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Administrative Report

THÜNEN
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DEMERSAL FISH COMMITTEE

by

A. C. Burd

1981

Belgium

(R. De Clerck + P. Hovart)

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

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

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

Species Area	Season	No of samples		No of samples	
		Research	Market	Measured	Aged
Sole IV	1	-	11	1268	210
	2	-	13	1300	210
	3	-	10	1074	210
	4	-	12	1406	210
VII f, g	1	-	9	948	200
	2	-	2	140	140
	3	-	9	922	210
	4	-	12	1305	210
VIIa	1	-	3	210	210
	2	-	4	311	210
	3	-	1	70	70
	4	-	3	264	140
VIId, e	1	-	4	433	140
	2	-	2	219	70
	3	-	1	70	70
	4	-	4	249	210

Plaice IV	1	-	11	674	140
	2	-	12	679	130
	3	-	10	591	150
	4	-	13	808	130
VIIf, g	1	-	9	506	120
	2	-	2	80	80
	3	-	9	432	110
	4	-	12	607	120
VIIa	1	-	3	130	130
	2	-	4	173	120
	3	-	1	50	50
	4	-	2	129	80
VIId, e	1	-	3	220	100
	2	-	2	120	50
	3	-	1	50	50
	4	-	3	150	150

Cod IV	1	-	5	300	290
	2	-	8	383	383
	3	-	5	253	253
	4	-	5	253	253
Whiting IV	1	-	5	150	150
	2	-	9	200	200
	3	-	6	175	175
	4	-	4	115	115
Haddock IV	1-4	-	9	750	-

Canada

No report received.

DENMARK.

(E. Ursin)

The following sampling of length and age distributions has been carried out in 1981:

PLAICE.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	15	1669	1669	0
	2	"	-	14	1032	1032	0
	3		-	14	1119	1119	0
	4		-	14	1116	1116	0
Skager-rak	1	Mixed	-	10	1178	1178	0
	2	"	-	10	1059	1059	0
	3	"	-	8	1011	1011	0
	4	"	-	9	1045	1045	0
Katte-gat	1	Mixed	-	10	1293	1293	0
	2	"	-	12	1473	1473	0
	3	"	-	14	1399	1399	0
	4	"	-	15	1419	1419	0

SOLE.

Area	Season	Type of fish	No of samples		No of fish		
			Research Vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	0	0	0	0
	2	"	-	4	982	982	0
	3	"	-	0	0	0	0
	4	"	-	0	0	0	0
Katte-gat	1	Mixed	-	2	214	214	0
	2	"	-	2	224	224	0
	3	"	-	1	18	18	0
	4	"	-	2	236	236	0

DAB.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
Katte-gat	1	Mixed	-	0	0	0	0
	2	"	-	1	171	171	0
	3	"	-	1	202	202	0
	4	"	-	1	170	170	0

SANDEEL.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	5	541	405	0
	2	"	-	84	9556	8736	0
	3	"	-	35	4022	4022	0
	4	"	-	3	342	342	0
Skager-rak	1	Mixed	-	0	0	0	0
	2	"	-	14	1646	1522	0
	3	"	-	15	1753	1753	0
	4	"	-	0	0	0	0

NORWAY POUT.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	38	5211	5211	0
	2	"	-	13	1404	1404	0
	3	"	-	12	1151	1151	0
	4	"	-	28	3283	3283	0
Skager-rak	1	Mixed	-	1	4	4	0
	2	"	-	6	20	20	0
	3	"	-	6	362	362	0
	4	"	-	2	59	59	0

WHITING.

Area	Season	Type of Fish	No of Samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	47	660	612	0
	2	"	-	26	234	218	0
	3	"	-	45	573	570	0
	4	"	-	28	148	148	0
Skager-rak	1	Mixed	-	3	37	37	0
	2	"	-	9	64	64	0
	3	"	-	41	1177	1177	0
	4	"	-	15	599	599	0
Katte-gat	1	Mixed	-	29	1574	1574	0
	2	"	-	1	25	25	0
	3	"	-	2	231	231	0
	4	"	-	11	177	177	0

BLUE WHITING.

Area	Season	Type of Fish	No of Samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	1	4	0	0
	2	"	-	2	140	65	0
	3	"	-	0	0	0	0
	4	"	-	1	1	0	0
Skager-rak	1	Mixed	-	0	0	0	0
	2	"	-	0	0	0	0
	3	"	-	2	63	47	0
	4	"	-	0	0	0	0

COD

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	25	646	646	0
	2	"	-	30	645	645	0
	3	"	-	50	802	802	0
	4	"	-	26	515	515	0
Skager-rak	1	Mixed	-	22	425	425	0
	2	"	-	27	411	411	0
	3	"	-	55	869	869	0
	4	"	-	30	659	631	0
Katte-gat	1	Mixed	-	47	694	694	0
	2	"	-	11	248	248	0
	3	"	-	25	506	506	0
	4	"	-	22	427	427	0

HADDOCK

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	47	606	584	0
	2	"	-	22	545	545	0
	3	"	-	30	531	531	0
	4	"	-	30	702	565	0
Skager-rak	1	Mixed	-	3	290	290	0
	2	"	-	4	32	32	0
	3	"	-	38	1059	1059	0
	4	"	-	14	442	393	0
Katte-gat	1	Mixed	-	7	13	12	0
	2	"	-	1	2	2	0
	3	"	-	3	112	112	0
	4	"	-	2	6	6	0

SAITHE

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	-	4	375	375	0
	2	"	-	4	363	363	0
	3	"	-	4	239	239	0
	4	"	-	3	275	275	0
Skager-rak	1	Mixed	-	0	0	0	0
	2	"	-	0	0	0	0
	3	"	-	1	113	113	0
	4	"	-	0	0	0	0

Finland

(V. Sjöblom + E. Aro)

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

France

(J. Guéguen)

1 - Travaux de l'Institut des Pêches (ISTPM)

1.1. Travaux à la mer -

- Par suite de l'indisponibilité du N.O. Thalassa, la participation à la campagne internationale IYFS n'a pu être assurée.

- La campagne DYFS a eu lieu du 17 au 22 septembre de la fontière belge à la Baie de Somme. ELle a permis de dresser l'inventaire des jeunes poissons plats et d'évaluer l'abondance des prérecrues et recrues. On a pu mettre en évidence l'abondance considérable des plies du groupe 0 et l'augmentation du nombre de jeunes soles entre la Baie de Somme et la Cap Gris-Nez alors que ces poissons sont en diminution entre Gris-Nez et la frontière belge.

- Du 24 novembre au 15 décembre, la campagne d'inventaire des jeunes gadidés en Mer Celtique a eu lieu sur la Thalassa. Elle a permis de constater l'absence de morues du groupe 0 et de confirmer l'excellent niveau de la classe 1979.

- Le Roselys II a prospecté les nurseries littorales sur les côtes de Normandie, Bretagne nord, Bretagne sud et estuaire de la Loire. Ces missions ont pour but, à terme, de permettre le calcul d'indices d'abondance des jeunes poissons plats.

- La Pélagia a été utilisée pour les recherches sur le merlu et la sole dans le Golfe de Gascogne : 4 campagnes trimestrielles permettent d'évaluer les rejets correspondant aux pêches de type artisanal. Une campagne en fin d'automne porte sur le recrutement du merlu : d'après l'indice établi à l'issue de la mission, la classe 1981 serait laplus abondante des cinq dernières années.

- Des observations et échantillonnages réguliers ont eu lieu en zone côtière entre Dunkerque et Calais, en baie de Somme et dans l'estuaire de la Seine (chalut à perche de 3 m et push net de Riley). Ces travaux sont liés aux projets d'implantation ou aux implantations de centrales thermiques ou d'industries sur le littoral. Plie, sole, limande, merlan et tacaud sont les espèces plus particulièrement suivies.

