter	-	-	-
	3th quarter	-	-	-
	4th quarter	-	-	-
Total Annually		3915	398	236

NORWAY

(T. Jakobsen, O. Smedstad)

Sub-areas I and II

The research activities at sea were slightly increased compared to 1987. The research vessels, however, carried out virtually the same programme as in 1987. The distribution and abundance of young cod and haddock and of redfishes in the Barents Sea were investigated during a combined acoustic and stratified bottom trawl survey in January - March. The distribution and abundance of spawning cod was investigated during an acoustic survey of the Lofoten area in March. Combined with shrimp investigations, the distribution of young cod and haddock was studied in the central Barents Sea in April - May and in the Svalbard area in July - August. The distribution and abundance of cod, haddock, redfishes, catfishes, and Greenland halibut were investigated in the Svalbard area in September - October. Part of this survey was included in a multi-species acoustic survey carried out during the same period, when the distribution and abundance of cod, haddock and redfishes were investigated also in the Barents Sea.

Cod were tagged in the Lofoten area in March and haddock off northeastern Norway in June.

The spawning progress of cod and haddock in the Lofoten area was monitored by sampling of eggs and larvae from February to May. Investigations on cod larvae and post-larvae were carried out in June and July. In August - September the annual international 0-group survey, aimed primarily at cod, was carried out in the Barents Sea and adjacent waters.

Investigations on distribution and drift of haddock eggs were carried out in April - May, and the distribution of 0-group haddock was charted in August - September during the international 0-group survey.

Investigations on distribution and drift of saithe eggs were carried out in February - April. An 0-group (post-larvae) survey for saithe in the area from Stad (62°N) to north of Lofoten (69°N) was carried out in May, and an acoustic survey for saithe on the coastal banks from North Cape to 62°N was carried out in November-December.

The distribution of silver smelt was studied on the coastal banks during a survey in April - May.

The sampling programme for commercial catches of cod, haddock, saithe, redfish and Greenland halibut was continued.

Sub-area IV

The distribution and abundance of I- and II-group gadoids were studied in February as part of the International Young Fish Survey. In April an investigation on post-larvae of saithe was undertaken in Norwegian waters. In February, the distribution and abundance of saithe were investigated during acoustic surveys in the northern North Sea. The distribution and abundance of sandeel in the Norwegian economic zone were investigated during an acoustic survey in April. The sampling of commercial catches of sandeel, Norway pout, and saithe was continued.

COD

AREA	SEASON	RESEARCH VESSEL				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
I	1	42	839	205	16965	7	931	68	5074
	2	1	40	211	10614	16	1965	2	166
	3	2	68	263	15695	4	319	2	321
	4	29	945	284	16997	-	-	1	32
IIA	1	41	1610	301	30694	46	8624	127	7336
	2	2	79	308	21330	35	6503	15	3162
	3	-	-	192	9586	1	355	3	696
	4	2	71	190	11118	-	-	6	1007
IIB	1	2	96	10	1125	-	-	7	32
	2	3	61	80	12082	-	-	-	-
	3	15	615	290	25491	-	-	-	-
	4	3	163	88	9992	-	-	6	2084
IVA	1	11	223	25	233	-	-	-	-
	2	-	-	10	56	-	-	-	-
	3	-	-	1	3	-	-	-	-
	4	-	-	28	90	-	-	-	-
IVB	1	9	58	12	75	-	-	-	-
	3	-	-	8	94	-	-	-	-
	4	-	-	2	16	-	-	-	-

2058 tagged in 1st quarter in Division IIa.

HADDOCK

AREA	SEASON	RESEARCH VESSEL				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
I	1	25	590	162	17025	5	302	55	2028
	2	4	258	166	11916	8	498	1	139
	3	1	5	151	6197	18	1524	3	388
	4	13	364	227	28789	7	546	1	216
IIA	1	31	997	225	17059	26	2365	123	5406
	2	1	22	154	5735	23	1372	9	1294
	3	-	-	88	1951	5	413	3	394
	4	4	228	117	6230	-	-	2	190
IIB	1	-	-	2	32	-	-	-	-
	2	-	-	20	161	-	-	-	-
	3	2	39	68	471	-	-	-	-
	4	1	25	24	119	2	47	-	-
IVA	1	9	467	21	3770	-	-	-	-
	2	-	-	16	443	-	-	-	-
	3	-	-	4	26	-	-	-	-
	4	-	-	17	268	-	-	-	-
IVB	1	6	135	15	694	-	-	-	-
	3	-	-	12	882	-	-	-	-
	4	-	-	2	95	-	-	-	-

1800 tagged in 2nd quarter in Sub-area I.

SAITHE

AREA	SEASON	RESEARCH VESSEL				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
I	1	-	-	45	541	2	151	2	3
	2	-	-	15	570	1	132	0	0
	3	-	-	36	996	3	415	2	174
	4	-	-	89	901	1	93	1	160
IIA	1	1	55	116	3763	7	582	-	-
	2	1	100	223	13165	5	5106	6	814
	3	-	-	31	2084	2	284	2	247
	4	7	218	61	2045	3	123	1	88
IIB	1	-	-	2	3	-	-	-	-
	3	-	-	8	22	-	-	-	-
	4	-	-	1	1	-	-	-	-
IVA	1	28	1077	16	84	6	438	-	-
	2	-	-	18	227	8	692	-	-
	3	-	-	3	207	6	590	-	-
	4	-	-	31	351	9	750	-	-
IVB	1	1	50	1	2	-	-	-	-
	2	-	-	-	-	1	78	-	-
	3	-	-	2	3	-	-	-	-
	4	-	-	2	14	-	-	-	-

GREENLAND HALIBUT

AREA	SEASON	RESEARCH VESSEL				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
I	1	-	-	88	797	-	-	13	126
	2	-	-	83	1509	4	550	-	-
	3	-	-	89	1726	-	-	-	-
	4	-	-	44	221	1	73	-	-
IIA	1	-	-	43	876	1	84	-	-
	2	-	-	34	1444	2	117	-	-
	3	-	-	15	254	-	-	-	-
	4	-	-	8	128	-	-	-	-
IIB	1	-	-	8	133	-	-	6	5-
	2	-	-	55	2504	-	-	-	-
	3	3	147	147	4203	-	-	-	-
	4	-	-	37	969	2	213	-	-

TUSK

AREA	SEASON	RESEARCH VESSEL				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
I	1	-	-	3	4	-	-	-	-
	2	-	-	-	-	-	-	1	17
	4	-	-	35	56	-	-	-	-
IIA	1	-	-	24	53	-	-	-	-
	2	-	-	1	1	-	-	-	-2
	3	-	-	5	16	-	-	-	-
	4	-	-	18	61	-	-	-	-
IIB	1	-	-	1	1	-	-	-	-
	3	-	-	2	2	-	-	-	-
	4	-	-	1	1	-	-	-	-
IVA	1	-	-	1	3	-	-	-	-
	3	-	-	1	1	-	-	-	-
	4	-	-	5	6	-	-	-	-

WHITING

AREA	SEASON	RESEARCH VESSEL				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
I	1	-	-	3	5	-	-	-	-
IIA	1	-	-	3	3	-	-	-	-
	4	-	-	3	58	-	-	-	-
IVA	1	9	247	26	1741	-	-	-	-
	2	-	-	14	305	-	-	-	-
	3	-	-	5	114	-	-	-	-
	4	-	-	25	921	-	-	-	-
IVB	1	9	185	15	839	-	-	-	-
	3	-	-	16	1358	-	-	-	-
	4	-	-	2	21	-	-	-	-

NORWAY POUT

AREA	SEASON	RESEARCH VESSEL				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
I	1	-	-	33	303	-	-	-	-
	2	-	-	1	37	-	-	-	-
	3	-	-	1	11	-	-	-	-
	4	-	-	65	2483	-	-	-	-
IIA	1	-	-	73	2396	-	-	-	-
	2	-	-	-	-	-	-	-	-
	3	-	-	6	30	-	-	-	-
	4	-	-	36	1254	-	-	-	-
IIB	3	-	-	1	1	-	-	-	-
	4	-	-	1	2	-	-	-	-
IVA	1	9	215	21	1781	-	-	1	100
	2	-	-	13	992	-	-	3	127
	3	-	-	1	128	1	50	6	0-
	4	-	-	50	3519	1	50	4	406
IVB	1	-	-	2	18	-	-	-	-
	3	-	-	9	820	-	-	-	-
	4	-	-	2	185	-	-	-	-

BLUE WHITING

AREA	SEASON	RESEARCH VESSEL				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
I	1	-	-	49	766	-	-	-	-
	2	-	-	4	15	-	-	-	-
	3	-	-	2	4	-	-	-	-
	4	-	-	69	578	-	-	-	-
IIA	1	-	-	80	2597	-	-	-	-
	2	-	-	3	70	-	-	-	-
	3	-	-	21	165	-	-	-	-
	4	-	-	23	251	-	-	-	-
IIB	1	-	-	1	7	-	-	-	-
	3	-	-	6	45	-	-	-	-
	4	-	-	5	37	-	-	-	-
IVA	1	-	-	2	3	-	-	1	6-
	2	-	-	3	52	-	-	10	879
	3	-	-	2	156	-	-	10	780
	4	-	-	30	1717	-	-	-	-

LONG ROUGH DAB

AREA	SEASON	RESEARCH VESSEL				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
I	1	-	-	159	5408	-	-	-	-
	2	-	-	48	1799	-	-	-	-
	3	-	-	72	1540	-	-	-	-
	4	-	-	152	7309	-	-	-	-
IIA	1	-	-	120	4597	-	-	-	-
	2	-	-	24	729	-	-	-	-
	3	-	-	29	426	-	-	-	-
	4	-	-	44	1084	-	-	-	-
IIB	1	-	-	8	599	-	-	-	-
	2	-	-	24	699	-	-	-	-
	3	-	-	152	5431	-	-	-	-
	4	-	-	53	2874	-	-	-	-
IVA	1	-	-	18	175	-	-	-	-
	2	-	-	14	455	-	-	-	-
	3	-	-	1	4	-	-	-	-
	4	-	-	37	394	-	-	-	-
IVB	1	-	-	6	72	-	-	-	-
	3	-	-	11	268	-	-	-	-
	4	-	-	2	38	-	-	-	-