- Une campagne de marquage de dorade grise (Spondyliosoma cantharus) a eu lieu en Manche occidentale en février. ELle a porté sur 1 350 poissons.

- Des échantillonnages ont été réalisés sur les navires artisanaux travaillant sur la sole ou la crevette dans le Golfe de Gascogne et sur les langoustiniers opérant en Mer Celtique et Mer d'Irlande. Une partie du travail mené dans la division VII a été conjointement réalisée par la République d'Irlande, l'Irlande du Nord et la France grâce à un financement CEE et a permis d'étudier les résultats de 300 traits de chalut sur les fonds à langoustine. EN Mer d'Irlande, le merlan représente l'essentiel des captures secondaires tandis qu'en Mer Celtique la cardine est prédominante.

1.2. Travaux à terre -

L'échantillonnage des apports a eu lieu dans les principaux ports français comme le montre le tableau ci-joint.

Des clefs taille-âge ont été réalisées pour le lieu noir et l'églefin du secteur VIa; le merlan des secteurs VIa, VIIa, d, f, g ; le merlu du "stock nord" ; la sole des secteurs VIId, e et VIIIa,b ; la plie des secteurs VIId,e ; la dorade grise des secteurs VIIe et VIII a,b.

La collecte de données sur l'effort de pêche des principales flottilles hauturières a été poursuivie.

Une évaluation du niveau d'exploitation du stock de sole du Golfe de Gascogne a été tentée : la mortalité par pêche dépasse actuellement Fmax

2- Travaux des universités

Une étude comparative de la biologie des soleidae du Golfe de Gascogne et de la Mer du Nord est en cours au Centre d'Océanographie de La Rochelle et doit donner lieu à des publications prochainement.

L'Université de Bretagne Occidentale poursuit ses travaux sur l'écologie et la biologie des poissons benthiques des côtes du Finistère : des prospections et échantillonnages réguliers sur les fonds chalutables en Mer d'Iroise ont permis :

- de compléter l'inventaire des poissons benthiques

- de poursuivre l'étude de la répartition des espèces, de leur abondance relative et de leurs structures démographiques,

- de collecter le matériel nécessaire aux études sur la croissance, la reproduction et l'alimentation des espèces les plus abondantes.

En 1981 des travaux étaient en cours sur :

- la biologie de quatre espèces de grondins en baie de Douarnenez et Mer d'Iroise (J. Baron)

- la dynamique des populations de lophiidés (Lophius piscatorius et L. budegassa) de Mer d'Iroise et du Plateau Celtique (D. Gaertner)

- la reproduction et la croissance de deux gadidés des côtes bretonnes : Trisopterus luscus et T. minutus

- la répartition et l'abondance des poissons sélaciens et teleostéens des côtes du Finistère (L. Quiniou).

ECHANTILLONNAGES -

région	saison	type de poisson	nb échantillons		nb de poissons	
			NAVIRE	marché	mesurés	dont âge déterminé
Squalus acanthias		mélangé				
VIIa	4		X		244	
VIIf	4		X		33	
VIIg	4		X		87	
Raja montagui						
VIIa	4		X		46	
VIIf	4		X		86	
VIIg	4		X		13	
Raja clavata						
VIIa	4		X		402	
VII d	2		X		59	
	3		X		73	
VIIe	2		X		127	
	4		X		163	
VIIf	4		X		93	
VIIg	4		X		47	
Raja undulata						
VIIe	4		X		133	
Merlucius merlucius						
VIa	1			X	403	
	2			X	126	
	4			X	228	
VIIa	4		X		129	
VIIe	3			X	570	
	4		X	X	436	
VIIf	3			X	560	
	4		X	X	636	
VIIg	1			X	374	
	2			X	1 280	
	3		X	X	1 364	
	4		X	X	1 743	
VIIh	4		X	X	272	
VIIIa b	1		X	X	8 940	
	2		X	X	10 335	
	3		X	X	8 608	
	4		X	X	4 358	

région	saison	type de poisson	nb échantillons		nb poissons	
			navire	marché	mesurés	DONT AGE déterminé
Gadus morrhua						
IVa	3	mélangé		X		136
VIa	1			X	904	175
	2			X	768	170
	3			X	609	150
	4			X	669	240
VIIa	1			X	765	126
	2			X	794	166
	3		X	X	1 602	161
	4		X	X	1 013	141
VIId	1			X	31	
	2			X	75	
	4		X	X		246
VIIe	1			X	30	
	2			X	75	
	4		X	X		246
VIIf	1			X	817	178
	2			X	748	189
	3			X	662	161
	4		X	X	276	160
VIIg	1			X	796	174
	2			X	477	63
	3			X	1 379	187
	4			X	993	211
VIIh	4		X		3	
Merlangius merlangus						
IVa	1			X	183	183
	2			X	157	157
	3		X	X	1 067	215
	4		X	X	560	235
VIa	1			X	1 073	80
	2			X	211	56
	3			X	409	103
	4			X	433	56
VIIa	1			X	873	105
	2			X	903	162
	3		X	X	4 737	139
	4		X	X	1 748	126
VIId	1			X	260	
	2		X	X	210	
	3		X	X	466	27
	4		X	X	639	236

région	saison	type de poisson	nb échantillons		nb de poissons	
			navire	marché	mesurés	dont âge déterminé
Merlangius merlangus suite)						
VIId	1	mélangé		X	260	
	2		X	X	210	
	3		X	X	466	27
	4		X	X	639	236
VIIe	1			X	261	
	2			X	142	
	3		X	X	116	
	4		X		207	
VIIf	1			X	941	94
	2			X	765	168
	3			X	742	149
	4		X	X	1 044	-
VIIg	1			X	946	91
	2			X	523	57
	3		X	X	2 406	181
	4		X	X	2 805	165
VIIIa b	1		X			650
	2		X			885
	3		X			1 184
	4		X			3 312
Melanogrammus aeglefinus						
IV	1			X		34
VIa	1			X	927	111
	2				710	130
	3				588	125
	4				720	107
VIIe	4		X		89	
VIIg	4		X		35	
Pollachius virens						
VIa	1			X	1 076	189
	2			X	994	170
	3			X	957	166
	4			X	882	169
Trisopterus esmarki						
VII g	4		X		88	
Trisopterus minutus						
VIIe	4		X		303	
VIIf	4		X		236	
VIIg	4		X		61	

région	saison	type de poisson	nb échantillons		nb de poissons	
			navire	marché	mesurés	dontâge déterminé
TRisopterus luscus						
		mélangé				
IV			X		1 951	
VIIa	4		X		210	
VIId	2		X	X	413	127
	3		X	X	6 310	22
	4		X		5 856	96
VIIf	4		X		375	
VIIg	4		X		42	
Spondyliosoma cantharus						
VIIe	1		X	X	3 740	537
	2		X	X	1 376	234
	3		X		102	50
	4		X		1 641	90
VIIIa	1			X	327	104
	2			X	85	85
	4			X	1 367	405
VIIIb	1			X	1 569	168
	4			X	123	85
Aspitrigla cuculus						
VIIa	4		X		163	
VIIe	4		X		179	
VIIf	4		X		22	
VIIg	4		X		26	
Eutrigla gurnardus						
VIIa	4		X		389	
VIIe	4		X		204	
VIIf	4		X		125	
VIIg	4		X		190	
Trigla lucerna						
VIId	2		X	X	190	
	3		X		19	
	4		X		15	150
VIIe	2		X	X	204	
	3		X			
	4		X		174	150
Pollachius pollachius						
VIIa	4		X		8	

région	saison	type de poisson	nb échantillons		nb de poissons	
			navire	marché	mesurés	dont âge déterminé
Lepidorhombus wiff iagonis						
		mélangé				
VIIa	4		X		17	
VIIe	4		X		35	
VIIg	3		X		2 200	
	4		X		2 031	
VIIh	4		X		8	
Microstomus kitt						
VIIa	4		X		69	
VIIe	4		X		8	
VIIf	4		X		8	
VIIg	4		X		231	
VIIh	4		X		27	
Limanda limanda						
IV	3		X		1 461	263
	4		X		11 955	
VIIa	4		X		524	
VIId	2		X		2 131	
	3		X		4 894	87
	4		X		16 386	229
VIIe	2		X		21	
	3		X	X	60	110
	4		X		96	122
VIIf	4		X		79	
VII g	4		X		141	
VIIIa	4		X		91	
Pleuronectes platessa						
IV	3		X		1 586	179
	4		X		2 087	
VIIa	3		X		211	
	4		X		255	
VIId	1			X	274	
	2		X	X	667	
	3		X	X	1 549	228
	4		X		3 178	234
VIIe	1			X	275	
	2		X	X	1 436	
	3		X	X	122	193
	4		X			150
VIIf	4		X		68	
VIIg	4		X		21	

région	saison	type de poisson	nb échantillons navire	nb échantillons marché	nb de poissons mesurés	nb de poissons dont âge déterminé
Pleuronectes platessa						
VIIIa	2		X		116	
	3		X		34	
	4		X		325	
Hippoglossoïdes platessoïdes						
VIIg	4		X		259	
Solea vulgaris						
IV	3		X		217	146
	4		X		623	
VIIa	4		X		30	
VIId	1			X	114	
	2		X	X	602	
	3		X		771	146
	4		X		788	108
VIIe	1			X	114	
	2		X	X	4 896	
	3		X			101
	4		X		2 452	107
VIIf	4		X		20	
VIIg	4		X		20	
VIIIa	1		X	X	3 241	
	2		X	X	2 978	
	3		X	X	2 499	
	4		X	X	5 773	
Lophius piscatorius						
VIIa	4		X		29	
VIIe	4		X		138	
VIIg	4		X		104	
VIIIa b	1		X		590	
	2		X		441	
	3		X		562	
	4		X		195	

MARQUAGES - 1981 -

Espèce	secteur	saison	type marque	nb poissons marqués	type poissons
Spondyliosoma cantharus	VIIe	trim 1		1 366	adultes

German Democratic Republic
(B. Vaske)

Sampling Data

Species/ Area	Season Quarter	No. of Samples		No. of Fish	
		Research Vessel	Commercial Vessel	Measured	Aged
Redfish (S.mentella)					
II a	2		21	4543	500
II b	3	26		7352	1677
Greenland Halibut					
II b	3	21		2873	1640
Cod					
II b		4		93	59
Long Rough Dab					
II b	3	5		289	
Roughhead Grenadier					
II b	3	1		11	

Federal Republic of Germany

(G. Rauck)

The biological sampling programme on board research vessels, commercial vessels and fish markets for demersal species has been continued. These investigations include length frequency measurements, otolith sampling, single weights of fish, stomach analyses and studies on fish density and distribution.

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 in order to assess mainly the year class strength of plaice and sole.

Further experiments on beam trawl selectivity were carried out on board small commercial cutters using 70, 80 and 90 mm mesh opening.

Due to the increasing commercial importance in Germany of blue ling, Grenadier and Greenland halibut, the biological sampling scheme of these three species has been intensified on board research vessels and from fishmarket landings.

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

R.V. "Walter Herwig"

Months	ICES area	No. of trips	Objectives
June/July	Va, XIV, X	1	Groundfish survey
Sept./Oct.	Vb, VIa	1	Groundfish survey
Nov./Dec.	NAFO/XIV	1	Groundfish survey

R. V. "Anton Dohrn"

Months	ICES area	No. of trips	Objectives
Jan.	IVb	1	Groundfish survey
Jan./Feb.	IVb	1	IYHS
Feb./March	NAFO/XIV	1	Groundfish survey
May	IVb	1	Groundfish survey
Oct.	IVb	1	Groundfish survey
Nov./Dec.	2HJ/3R	1	Groundfish survey

R. V. "Solea"

Jan.	IVb, IVc	1	Groundfish survey
Febr./March	IVb	1	Groundfish survey
April	IVb	1	Sole beam trawl
May/June	IVb	1	Groundfish survey
June	IVb	1	Set net (turbot)
Aug./Sept.	IVb	1	Groundfish survey
Sept.	IVa/IVb	1	Groundfish survey
Nov.	IVb	1	Groundfish survey

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish Measured	No. of Fish Aged	Racial Investigations	No. of Samples	No. Of Fish Measured	No. Of Fish Aged
Redfish								
S.marinus IIa	I					5	1575	371
	II					3	570	100
	IV					3	1204	509
S.mentella IIa	IV					1	438	130
S.marinus IIb	III	1	438	163				
S.mentella IIb	III	38	6126	345				
S.mentella Vb	IV					4	2215	649
	III	3	315	227				
S.marinus XIV	I	15	3156	815		4	2013	339
	II	85	11164	107		5	1417	305
	IV	43	11563	-		4	1594	-
S.mentella	I	7	836	-		-	-	-
	III	62	15748	978		3	1529	-
	IV	43	5902	-		2	558	-

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish Measured	No. of Fish Aged	Racial Investigationn	No. of Samples	No. Of Fish Measured	No. Of Fish Aged
Macrourus berglax XIV	III	22	1242	306				
Coryphaenoides rupestris VIa	III	26	3221	542				
Cod XIVb	I	13	1354	325		21	5520	545
	III	51	2020	713		2	529	-
	IV	59	2275	657		-	-	-

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish			No. of Samples	No. Of Fish	
			Measured	Aged	Racial Investigationn		Measured	Aged
Cod								
Ib	III	2	73	73				
IIa	I, II	-	-	-	-	6	1379	785
IIb_1, b_2	III	35	690	630				
IIb_3	III	12	189	186				
IIa_1, a_2, a_3	III	15	371	351				
IVa	I II	36	418	425				
	III IV	53	308	10				

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish Measured	No. of Fish Aged	Racial Investigationn	No. of Samples	No. Of Fish Measured	No. Of Fish Aged
Cod								
IVb	I	109	8540	1641		1	883	306
	II	131	5676			3	733	324
	III	73	2079	806		1	938	938
	IV	154	1992			3	2545	203
IVc	I	63	4175	1069				
	II							
	III							
	IV							
VIa/VIIb, VIIc	II	15	35	25				
VIa_1	III	10	83	82				
VIa_2	III	11	42	40				
VIIb, c	III	8	26	26				
VIIj, g	III	9	33	32				

Species Area	Season	Research Vessel Samples					Market Samples	
		No. of Samples	No. of Fish Measured	Aged	Racial Investigationn	No. of Samples	No. Of Fish Measured	Aged
Haddock								
Ib, IIb_1, IIb_2, IIb_3	III	9	28	28				
IIa_1, IIa_2, IIa_3	III	8	71	37				
IIa								
IVa	I	40	11947	1668				
	II							
	III	2	308	10				
	IV							
IVb	I	107	2687	993				
	II							
	III	4	1654	806				
	IV							
IVc	I	3	22					
	II							
	III							
	IV							
VIa_1	II	3	540	10				
	III	16	3651	373				

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish Measured	No. of Fish Aged	Racial Investigations	No. of Samples	No. Of Fish Measured	No. Of Fish Aged
Haddock ctd.								
VIa2	III	18	4709	812				
VIb	III	13	3499	1119				
VIIb, c	II	14	838	647				
VIIb, c	III	10	704	203				
VIIj, g	II	20	156	132				
VIIj, g	III	5	247	24				
Whiting								
IVa	I	39	6653	691				
	II							
	III							
	IV							
IVb	I	109	3387	72				
	II	130	781					
	III	80	2325					
	IV	1151	991					
IVc	I	5	957					
	II							
	III							
	IV	36	202					