LING

AREA	SEASON	RESEARCH VESSEL				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
I	1	-	-	1	5	-	-	-	-
	3	-	-	25	288	-	-	-	-
IIA	1	-	-	10	23	-	-	-	-
	3	-	-	2	10	-	-	-	-
	4	-	-	7	7	-	-	-	-
IIB	3	-	-	41	835	-	-	-	-
IVA	1	-	-	1	1	-	-	-	-
	2	-	-	3	7	-	-	-	-
	3	-	-	1	1	-	-	-	-
	4	-	-	8	8	-	-	-	-
IVB	3	-	-	1	4	-	-	-	-

SILVER SMELT

AREA	SEASON	RESEARCH VESSEL				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
I	4	-	-	33	76	-	-	-	-
IIA	1	-	-	36	863	-	-	-	-
	2	-	-	7	14	-	-	-	-
	3	-	-	3	6	-	-	-	-
	4	-	-	23	241	-	-	-	-
IVA	1	-	-	3	27	-	-	-	-
	2	-	-	4	13	-	-	-	-
	4	-	-	31	314	-	-	-	-
IVB	4	-	-	1	5	-	-	-	-

SANDEEL

AREA	SEASON	RESEARCH VESSEL				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
I	3	-	-	27	1259	-	-	-	-
	4	-	-	9	153	-	-	-	-
IIA	3	-	-	1	7	-	-	-	-
IIB	3	-	-	3	4	-	-	-	-
IVA	1	-	-	-	-	1	50	32	3354
	2	-	-	-	-	-	-	176	18560
	3	-	-	-	-	-	-	17	848
	4	-	-	-	-	-	-	4	435
IVB	1	-	-	-	-	1	50	48	5080
	2	4	133	4	430	1	50	88	9273
	3	-	-	-	-	1	50	59	6363
	4	-	-	-	-	3	100	32	3416

REDFISH

AREA	SEASON	RESEARCH VESSEL				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
I	1	-	-	178	7073	-	-	-	-
	2	-	-	65	3145	-	-	-	-
	3	-	-	21	613	-	-	1	66
	4	-	-	164	6780	-	-	-	-
IIA	1	-	-	243	13484	-	-	-	-
	2	-	-	48	2999	-	-	7	603
	3	-	-	35	1978	-	-	-	-
	4	-	-	74	2500	-	-	2	1
IIB	1	-	-	17	1628	-	-	-	-
	2	-	-	27	1317	-	-	-	-
	3	-	-	186	7603	-	-	-	-
	4	-	-	52	2100	-	-	-	-

POLAND

(J. Janusz & M. Liwoch)

No biological samples were collected in the NE Atlantic area by Poland.

PORTUGAL

(Fátima Cardador)

In 1988 the market sampling of the Instituto Nacional de Investigação das Pescas (INIP) was continued at some fishing ports to provide length frequency distributions of the landings for the most important commercial species.

The INIP carried out a groundfish survey in October/November in the portuguese waters mainly to estimate distribution and indices of abundance and recruitment of hake and horse mackerel, on board of the R/V "Noruega". Some other groundfish surveys were also conducted to estimate the distribution and to develop biological studies of hake and monkfish.

The following tables present the sampling data collected for hake (Merluccius merluccius), black-scabbard fish (Aphanopus carbo), some species of seabreams (Boops boops, Pagellus acarne and Spondyliosoma cantharus) and monkfish (Lophius budegassa and L. piscatorius).

1. Sampling data for Merluccius merluccius

Area	Quarter	No of samples		No of fish	
		Research vessel	Market samples	Measured	Aged*
IXa	1 st	77	194	20599	1297
	2 nd		224	23652	31
	3 rd	23	175	16272	455
	4 th	74	216	27145	613
year		174	809	87668	2396

* otoliths collected, not aged

2. Sampling data for Aphanops carbo

Area	Quarter	No of samples		No of fish	
		Research vessel	Market samples	Measured	Aged*
IXa	1 st		31	1543	101
	2 nd		32	2154	103
	3 rd		33	2684	82
	4 th		28	2447	89
	year		124	8828	375

* not aged (vertebra)

3. Sampling data for Boops boops

Area	Quarter	No of samples		No of fish	
		Research vessel	Market samples	Measured	Aged
IXa	1 st		20	2407	
	2 nd		36	1960	
	3 rd		23	1179	
	4 th		34	1709	
	year		113	7255	

4. Sampling data for Pagellus acarne

Area	Quarter	No of samples		No of fish	
		Research vessel	Market samples	Measured	Aged
IXa	1 st		26	1670	
	2 nd		44	2059	
	3 rd		31	2178	
	4 th		38	3488	
	year		139	9395	

5. Sampling data for Spondyllosoma cantharus

Area	Quarter	No of samples		No of fish	
		Research vessel	Market samples	Measured	Aged
IXa	1 st		25	708	
	2 nd		32	726	
	3 rd		29	862	
	4 th		27	762	
year			113	3058	

6. Sampling data for Monkfish (Lophius piscatorius and L. budegassa)

Area	Quarter	No of samples		No of fish	
		Research vessel	Market samples	Measured	Aged
IXa	1 st	42*		136	
	2 nd	30		193	
	3 rd	28*		93	
	4 th				
year		100		422	

* surveys directed to shrimp and Norway lobster.