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish Measured	No. of Fish Aged	Racial Investigations	No. of Samples	No. Of Fish Measured	No. Of Fish Aged
Haddock								
IVa	II	3	554					
VIa_1	III	17	1513					
VIa_2	III	16	1293					
VIIb	II	4	139					
Whiting								
VIIb, c	III	9	716					
VIIj, g	II	16	475					
	III	7	50					
Saithe								
IIa	I					4	1206	693
	II					6	1518	629
	III	1	817	476		4	1576	606
	IV					6	2160	1313
IVa	I	1	73			3	875	465
	II					5	2121	1015
	III					3	1201	738

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish			No. of Samples	No. Of Fish	
			Measured	Aged	Racial Investigations		Measured	Aged
Saithe ctd.								
IVb	I	3	1052	319				
VI+VII	II	1	655	-				
	III	1	173	45				
Blue Ling								
Va	IV	1	86	86				
Vb	I					5	911	527
	IV					2	354	102
VI	IV	1	305	305				
VIb	IV	1	245	245				
XIV	II	1	246	115				
Norway Pout								
IVa	I	14	178					
	III	5	313					
IVb	I	33	3069					
Poor cod								
IVb	I	4	114					

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish Measured	No. of Fish Aged	Racial Investigationn	No. of Samples	No. Of Fish Measured	No. Of Fish Aged
Plaice								
IVb	I	28	2440			7	2047	959
	II	138	13486			4	3455	638
	III	30	6000			6	2212	778
	IV	138	8682			5	2028	1005
IVc	I	10	236					
	II							
	III							
	IV							
Sole								
IVb	I	-	-			1	251	250
	II	236	484			2	2556	1006
	III	68	2910	922		3	2812	577
	IV	115	1169			2	1183	612
DAb.								
IVb	I	55	2018					
	II	262	13006					
	III	77	2506					
	IV	287	21218					
IVc	I	15	413					

Species Area	Season	Research Vessel Samples				Market Samples		
		No. of Samples	No. of Fish Measured	No. of Fish Aged	Racial Investigationn	No. of Samples	No. Of Fish Measured	No. Of Fish Aged
Flounder								
IVb	I	45	272					
	II	109	788					
	IV	71	174					
IVc	I	2	49					
Turbot								
IVb	I					1	75	75
	II	30	330	327		3	743	711
	IVI					3	241	240
	IV					-	-	-
Greenland Halibut								
XIV	II+IV	26	502	502				
IIh -j	IV	42	3106	3106				

Iceland

(J. Magnusson)

The research work on demersal species was carried out in Iceland along the same lines as in previous year. There were no major changes in the research activities. The research vessel activities were somewhat decreased because of limited vessel time.

The special programmes on juvenile and spawning cod were revised and modified. The programme on the behaviour of cod off NW Iceland was continued. The programme on feeding habits of demersal fish was continued and expanded. Research on plaice has been intensified during the last years in connection with increased danish-seine fishery.

The three branches of the Marine Research Institute were operated with unchanged tasks. The fishery inspectors continued to collect data on demersal fish, particularly cod, on board commercial vessels.

One cruise of r/s "Bjarni Sæmundsson" was directed to the East Greenland Waters to examine eventual spawning of Greenland Halibut in these waters. In another cruise, some effort was directed to the redfish nursery grounds off East Greenland. Cod research and tagging was also carried out in the same area during that cruise.

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

Iceland - Sampling data for Cod 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	209	-	32870	1773	-
"	"		27	3569	1214	-
"	Apr.-June	356		62962	3209	2171
"	"		41	4677	1800	-
"	July-Sept.	258		29221	1257	-
"	"		12	1828	500	_
"	Oct.-Dec.	233		31177	1557	415
"	"		14	1485	500	-
Total		1056	94	167789	11810	2586
XIV	July-Sept.	40	-	584	389	2270

Iceland - Sampling data for Haddock 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	43	-	2713	397	-
"	"		14	1692	700	-
"	Apr.-June	87		8328	1518	-
"	"		8	859	400	-
"	July-Sept.	58		5431	100	-
"	"		7	607	300	-
"	Oct.-Dec.	64		5547	513	-
"	"		13	1542	501	-
Total		252	42	26719	4429	-

Iceland - Sampling data for saithe 1981

Area	Season	No. of samples			No. of fish	
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	17		2694	506	-
"	"		13	1538	700	-
"	Apr.-June	10		413	92	-
"	"		11	1411	500	-
"	July-Sept.	22		531	98	-
"	"		6	605	200	-
"	Oct. -Dec.	15		269	292	-
"	"		7	691	300	-
Total		64	37	8152	2688	-

Iceland - Sampling data for whiting 1981

Area	Season	No. of samples			No. of fish	
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	3		17		
"	Apr.-June	5		86		
Sub. total		8		103		

Iceland - Sampling data for redfish 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
			S. marinus			
Va	Jan.-March	61		6491	—	—
"	"		9	1790	—	—
"	Apr.-June	35		1846	—	—
"	"		11	2241	—	—
"	July-Sept.	87		9006	100	—
"	"		8	1693	100	—
"	Oct.-Dec.	10		1809	—	—
"	"		12	2080	600	—
Sub total		193	40	26956	800	—
XIV	Jan.-March	4		179	—	—
"	July-Sept.	27		2474	—	—
Sub total		31		2653	—	—
Grand total		224	40	29618	800	—

Iceland - Sampling data for redfish 1981 - S. mentella

Area	Season	No. of samples			No. of fish	
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	10		791	—	—
"	"		4	829	—	—
"	Apr.-June	2		550	—	—
"	"		5	1207	—	—
"	July-Sept.	5		72	—	—
"	Oct.-Dec.	1		2	—	—
Sub total		18	9	3451	—	—
XIV	Jan.-March	5		63	—	—
"	July-Sept.	15		1437	—	—
"	Oct. -Dec.	1		13	—	—
Sub total		21		1513	—	—
Grand total		39	9	4964	—	—

Iceland - Sampling data for Norway pout 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	-	-	-	-	-
"	Apr.-June	-	1	212	56	
"	July-Sept.	-	-	-	-	-
"	Oct. -Dec.	-	-	-	-	-
Total			1	212	56	

Iceland - Sampling data for ling 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March		1	81		
"	Apr.-June	12		225	100	
"	Oct.-Dec.	3		5		
Sub total		15	1	311	100	

Iceland - Sampling data for halibut 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	-	-	-	-	-
"	Apr.-June	3	-	4	-	11
"	July-Sept.	3	-	26	-	-
"	Oct.-Dec.	4	-	13	16	22
Total		10		43	16	33

Iceland - Sampling data for plaice 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-march	-	-	-	-	-
"	Apr.-June	5	-	242	300	1000
"	July-Sept.		23	4153	924	
"	Oct.-Dec.	9	6	544	1375	2120
Total		14	29	4939	2599	3120

Iceland - Sampling data for Catfish (A. lupus) 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	15	1	596	734	-
"	Apr.-June	19	2	698	300	239
"	July-Sept.	2	-	645	-	-
"	Oct.-Dec.	14	-	217	448	353
Total		50	3	2156	1482	592

Iceland - Sampling data for Greenland halibut 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	8	1	136	33	
"	Apr.-June		17	2772	1749	
"	July-Sept.		7	919	850	
"	Oct.-Dec.		3	1004	200	
Total		8	28	4831	2832	

Iceland - Sampling data for silver smelt

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	9	-	175	-	-
"	Apr.-June	1	-	111	-	-
"	July-Sept.	6	-	172	-	-
"	Oct.-Dec.	1	-	1	-	-
Sub. total		17		459		
XIV	Jan.-March	4		4		
"	July-Sept.	6		59		
Sub. total		10		63		
Grand total		27		522		

Iceland - Sampling data for blue ling 1981

Area	Season	No of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	22		2407	200	-
"	"	-	4	499	-	-
"	Apr.-June	2	-	23	-	-
"	"	-	1	253	-	-
"	July-Sept.	6	-	15	3	-
"	"	-	1	112	-	-
"	Oct.-Dec.	6	-	126	-	-
"	"	-	2	210	-	-
Sub total		36	8	3645	203	
XIV	Jan.-March	1	-	4	-	-
"	July-Sept.	1	-	3	-	-
Sub total		2		7		
Grand total		38	8	3652	203	

Iceland - Sampling data for roundnose grenadier 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	9	-	413	259	-
"	July-Sept.	6	-	745	200	-
Sub total		15		1037	459	
XIV	Jan.-March	2	-	8	-	-
"	Oct.-Dec.	5	-	245	-	-
Sub total		7		374		
Grand total		22		1411	459	

Iceland - Sampling data for roughhead grenadier 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	5	-	19	12	-
"	July-Sept.	3	-	16	-	-
"	Oct.-Dec.	7		31	-	-
Sub total		15		66	12	
XIV	Jan.-March	9		469	100	
"	July-Sept.	5		29		
Sub total		14		498	100	
Grand total		29		564	112	

Iceland - Sampling data for tusk 1981

Area	Season	No. of samples		No. of fish		
		Research vessels	Market samples	Measured	Aged	Tagged
Va	Jan.-March	6		19	–	–
"	Apr.-June	10		33	–	–
"	July-Sept.	6		37	–	–
"	Oct.-Dec.	2		523	–	–
Sub total		24		612	–	–
XIV	Jan.-March	1		1	–	–
	July-Sept.	3		4	–	–
Sub total		4		5	–	–
Grand total		20		617		

IRELAND

(J.P. Hillis)

Commercial samples of cod, haddock, whiting and plaice were sampled in Divisions VIa and VIIa, including whiting bycatch in the *Nephrops* fishery based at Skerries in VIIa. An EEC-supported experiment in *Nephrops* trawling during September-October involved Irish and French *Nephrops* trawlers performing parallel hauls in a normal commercial manner and whiting sampled during this experiment are responsible for the large numbers sampled at Skerries in the third quarter of the year.

Studies on fish discarded at sea (mainly whiting) were continued in VIa and VIIa, and a study on cod stomach contents in VIIa was commenced, mainly with a view to assessing the incidence of *Nephrops* in food. In all, 205, 66, 179 and 100 stomachs were sampled respectively in the four quarters, making a total of 550.

Spring and autumn beam trawl surveys were again carried out on juvenile plaice in shallow water in VIIa.

Species	Division	Port	Season	No. of Samples	No. of Fish Measured	No. of Fish Aged
COD	VIa	Killybegs	1	13	525	295
			2	9	359	273
			3	1	18	18
			4	5	115	100
		Greencastle	2	4	183	156
			4	5	128	116
Total				37	1 328	958
	VIa	Howth	1	7	214	197
			2	2	66	66
			3	8	188	184
			4	5	99	99
		Dunmore East	2	5	129	118
		Kilmore Quay	4	3	282	138
Total				30	978	802
Overall Total				67	2 306	1 760
HADDOCK	VIa	Killybegs	1	4	384	165
			2	5	462	267
			3	4	485	191
			4	4	291	143
		Greencastle	2	3	225	116
			4	2	375	137
Overall Total				22	2 222	1 019
WHITING	VIa	Killybegs	1	6	927	366
			2	4	1 073	144
			3	4	901	127
			4	2	362	97
Total				16	3 263	734
	VIIa	Howth	1	6	1 155	334
			2	4	771	227
			3	4	719	187
			4	3	631	80
		Skerries	1	1	455	-
			2	1	70	-
			3	13	2 434	-
			4	2	276	44
Total				34	6 511	872
Overall Total				50	9 774	1 606

Species	Division	Port	Season	No. of Samples	No. of Fish			
					Measured		Aged	
					Male	Female	Male	Female
PLAICE	VIa	Killybegs	1	6	388	313	131	204
			2	4	697	561	220	222
			3	6	575	361	(177)	(110)
			4	2	277	176	(61)	(90)
		Greencastle	2	5	112	235	99	154
			4	1	75	106	(20)	(28)
Total				24	2 033	1 752	648	808
Total both sexes					3 790		1 456	
	VIIa	Howth	1	3	200	283	115	143
			2	3	62	363	54	1 09
			3	3	79	206	36	54
			4	2	141	193	72	93
		Dunmore East	2	2	47	246	34	72
		Kilmoore Quay	4	7	154	458	42	79
Total				20	683	1 749	383	550
Total both sexes					2 432		903	
Overall Total					2 721	73 501	1 001	1 358
Both sexes					6 222		2 359	

Numbers in brackets denote otoliths collected but not yet aged.

Netherlands

(F. A. van Beek)

Within the framework of demersal fish research, R.V. "Tridens" made 4 cruises in 1982. R.V. "Stern" made 5 cruises and R.V. "Schollevaar" made 15 cruises. The commercial cutters WR 57, TX 34 and GO 29 were chartered for a total of 18 weeks for specific research projects at sea.

In April and in September/October the R.V. "Tridens", R.V. "Stern", R.V. "Schollevaar" and the cutter GO 29 made 2 standard recruitment surveys on demersal species in the continental nursery areas in co-operation with Belgian and German research vessels.

The R.V. "Tridens" participated in the ICES Young Fish Surveys in February for estimating the abundance of 1-year old gadoids. In addition R.V. "Tridens" made a cruise in June/July to estimate the O-group abundance of gadoids.

In May mesh selection experiments on plaice were carried out with the cutter WR 57 in the German Bight north of the Waddensea Islands. In August/September further mesh selectivity experiments on sole were carried out on board of the cutters WR 57 and TX 34 along the Dutch coast and near the Black Bank.

In the Zeeland estuary R.V. "Schollevaar" made 12 cruises in winter and spring to collect data on migration of plaice and sole larvae into the nurseries.

In the Waddensea R.V. "Stern" carried out 3 sole tagging surveys in the months May/June, July and August. In this area 3831 O- and I-group soles were tagged and released with Petersen mini discs.
In the Zeeland estuary R.V. "Schollevaar" carried out 1 sole tagging survey, which yielded 160 tagged soles.

Along the Dutch beach a monthly sampling program with a 2 cm beamtrawl was carried out with a rubberboat in order to determine the importance of the shallow part of the coastal area as nursery for O-group flatfish.

During all surveys, length compositions were defined and otoliths were sampled for sole, plaice, dab, turbot, brill, cod, whiting and haddock.

The market sampling program for cod, whiting, haddock, sole and plaice in the North Sea and Irish Sea were continued.
In 1981 a market sampling program for turbot and brill was also started. This will be continued in future.

1981 SAMPLING DATA FOR DEMERSAL FISH SPECIES

Species/area	Season	No. of fish for age determination only		Number of fish	
		research vessel	market	measured ')	aged ")
SOLE Golf de Biscay	2nd quarter				
IV-b	1st quarter	-	450		450
	2nd "	258	850		1108
	3rd "	-	450		450
	4th "	251	550		550
IV-c	1st quarter	-	200		200
	2nd "	260	600		860
	3rd "	114	300		414
	4th "	304	250		554
VII-a	1st quarter	-	150		150
	2nd "	-	150		150
	3rd "	-			
	4th "	-			
Dutch Waddensea	2nd quarter	127			127
	3rd "	13			13
	4th "	126			126
Zeeland estuary	2nd quarter	89			89
	4th "	188			188
PLAICE					
IV-b	1st quarter	-	2100		2100
	2nd "	1203	840		2043
	3rd "	-	770		770
	4th "	1142	770		1912
IV-c	1st quarter	-	350		350
	2nd "	549	140		689
	3rd "	40	140		180
	4th "	527	350		877