SPAIN

(Pilar Pereda)

During 1988 the Spanish Institute of Oceanography has continued with the sampling programme at the main fishing ports concerning length frequency distribution of the landings for the most important species.

Groundfish surveys have been conducted mainly to estimate indices of abundance, recruitment and selectivity factors of the commercial species.

The following tables present the sampling data collected.

SPECIES: Pagellus bogaraveo. 1988

AREA	SEASON	no. of samples		no. of fishes
		res. vessels	market	measured
VI	1			
	2			
	3			
	4			
VII	1			
	2			
	3			
	4			
VIIIab	1		6	349
	2		4	252
	3			
	4		1	34
VIIIc	1		14	751
	2	49	15	1020
	3		6	133
	4	47	11	505
IXa	1			
	2			
	3			
	4			

SPECIES: Merluccius merluccius. 1988

AREA	SEASON	no. of samples		no. of fishes
		res. vessels	market	measured
VI	1		1	40
	2			
	3			
	4			
VII	1		20	5084
	2		18	4825
	3		25	5933
	4		20	5097
VIIIab	1		19	2669
	2		22	2378
	3		33	5569
	4		20	3258
VIIIc	1		36	3402
	2	49	37	4981
	3	5	41	4119
	4	74	52	12118
IXa	1		36	3604
	2		31	3280
	3	23	27	5501
	4		16	1253

SPECIES: Lepidorhombus wiffiagonis. 1988

AREA	SEASON	no. of samples		no. of fishes
		res. vessels	market	measured
VI	1		1	16
	2		-	-
	3		2	301
	4		2	246
VII	1		16	3207
	2		19	4146
	3		21	3596
	4		21	3347
VIIIab	1		9	766
	2		7	826
	3		11	846
	4		9	1620
VIIIc	1		16	996
	2	49	14	3762
	3	3	17	1247
	4	71	27	5040
IXa	1		7	11
	2		6	14
	3	7	8	71
	4		3	3

SPECIES: Lepidorhombus boscii. 1988

AREA	SEASON	no. of samples		no. of fishes
		res. vessels	market	measured
VI	1		1	57
	2		-	-
	3		2	1
	4		1	98
VII	1		13	456
	2		17	661
	3		15	256
	4		19	703
VIIIab	1		9	253
	2		7	29
	3		11	44
	4		7	43
VIIIc	1		16	1088
	2	49	13	3661
	3	6	17	1186
	4	77	27	5590
IXa	1		12	1307
	2		12	1261
	3	24	8	1896
	4		6	590

SPECIES: Lophius piscatorius. 1988

AREA	SEASON	no. of samples		no. of fishes
		res. vessels	market	measured
VI	1			
	2			
	3			
	4			
VII	1		13	725
	2		12	656
	3		19	963
	4		16	1020
VIIIab	1		7	555
	2		7	457
	3		15	1154
	4		9	815
VIIIc	1		9	689
	2	49	7	738
	3	2	6	546
	4	62	9	780
IXa	1		5	93
	2		6	80
	3	4	5	38
	4		7	191

SPECIES: Lophius budegassa. 1988

AREA	SEASON	no. of samples		no. of fishes
		res. vessels	market	measured
VI	1			
	2			
	3			
	4			
VII	1		14	1142
	2		12	1065
	3		19	1868
	4		16	1327
VIIIab	1		7	431
	2		6	476
	3		15	1034
	4		7	376
VIIIc	1		19	371
	2	49	15	534
	3	3	14	200
	4	65	26	522
IXa	1		6	593
	2		6	474
	3	7	5	171
	4		7	331

SWEDEN

(B. Sjöstrand)

Sweden took part in the International Young Herring Survey in the North Sea and Skagerrak. It had no other activities on which to report.

UNITED KINGDOM (England and Wales)

(C.T. Macer)

The market sampling programme was continued in 1988. The numbers of fish measured and otolithed are shown in the following tables.

The following research vessel cruises took place in 1988:

RV "Cirolana" participated in the North Sea International Young Fish Survey in February. Groundfish surveys were conducted in the North Sea in August/September, and in the Celtic Sea in March and November/December.

Plaice fecundity was investigated from RV "Corystes" in January/February in the southern North Sea and plaice telemetry trials took place in April/May. Sole spawning in the Bristol Channel was the cruise aim in April, while in the eastern Channel in August a groundfish survey for plaice and sole took place using a beam trawl. A survey for young fish was completed in the Irish Sea/Bristol Channel in September/October, and a cruise in October/November was devoted to a study of gastric evacuation and also the incidence of fish diseases.

SAMPLING DATA FOR HAKE

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
Via	Qtr 4	3	722		
VIIa	Qtr 1	6	1427		
	2	4	882		
	4	4	807		
VIIe	Qtr 1	6	600		
	2	6	623	85	
	3	7	681	89	
	4	6	614	44	25
VIIIf	Qtr 1	2	241	102	
	2	1	153		
	3	3	357		
	4	2	200	12	32
VIIg	Qtr 4			-	46
VIIh	Qtr 2			48	2
	3	1	127	32	
	4	4	365	62	49
VIIj	Qtr 2			41	
	3			32	
	4				80

SAMPLING DATA FOR PLAICE

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
IVa	Qtr 2	9	2012	176	
	3	9	2140	201	
	4	3	732	73	
IVb	Qtr 1	29	5858	665	
	2	33	8843	652	
	3	28	7783	619	
	4	31	7513	621	
IVc	Qtr 1	1	193	22	
	3	2	335	25	
	4	1	247	41	
VIIa	Qtr 1	14	2636	196	
	2	20	3444	187	
	3	17	2923	217	376
	4	17	3133	163	50
VIIId	Qtr 1			57	
	2	5	1053	150	
	3	1	92	25	
	4	9	717	109	
VIIe	Qtr 1	22	3598	224	10
	2	16	2493	229	
	3	15	2822	217	155
	4	18	3127	232	127
VIIIf	Qtr 1				13
	2	3	508		
	4	2	375	17	65
VIIg	Qtr 1				10
	4				2
VIIh	Qtr	1	221		
	3	7	1329	76	
	4	2	324	39	2
VIIj	Qtr 4				4
VIIz	Qtr 2				322

SAMPLING DATA FOR SOLE

Area	Season	No of Market Samples	No of fish Measured (market)	Aged	Research Vessels (Aged)
IVa	Qtr 1				
	2				
	3	4	168		
	4				
IVb	Qtr 1	14	2277	270	
	2	9	1146	134	
	3	6	966	195	
	4	14	2099	229	
IVc	Qtr 1	4	178		
	2	29	4511	238	
	3	19	2354	204	
	4	6	1057	62	
VIIa	Qtr 1	9	1337	30	
	2	17	3034	212(12)	140
	3	16	2266	110	21
	4				142
VIIId	Qtr 1				
	2	60	5980	431	
	3	6	1069	254	
	4	3	184	36	
VIIe	Qtr 1	18	3365	133	
	2	10	1326	26	
	3	9	1574	91	51
	4	24	3855	175	74
VIIIf	Qtr 1	6	1179		
	2	6	967	99(72)	30
	3				3
	4	1	246		78
VIIg	Qtr 4				1
VIIh	Qtr 1				
	2	2	372		
	3	11	2334	(44)	
	4	4	634	(100)	
VIIj	Qtr 4				1

Figures in () Not usable/Not used

NH

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SAMPLING DATA FOR MEGRIM

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
VIIe	Qtr 1	2	258		9
	2	1	159	71	
	3			40	
	4			53	5
VIIIf	Qtr 1	1	127	59	4
	4				21
VIIIg	Qtr 1				24
	4				45
VIIIf	Qtr 2	3	466		
	3	5	632	120	
	4	6	712	103	50
VIIIf	Qtr 4				78

NH

SAMPLING DATA FOR LING

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
VIIe	Qtr 1			23	
	3	1	131		
	4			38	10
VIIIf	Qtr 1	2	169		
	3	1	50	35	
	4				1
VIIIg	Qtr 4				10
VIIIf	Qtr 2	2	170		
	3	1	135	34	
	4	2	222	61	21
VIIIf	Qtr 4				3

SAMPLING DATA FOR LEMON SOLE

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
IVc	Qtr 3 4	1	141		
VIIa	Qtr 2 4	1	158		
VIIe	Qtr 1 2 3 4	15 14 12 18	2218 2088 1472 2157	48 25 34 79	2 6 13 44
VIIIf	Qtr 1 2 4	1	205		10 10
VIIg	Qtr 1 4				9 9
VIIh	Qtr 1 3 4	3 1	467 157	14 14	30
VIIj	Qtr 4				9

SAMPLING DATA FOR COD

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
Id	Qtr 3 4	1	95	67	
Ig	Qtr 3 4	1 1	205 118	57	
IIa	Qtr 1 4			30	
IIf	Qtr 2 4	2	296	62	
IIg	Qtr 1 2 3 4	1 1 1 1	112 38 87 158	70	
IVa	Qtr 1 2 3 4	1 8 9 3	124 1095 738 311	124 118 67	
IVb	Qtr 1 2 3 4	148 156 121 135	21200 25061 20456 19430	1357 1373 1395 1455	
IVc	Qtr 1 2 3 4	20 20 21 20	2837 2803 3495 2908	225 248 285 293	
VIa	Qtr 2 3 4	1 1 1	205 142	13 24 101	
VIIb	Qtr 1 4	2	108		
VIIa	Qtr 1 2 3 4	23 18 16 24	3220 2094 2440 2856	424 297 563 351	47 20 12
VIIId	Qtr 4	4	218	69	
VIIe	Qtr 1 4	1 1	93 108	(21) (121)	

SAMPLING DATA FOR COD (contd)