1981 SAMPLING DATA FOR DEMERSAL FISH SPECIES (continued).

Species/area	Season	No. of fish for age determination only		Number of fish	
		research vessel	market	measured')	aged")
PLAICE (continued)					
Dutch Waddensea	2nd quarter	468			468
	4th "	342			342
Zeeland estuary	2nd quarter	79			79
	4th "	101			101
DAB					
IV-b	2nd quarter	866			
	4th "	707			
IV-c	2nd quarter	351			
	4th "	326			
Dutch Waddensea	2nd quarter	72			
	4th "	118			
Zeeland estuary	2nd quarter	23			
	4th "	113			
TURBOT					
IV-b	1st quarter	2	73		75
	2nd "	214	40		254
	3rd "	23	--		23
	4th "	---	38		38
IV-c	1st quarter	---	--		---
	2nd "	17	41		58
	3rd "	410	10		420
	4th "	---	85		85
Inner-coastal area IV-c	1st quarter	---	--		---
	2nd "	4	--		4
	3rd "	1	--		1
	4th "	63	--		63
Dutch Waddensea	2nd quarter	---	--		---
	4th "	1	--		1
Zeeland estuary	2nd quarter	---	--		---
	4th "	---	--		---

1981 SAMPLING DATA FOR DEMERSAL FISH SPECIES (continued).

Species/area	Season	No. of fish for age determination only		Number of fish	
		research vessel	market	measured ')	aged ")
COD					
IV	1st quarter	1041	400	2721	1441
	2nd "	654	400	2291	1054
	3rd "	320	500	1626	820
	4th "	237	450	2386	687
HADDOCK					
IV	1st quarter	854	50	839	904
	2nd "	367	50	636	417
	3rd "	279	100	732	379
	4th "	177	50	272	227
WHITING					
IV	1st quarter	990	100		1090
	2nd "	482	100		582
	3rd "	350	100		450
	4th "	297	100		397
SAITHE					
IV	1st quarter	22			22
	2nd "				
	3rd "				
	4th "				

') market only.
") market and research vessel.

Species/area	Season	No. of fish for age determination only		Number of fish	
		research vessel	market	measured')	aged")
IV-b	1st quarter	---	17		17
	2nd "	129	--		129
	3rd "	---	--		---
	4th "	17	20		37
IV-c	1st quarter	---	10		10
	2nd "	8	19		27
	3rd "	222	--		222
	4th "	32	52		84
Inner-coastal area IV-c	1st quarter	---	--		---
	2nd "	3	--		3
	3rd "	11	--		11
	4th "	6	--		6
Dutch Waddensea	2nd quarter	---	--		---
	4th "	5	--		5
Zeeland estuary	2nd quarter	---	--		---
	4th "	---	--		---

Norway

(C.J. Rørvik)

Sub-areas I and II

The research activities at sea were nearly the same in 1981 as in the last years. The distribution of young cod and haddock was investigated during a combined acoustic and stratified bottom trawl survey in the Barents Sea in February - March. Two commercial trawlers were hired to participate in the stratified bottom trawl survey together with one research vessel. The investigations on the distribution and the drift of cod egg and larvae were continued in March - May with surveys in Lofoten. In August - September the annual international 0-group fish survey were carried out in the Barents Sea and adjacent areas. In September - October the distribution and abundance of cod, haddock, redfish, Greenland halibut and blue whiting were investigated in the Bear Island - West Spitsbergen area. The distribution of spawning cod in Lofoten and off Møre was investigated during two surveys. The distribution of silver smelt along the Norwegian coast was investigated during one survey in April - May and during another one in October - November. Tagging experiments of the major roundfish species continued.

The sampling of Recommendation 2 Fisheries in Division IVa was continued. As part of the international surveys the distribution and abundance of I- and II-group gadoids were studied in February.

Note: Concerning the attached tables, the data for the last two quarters are preliminary. Updated tables for 1980 are available on request.

SPECIES AREA	Season	RESEARCH VESSEL Aged No.of samples	RESEARCH VESSEL Aged No.of fish	RESEARCH VESSEL Measured No.of samples	RESEARCH VESSEL Measured No.of fish	Tagged	MARKET Aged No.of samples	MARKET Aged No.of fish	MARKET Measured No.of samples	MARKET Measured No.of fish
Cod										
I	1	35	2185				3	249	9	1599
	2	2	211	23	516		15	1324	40	8218
	3	4	331				16	1468	40	7430
	4						22	2164	1	191
IIa	1	43	2180	2	1230	3645	66	6207	28	4903
	2	26	1798	17	3016	5444	54	4967	36	9895
	3	9	175			1187	14	968	6	841
	4	13	219			1564	15	1412	6	1071
IIb	2						8	339	5	527
	3	25	1107	135	2510				3	201
	4	7	281	28	527					
IVa	1	14	168				1	103	25	611
	2						2	160	32	366
	4	2	54	18	60				14	170
Vb	1	22	217	18	265					
Haddock										
I	1	20	1002						3	597
	2			13	105		5	363	18	815
	3						14	1399	31	7878
	4								1	187
IIa	1	12	499				15	1385	12	2287
	2	24	1176	9	1634		12	1135	13	1319
	3	1	48				14	1337	11	1324
	4						1	119	5	1084
IIb	3			41	147					

SPECIES AREA	Season	RESEARCH VESSEL Aged No.of samples	RESEARCH VESSEL Aged No.of fish	RESEARCH VESSEL Measured No.of samples	RESEARCH VESSEL Measured No.of fish	Tagged	MARKET Aged No.of samples	MARKET Aged No.of fish	MARKET Measured No.of samples	MARKET Measured No.of fish
Haddock (contd)										
IVa	1	12	243	18	3417				32	1077
	2						1	54	36	914
	3								28	1485
	4	10	311	31	3163				13	373
IVb	1	17	158	17	1328					
Saithe										
I										
	2						4	296	1	265
	3						5	502	3	388
	4						3	361		
IIa	1	3	132				8	509	15	3026
	2	4	300			1231	19	1798	18	4200
	3					3100	30	2913	31	8184
	4						8	802	12	2121
IVa	1								34	3904
	2								18	1249
	3						8	796	41	2318
	4	12	180	18	197		3	312	9	378
Greenland Halibut										
I	2			30	202		3	205	19	333
	3								7	166
IIa	1								1	180
	2						2	150	3	903
	3						1	101	2	356
	4								1	129

SPECIES AREA	Season	RESEARCH VESSEL Aged No.of samples	RESEARCH VESSEL Aged No.of fish	RESEARCH VESSEL Measured No.of samples	RESEARCH VESSEL Measured No.of fish	Tagged	MARKET Aged No.of samples	MARKET Aged No.of fish	MARKET Measured No.of samples	MARKET Measured No.of fish
Greenland										
Halibut (contd)										
IIb	2			11	570		1	74	10	1198
	3	3	232	103	1751		2	200	11	2162
	4			12	90					
Whiting										
IVa	1	9	140	17	744				29	440
	2								24	231
	4	7	175	9	394				21	151
IVb	1			29	1249					
Norway pout										
IVa	1			12	1103				33	3622
	2								44	4032
	3								49	4719
	4	4	133	32	2579				28	2707
Sandeel										
I	3								9	92
IVa	1	1	100	9	922					
	2	10	896	26	2660					
	3	1	70	8	792				3	233
Redfish										
I	2			2	108				4	702
	3			17	680				5	34
IIa	2									
	3			48	2850				2	233
IIb	3			78	4653				4	193
	4			5	335					

SPECIES AREA	Season	RESEARCH VESSEL					MARKET			
		Aged		Measured		Tagged	Aged		Measured	
		No.of samples	No.of fish	No.of samples	No.of fish		No.of samples	No.of fish	No.of samples	No.of fish
Long rough dab										
I	3			28	614					
IIa	3			16	491					
IIb	3			108	5438				8	277
	4			10	613					
IVa	1			15	347					
	4			28	713					
IVb	1			23	666					
Blue whiting										
IIa	3			12	542					
IVa	1								1	31
	2								32	1351
	3								30	822
	4			16	1083				6	128
Silver smelt										
IIa	2								3	405
	3								1	111
IVa	1								7	86
	2								23	206
	3								18	188
	4			14	311					

Poland

No report received.