Area	Season	No of Market Samples	No of fish Measured (market)	Aged	Research Vessels (Aged)
VIIf	Qtr 1	4	496	117	10
	2	1	67	49	
	4	3	386	57	5
VIIg	Qtr 1	1	179		5
	4				
VIIh	Qtr 4	1	38	10	
VIIj	Qtr 3			58	
	4				
XIIIa	Qtr 3	2	216	72	
	4				

SAMPLING DATA FOR HADDOCK

Area	Season	No of Market Samples	No of fish Measured (market)	Aged	Research Vessels (Aged)
Id	Qtr 3	1	108	37	
	4				
IIa	Qtr 1	2	214		
	2				
	3				
IIG	Qtr 3	1	66	35	
	4	1	114	47	
IVa	Qtr 2	6	958	91	
	3	11	1788	93	
	4	4	639	5	
IVb	Qtr 1	69	10414	688	
	2	74	13490	674	
	3	64	10621	601	
	4	73	11015	837	
IVc	Qtr 3	2	106		
	4	1	148		
VIa	Qtr 1	5	878	156	
	2	4	790	49	
	3	4	701	72	
	4	10	1754	212	
VIb	Qtr 1	4	789	93	
	2	1	136	14	
	3	9	1658	110	
	4				
VIIa	Qtr 3			36	
	4				
XIIIa	Qtr 4	1	53	35	

SAMPLING DATA FOR DOGFISH

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
IVa	Qtr 2	5	140		
	3	1	20		
	4	1	15		
IVb	Qtr 1	10	168		
	2	16	612		
	3	31	2512		
	4	33	1770		
IVc	Qtr 1	9	480		
	2	9	325		
	3	4	86		
	4	9	464		
VIa	Qtr 1	2	207		
	2	4	125		
	4	2	167		
VIIa	Qtr 1	9	1099		
	2	12	1480		
	3	17	1733		
	4	13	1398		
VIIe	Qtr 2	1	90		
	4				
VIIIf	Qtr 3	1	92		
	4	2	220		

SAMPLING DATA FOR BASS

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
IVc	Qtr 2	20	807	59	
	3	6	98	75	
	4	17	34	34	
VIIa	Qtr 1	1	1	1	
	2	4	35	57	
	3	4	85	11	
	4	3	8	49	
VIIf	Qtr 2			27	
	4				
VIId	Qtr 2	4	81	51	
	3	1	57	157	
	4				
VIIe	Qtr 1	11	173	133	
	2	2	67	28	
	3	2	97	104	
	4	1	143	74	
VIIf	Qtr 1			50	
	2	2	56		
	3	2	74	75	
	4	2	312	47	

SAMPLING DATA FOR SAI THE

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
IIe	Qtr 3	1	99		
	4				
IIIf	Qtr 2	3	278		
	4				
IVa	Qtr 1	2	154	19	
	2	1	60	45	
	3	2	52		
	4	2	223	34	
IVb	Qtr 1	1	87		
	2			45	
	3	3	129	16	
	4				
VIa	Qtr 1	2	209	25	
	4	2	308	16	
VIIa	Qtr 1	1	147	4	
	4			16	

SAMPLING DATA FOR WHITING

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
IVa	Qtr 2	3	188		
	3	1	107	43	
	4	3	145	24	
IVb	Qtr 1	48	4569	379	
	2	39	4343	470	
	3	46	4415	455	
	4	57	5363	654	
IVc	Qtr 1	4	362	89	
	2	13	807	134	
	3	14	1071	127	
	4	11	934	174	
VIIa	Qtr 1	21	2715	188	
	2	24	2477	105	101
	3	14	1805	125	111
	4	18	2366	102	
VIId	Qtr 3	1	109	46	
	4	6	513	81	
VIIe	Qtr 1	16	2247	156	25
	2	16	2719	141	
	3	8	1196	173	
	4	17	2884	171	
VIIf	Qtr 1				19
	2	1	161	21	
	3			21	
	4				
VIIg	Qtr 1	1	179		21
	4				
VIIj	Qtr 3			22	
	4				

SAMPLING DATA FOR MONK

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
VIIId	Qtr 3 4	1	123		
VIIe	Qtr 1 2 3 4	14 15 13 18	1895 1549 1498 1959		28
VIIIf	Qtr 1 2 4	2 1	374 81		2
VIIg	Qtr 1 4				10
VIIh	Qtr 2 3 4	2 4 9	394 814 1629		

SAMPLING DATA FOR SKATES AND RAYS

<u>Area</u>	<u>Season</u>	<u>No of Market Samples</u>	<u>No of fish Measured (market)</u>	<u>Aged</u>	<u>Research Vessels (Aged)</u>
VIIa	Qtr 1 2 4	2 9 4	153 680 249		

UNITED KINGDOM (Scotland)

(R. Jones)

1. Sampling Demersal Fish

Continuous monitoring was maintained on the catches caught by the five main gears (motor trawl, seine net, light trawl, Nephrops trawl and demersal pair trawl) used by Scottish fishermen. Landings were sampled at all the major fishing ports in Scotland and the intensity of sampling is indicated in the text table below.

Species	No of vessels sampled	No of fish measured	No of otoliths collected
Cod	422	72353	15365
Haddock	447	158764	19296
Whiting	378	89625	10161
Saithe	286	17216	6533

Sampling of demersal fish discarded by the Scottish fleet was also carried out on a regular basis in 1988. Samples were obtained during the course of commercial trips from hauls. The intensity of sampling is indicated in the text table below.

Species	No of vessels sampled	No of fish measured	No of otoliths collected
Cod	68	4057	1226
Haddock	68	74737	4319
Whiting	68	56637	4616
Saithe	68	535	380
Others	68	90541	-

2. Research Vessel Activities

In February 1988 "Scotia" participated in the International Young Fish Survey in the North Sea.

In March 1988 "Scotia" carried out a survey of demersal fish and herring stocks off the west coast of Scotland (ICES Sub area VIa).

In August 1988 "Scotia" carried out a survey of demersal fish stocks in the northern and middle North Sea (ICES Sub area IVa and IVb).

In September 1988 "Scotia" carried out a survey of the haddock stock on Rockall Bank.

In June 1988 "Clupea" carried out a pelagic 0-group survey for gadoid species in the northern North Sea (ICES Sub area IVa).

3. Tagging of Demersal Fish

During August-September 1988, 150 saithe were tagged at an inshore site close to Aberdeen.

U.S.A.

(V. Anthony and B. Rothschild)

The U.S.A. had no fisheries and no research activity on demersal fish in the ICES area in 1988. Activities in the Northwest Atlantic have been reported to NAFO.

U.S.S.R.

(S.A. Studenetsky)

In 1988, as previously, a trawl-acoustic survey was carried out to assess abundance and biomass of the main commercial fish species, a potential recruitment to cod, haddock, redfish and other fish stocks was evaluated during ichthyoplankton and young fish surveys in the Barents Sea and adjacent waters.

Investigations were continued to determine relationships between distribution of fish, their behaviour and hydrological conditions, food supply. Stock structure of major commercial fishes, dynamics of their biological characteristics and migration patterns were studied. The investigation of trophic interrelations of stocks was in progress.

Tables 1-8 present information collected during 1988.

Table 1. Data on cod collected in 1988.

Area	Season	Number of fish		
		measured	analysed for feeding	aged
I	I	34950	3870	1647
	II	16165	2030	946
	III	41835	4364	1590
	IV	36504	5595	2705
IIb	I	11901	1325	600
	II	6133	1025	930
	III	13005	1735	1260
	IV	12649	2324	2090
IIa	I	30690	3835	1433
	II	20326	2788	701
	III	1943	299	27
	IV	-	-	-
Total		226156	29130	13929

Table 2. Data on haddock collected in 1988.

Area	Season	Number of fish		
		measured	analysed for feeding	aged
I	I	16253	2033	615
	II	12820	1594	1576
	III	21984	1360	1090
	IV	57587	5323	3970
	I	-	-	-
	II	35	-	-
	III	137	35	-
	IV	563	165	300
	I	30690	3835	1433
	II	20326	2788	701
	III	1943	299	27
	IV	-	-	-
Total		162338	17462	9714

Table 3. Data on redfish collected in 1988.

Area	Season	Number of fish		
		measured	analysed for feeding	aged
I	I	908	25	-
	II	5417	60	306
	III	744	25	-
	IV	2266	152	127
IIb	I	-	-	-
	II	1062	25	-
	III	544	100	200
	IV	5234	272	310
IIa	I	10820	2225	1750
	II	2827	630	300
	III	1993	114	169
	IV	-	-	-
Total		31815	3628	3192

Table 4. Data on Greenland halibut collected in 1988.

Area	Season	Number of fish		
		measured	analysed for feeding	aged
I	I	714	90	-
	II	107	22	-
	III	64	25	-
	IV	256	44	-
IIb	I	371	50	-
	II	1505	426	300
	III	2704	375	300
	IV	2322	426	313
	I	1103	350	-
	II	256	25	-
	III	3930	450	200
	IV	-	-	-
Total		13362	2291	1113

Table 5. Data on saithe collected in 1988.

Area	Season	Number of fish		
		measured	analysed for feeding	aged
I	I	-	-	-
	II	3	-	-
	III	-	-	-
	IV	217	59	-
IIb	I	-	-	-
	II	-	-	-
	III	150	-	-
	IV	11	-	-
IIa	I	763	100	-
	II	413	50	-
	III	18	-	-
	IV	-	-	-
Total		1580	209	-

Table 6. Data on wolffishes collected in 1988.

Area	Season	Number of fish		
		measured	analysed for feeding	aged
I	I	171	165	-
	II	292	-	-
	III	425	-	-
	IV	719	210	16
	I	10	10	3
IIb	II	219	-	-
	III	452	25	-
	IV	1000	206	1
IIa	I	71	71	1
	II	289	25	-
	III	54	4	-
	IV	-	-	-
Total		3702	716	21

Table 7. Data on plaice collected in 1988.