(A.M. TAVARES and H. DINIS)

1. Sampling

Hake

Area	Quarter	No Of Samples		No Of Fish	
		Research vessel	Market	Measured	Aged*
IXa	1	65	395	22 382	456
IXa	2	63	455	26 360	1 246
IXa	3	-	300	14 187	-
IXa	4	150	253	58 917	275
IXa	TOTAL	278	1 403	121 846	1 977

* Otoliths collected but not yet read

BIB

Area	Quarter	No Of Samples		No Of fish	
		Research vessel	Market	Measured	Aged*
IXa	1	23	343	19 138	431
IXa	2	26	386	25 890	444
IXa	3	-	229	15 905	368
IXa	4	-	317	20 767	499
IXa	TOTAL	49	1 275	81 700	1 742

* Otoliths collected but not yet read

Sparidae

Area	Quarter	No Of Samples		No Of fish	
		Research vessel	Market	Measured	Aged*
IXa	1	26	-	2 622	-
IXa	2	41	-	2 084	-
IXa	3	-	-	-	-
IXa	4	-	-	-	-
IXa	TOTAL	67		4 706	

2. Research vessel surveys

Area	Month	Objectives
IXa	March	Groundfish survey
IXa	June	Groundfish survey
IXa	October	Young hake survey

Spain

(R. Robles)

Spanish Institute of Oceanography

Sampling schemes have been improved and developed not only for hake, but for the most important species of the bottom trawl fishery (Nephrops, blue whiting, horse mackerel, sea bream) above all in Sub-areas VIII and IX.

Three research cruises have been carried out covering the whole Iberian Atlantish Shelf.

Studies on biological parameters of hake have been implemented this year.

Research activities in Northwest Africa, primarily for hake and sparids, have also been enhanced.

Research Vessel Activities

Area	Dates	Objectives
IX a South	22 Jan - 7 Febr	First demersal research survey in this area.
VIIIc + IXa	8 Mar - 2 Apr	Ichthyoplankton and biological research
VIIIc West + IXa	19 Sep - 1 Oct	Recruitment estimates for hake and biological research.

Species: HAKE

Area	Quarter	No. of Samples		No. of fish measured	
		Research Vessel	Market	Research Vessel	market
VIa	I		3		277
	II		1		103
	III		2		179
	IV		2		215
VII	I		9		1296
	II		7		1205
	III		8		1011
	IV		7		880
VIIIab	I		15		1708
	II		22		1751
	III		24		2630
	IV		23		3663
VIIIc	I	9	42	257	3138
	II		17		1652
	III		33		2425
	IV	13	32	16308	4206
XIa	I	35	28	1205	4272
	II		24		3342
	III		30		3767
	IV	13	41	13835	7432
Xa	I	10		1080	
XIa	II	37		2775	

.../...

SPECIES: MEGRIM (Lepidorhombus boscii)

Area	Quarter	Nº Samples Research Vessel	No. of fish measured Research Vessel
VIIIc	I	8	359
	III	13	517
IXa	I	2	37
	III	12	225

SPECIES: MEGRIM (Lepidorhombus wiffiagonis)

Area	Quarter	Nº Samples Research Vessel	No. of fish measured Research Vessel
VIIIc	I	8	303
	III	11	156
IXa	I	1	1
	III	5	15

.../...

Species	Area	Quarter	No. of Samples		No. of Fish measured	
			Res. Vessel	Market	Res. Vessel	Market
Spondyliosoma cantharus	Northwest Africa	I		2		213
		II	32	53	715	4606
		III		54		4451
		IV	26	59	1094	4294
Diplodus vulgaris	"	II		10		317
		IV		7		167
Diplodus senegalensis	"	II		21		3459
		IV		14		2004
Dentex filosus	"	II		9		275
		IV		11		476
Dentex maroccanus	"	II		8		821
		IV		7		803
Dentex gibbosus	"	I	1			19
		II	8			166
		III	4			42
		IV	6			96
Dentes macrophthalmus	"	II	1			68
		III	2			102
		IV	5			270
Dentex canariensis	"	I	1			10
		II	8			135
		III	2			140
		IV	7			109

.../...

Species	Area	Quarter	No. of Samples		No. of Fish measured	
			Res. Vessel	Market	Res. Vessel	Market
Boops boops	Northwest Africa	II		5		190
		IV		12		602
Diagramma mediterraneum	"	I	5			241
		II	75			2778
		III	48			1479
		IV	79			2876
Pagellus erythrinus	"	I	1			5
		II	9	22	75	1088
		III	9		452	
		IV	9	14	169	554
Pagellus acarne	"	II	4	28	31	1813
		III	9		1230	
		IV	10	34	539	2205
Pagellus coupei	"	II	8	42	255	5039
		III	3		255	
		IV	5	57	87	7586
Sparus pagrus	"	I	1			3
		II	7			19
		III	6			65
		IV	5			92

Fisheries Investigation Institute

Studies on the biology of *Trisopterus luscus* have been undertaken in Vigo Bay.

SWEDEN

(B. Sjöstrand)

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

UNITED KINGDOM

1. England and Wales

(A.C. Burd)

COD

Area			No of Samples		No of Fish	
			Research vessel	Market	Measured	Aged
North Sea	104	(offshore)	+	636	102192	7477
	104B	(inshore) *		140	19102	1236
	104C	(inshore)	+	6	962	137
North Sea	104	TOTAL	+	782	122256	8850
W Scotland	106A		+	56	7533	1169
Rockall	106B		+	2	184	96
Irish Sea	107A	(offshore)		45	5945	653
	107A	(inshore)	+	46	7239	860
Irish Sea	107A	TOTAL	+	91	13184	1513
English Channel E	107D	(offshore)		19	499	51
	107D	(inshore)	+	15	634	51
English Channel E	107D	TOTAL	+	34	1133	102
Bristol Channel	107F	(inshore)		4	510	
Bristol Channel & S Ireland	107F & G	(offshore)		3	366	
S Ireland	107H				1	1
Bristol Channel & S Ireland	107F-H	TOTAL		7	877	

* Inshore recorded separately up to 30 June then included in offshore totals.

HADDOCK

Area			No of samples		No of Fish	
			Research vessel	Market	Measured	Aged
North Sea	104	(offshore)	+	312	48337	4302
	104B	(inshore)		84	8395	561
	104C	(inshore)			9	9
North Sea	104	TOTAL	+	396	56741	4872
W Scotland	106A		+	58	6872	1116
Rockall	106B		+	4	685	477
Irish Sea	107A			7	766	154
English Channel E	107D			2	24	11
English Channel W	107E		+		21	21

WHITING

Area			No of Samples		No of Fish	
			Research vessel	Market	Measured	Aged
North Sea	104	(offshore)	+	198	17011	3627
	104B	(inshore)		89	7022	425
	104C	(inshore)	+		49	49
North Sea	104	TOTAL	+	287	24082	4101
Irish Sea	107A	(offshore)		47	4861	308
	107A	(inshore)	+	44	5456	822
Irish Sea	107A	TOTAL	+	91	10317	1130
English Channel E	107D	(offshore)		13	420	89
	107D	(inshore)	+	7	326	98
English Channel E	107D	TOTAL	+	20	746	187
English Channel W	107E	(offshore)	+	60	6776	346
	107E	(inshore)		53	6176	263
English Channel W	107E	TOTAL	+	113	12952	609
Bristol Channel	107F		+	2	265	4
S Ireland	107G			2	158	

HAKE

Area			No of Samples		No of Fish
			Research vessel	Market	Measured
North Sea	104			3	509
W Scotland	106A			16	2508
Irish Sea	107A			18	3297
English Channel W	107E	(offshore)		8	776
	107E	(inshore)		6	743
English Channel W	107E	TOTAL		14	1519

SAITHE

Area		No of Samples		No of Fish	
		Research vessel	Market	Measured	Aged
North Sea	104	+	62	6590	993
W Scotland	106A	+	39	3935	341
Rockall	106B	+	1	54	31
S Ireland	107H	+		1	1
W Ireland	107B	+		15	15