Area	Season	Number of fish		
		measured	analysed for feeding	aged
I	I	66	20	20
	II	69	-	-
	III	1307	275	200
	IV	960	378	244
IIb	I	-	-	-
	II	-	-	-
	III	-	-	-
	IV	-	-	-
IIa	I	-	-	-
	II	-	-	-
	III	-	-	-
	IV	-	-	-
Total		2402	673	464

Table 8. Data on long rough dab collected in 1988.

Area	Season	Number of fish		
		measured	analysed for feeding	aged
I	I	178	50	-
	II	1382	-	-
	III	-	-	-
	IV	5492	600	325
IIb	I	-	-	-
	II	185	50	-
	III	-	-	-
	IV	5934	324	6
IIa	I	-	-	-
	II	-	-	-
	III	549	100	-
	IV	-	-	-
Total		13720	1124	331

DEMERSAL FISH COMMITTEE

FRANCE

(A. Souplet)

SPECIES	AREA	SEASON	NB. OF SAMPLES		NB. OF FISH		
			RESEARCH VESSEL	MARKET SAMPLES	MESURED	AGED	OTHER
Whiting	IVA	1	19		2 220	444	
	IVB	1	38		3 899	966	
	IVC	1	12		1 466	548	
	VIID	2		1		317	
	VIID	4	28		1 128	415	
	VIIIAB	1	17		397		
		1		15	904		
	VIIIAB	2	32		1 597		
		2		11	546		
	VIIIAB	3	33		1 419		
		3		12	568	730	
COD	VIIIAB	4	20		564		
		4		13	520		
	VIIIFG	ALL			2 861	2 600	
	IVA	1	18		292	257	
	IVB	1	29		285	202	
	IVC	1	12		489	462	
	VIID	3		1		259	
	VIID	4	30		135	135	

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SPECIES	AREA	SEASON	NB. OF SAMPLES		NB. OF FISH		
			RESEARCH VESSEL	MARKET SAMPLES	MESURED	AGED	OTHER
COD	VIA	ALL			4 478	1 194	
	VIIFG	ALL			1 897	1 182	
	VIIA	ALL			696		
HADDOCK	IVA	1	31		2 427	682	
	IVB	1	16		292	191	
	VIA	ALL			7 165		
SAITHE	IVA	1	4		54	54	
	VIA	ALL			7 914	1 530	
BLUE LINK	VIA	ALL			535	294	
LINK	VIIA	"			3 115	945	
	VIII	"				120	
HAKE	VI	1		17	502		
		2		27	910		
		3		6	193		
	VII	1		4	68		
		2		2	46		
		3		13	366		
		4		14	376		
	VIII	1		62	2 554		
		1	25		1 407		
		2		37	2 004		
		2	114		5 142		

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SPECIES	AREA	SEASON	NB. OF SAMPLES		NB. OF FISH		
			RESEARCH VESSEL	MARKET SAMPLES	MESURED	AGED	OTHER
HAKE	VIII	3		47	2 349		
		3	49		6 396		
		4		57	2 947		
		4	46		4 543		
		ALL			6 500		
NEPHROPS	VI-VII	ALL			1 690		
	VIII	ALL			1 690		
	VIIIAB	1		10	1 164		
		1	14		1 533		
		2		8	660		
		2	32		1 774		
		3		3	292		
		3	25		3 447		
		4		4	549		
		4	19		2 055		
		1		6	37		
		1	7		22		
		2		13	130		
MONK (L. budegassa)	VIIIAB	2	8		11		
		3		12	73		
		3	8		20		
		4		10	25		
		4	8		21		
		ALL			10 100	650	
	VII-VIII	ALL					

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SPECIES	AREA	SEASON	NB. OF SAMPLES		NB. OF FISH		
			RESEARCH VESSEL	MARKET SAMPLES	MESURED	AGED	OTHER
MONK (L. Piscatorius)	VIIIAB	1		20	366		
		1	18		95		
	"	2		17	323		
	"	2	34		96		
	"	3		15	324		
	"	3	26		63		
	"	4		19	412		
	"	4	17		47		
	VII-VIII ALL				14 500	1 170	
SOLE	VIID	2			411	180	
	"	2			231		
	"	4			207	172	
	"	4	9		35		
SOLE	VIIIAB	1		37	2 270		
			28		486	319	
	"	2		47	2 262		
			44		377	325	
	"	3		15	711		
			50		979	359	
	"	4		36	2 156		
			47		466	279	

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SPECIES	AREA	SEASON	NB. OF SAMPLES		NB. OF FISH		
			RESEARCH VESSEL	MARKET SAMPLES	MESURED	AGED	OTHER
PLAICE	VIID	2			1 005	229	
	VIID	4	27			382	
	VIID	4		1		10	
	IVAB	1	55		1 359	678	
RED MULLET	VIIIAB	1		9	467		
			16		66		
	VIIIAB	2		10	549		
			40		701		
	VIIIAB	3		6	333		
			11		57		
	VIIIAB	4		10	466		
MEGRIM			34		966		
	VII	ALL			27 957	1 300	
	VIII				1 700		
POLLACK	VII-VIII	ALL			700		
CUCKOO RAY	VII	ALL			1 625		
POUT	VIIIAB	4			613		