BLUE LING

Area		No of samples		No of Fish	
		Research vessel	Market	Measured	Aged
W Scotland	106A		1	106	55

SOLE

Area			No of Samples		No of Fish	
			Research vessel	Market	Measured	Aged
North Sea	104	(offshore		116	12196	526
	104C	(inshore)	+	7	790	294
North Sea	104	TOTAL	+	123	12986	820
Irish Sea	107A	(offshore	+	37	5545	208
	107A	(inshore)	+	30	4544	303
Irish Sea	107A	TOTAL	+	67	10089	511
English Channel E	107D	(offshore	+	51	1886	193
	107D	(inshore)	+	38	2302	303
	107D	TOTAL	+	89	4188	496
English Channel W	107E	(inshore)	+	51	6768	298
	107E	(offshore		43	4597	242
	107E	TOTAL	+	94	11365	540
Bristol Channel	107F	(inshore)		4	488	49
Bristol Channel & S Ireland	107F & G			11	1881	27

PLAICE

Area			No of samples		No of Fish	
			Research vessel	Market	Measured	Aged
North Sea	104	(Offshore)	+	247	44670	4135
	104C	(inshore)	+		63	63
North Sea	104	TOTAL	+	247	44733	4198
W Scotland	106A			1	147	
Irish Sea	107A	(offshore)	+	35	5562	512
	107A	(inshore)	+	38	7103	1238
Irish Sea	107A	TOTAL	+	73	12665	1750
English Channel E	107D	(offshore)	+	55	3287	300
	107D	(inshore)	+	33	2284	309
	107D	TOTAL	+	88	5571	609
English Channel W	107E	(offshore)	+	55	6385	700
	107E	(inshore)		54	6248	651
	107E	TOTAL	+	109	12633	1351
Bristol Channel	107F	(offshore)		6	808	41
	107F	(inshore)		5	648	140
	107F	TOTAL		11	1456	181
Bristol Channel & S Ireland	107F & G			6	894	104
S Ireland	107G			3	542	
Bristol Channel & S Ireland	107F & G	TOTAL		20	2892	285

LEMON SOLE

Area			No of Samples		No of Fish	
			Research vessel	Market	Measured	Aged
Irish Sea	107A	(inshore)	+		8	8
English Channel W	107E	(offshore)		48	6149	192
	107E	(inshore)		64	5985	273
English Channel W	107E	TOTAL		112	12134	465
Bristol Channel	107F	(inshore)		3	311	
Bristol Channel & S Ireland	107F & G			3	220	

BASS

Area			No of Samples		No of Fish	
			Research vessel	Market	Measured	Aged
English Channel E	107D	(inshore)		2	47	
English Channel W	107E	(offshore)		12	782	134
	107E	(inshore)		6	210	
English Channel W	107E	TOTAL		18	992	134

SPURDOG

Area		No of Samples		No of Fish	
		Research vessel	Market	Measured	Aged
North Sea	104		114	7824	
W Scotland	106A)		33	3332	
North Sea	104A)				

SKATE AND RAYS

Area			No of Samples		No of Fish	
			Research vessel	Market	Measured	Aged
North Sea	104C	(inshore)		1	56	
W Scotland	106A			10	523	
Irish Sea	107A	(inshore)		37	2553	
	107A	(offshore)		26	2453	
	107A	TOTAL		63	5006	

2. Research vessel surveys

Area		Month	Objectives
North Sea	104 B-C	Jan/Feb	International youngfish survey
North Sea	104 B-C	Feb/Mar	Pre-recruit gadoid tagging
North Sea	104 A-B	March	Norway pout/gadoid survey
English Channel	107 D-E	Mar/Apr	Sole egg survey
North Sea, English Channel	104C, 107D	April	Groundfish survey
English Channel	107 D-E	Apr/May	Sole egg survey
North Sea, English Channel	104C, 107D	May	Pre-recruit flatfish tagging
North Sea	104 A-B	June	International '0' gp gadoid survey
North Sea, English Channel	104 B-C, 107 D-E	June	Distribution of '0' gp gadoids & clupiids
North Sea	104 C	June	Pre-recruit flatfish tagging
North Sea	104 A-B	June/July	Norway pout/gadoid survey
North Sea	104 B-C	July	'0' gp gadoid survey
North Sea	106 B	Aug/Sept	Haddock trawl survey
North Sea	104 A-C	Aug/Sept	Groundfish survey
North Sea, English Channel	104 C, 107 D	Sept	'0' gp flatfish survey
Irish Sea	107 A	Sept/Oct	Gadoid survey
North Sea	104 A-B	Oct/Nov	Norway pout/groundfish survey

RELEASE OF ENGLISH TAGGED FISH IN I.C.E.S. AREAS DURING 1981

REGIONS / SPECIES	104A	104B	104C	107D	107E	107A	106A	TOTAL
PLAICE	-	-	1168	866	59	108	-	2201
COD	-	2850	1867	-	-	-	-	4717
SOLE	-	-	2784	775	150	-	-	3709
TURBOT	-	-	-	1	70	-	-	71
FLOUNDERS	-	-	91	-	-	-	-	91
BASS	-	-	-	413	-	-	-	413
TOTAL	-	2850	5910	2055	279	108	-	11202

2. Scotland

(A. Saville)

1. Research Vessel Activities

FRV Explorer participated in the 1981 International Young Herring Survey in the North Sea in February and FRV Scotia carried out a similar survey, covering the whole of VIa and VIb, in February-March. Trawl surveys of demersal fish were also carried out in the N.Sea by Scotia in April-May and by Explorer in July-August and in October. The opportunity was taken during all of these North Sea surveys to do the stomach sampling required by the ICES programme.

In June, FRV Explorer participated in the Internationa O-group Gadoid Survey in the N. Sea and FRV Clupea did a tagging experiment on sandeels in the Fair Isle-Shetland area. In addition, FRV Scotia carried out a survey and exprimental fishing in December in Division IVa, aimed primarily at Norway pout.

Numbers of cod, haddock and whiting measured and aged during these research vessel surveys are given in Table 1.

2. Routine Monitoring of Demersal Fish Landings

Landings of cod, haddock, whiting, saithe, plaice and lemon sole were sampled at the major Scottish ports to obtain length and length at age data from all areas fished by the Scottish fleets. The numbers of cod, haddock, whiting and saithe measured and aged are given in Table 2.

3. Measurement of Discarding Rates

Forty-two trips were done on Scottish commercial fishing vessels to estimate the numbers of cod, haddock, whiting and saithe discarded at each age. The numbers of each species measured and aged during these trips are given in Table 3.

4. Tagging Experiments

No tagging of demersal fish species was carried out in 1981.

5. Other Activities

In the context of the ICES stomach sampling project in the North Sea Scottish vessels collected 859 cod stomachs, 6064 haddock stomachs, 2663 whiting stomachs

and 50 saithe stomachs during the research vessel surveys mentioned under 1.

The Marine Laboratory in 1981 analysed about 9000 whiting stomachs provided by these surveys and by other participating countries.

6. Sandeel and Norway Pout Sampling and Other Activities

Samples of sandeels and Norway pout were obtained from research vessels and from the commercial fisheries. Numbers of these species measured and aged are given in Table 4. During the sandeel tagging in June 1981 5232 sandeel were tagged and released.

TABLE 1 SCOTTISH RESEARCH VESSEL SAMPLING, 1981

Month	Area	Cod	Haddock	Whiting
		Aged	Aged	Aged
February	Sub-area IV	722	1014	1147
April	Sub-area IV	493	818	713
August	Sub-area IV	619	1679	858
October	Sub-area IV	283	1158	722
February-March	Sub-area VI	145	926	795

TABLE 2 SCOTTISH SAMPLING OF COMMERCIAL LANDINGS, 1981

Area	Cod		Haddock		Whiting		Saithe	
	Measured	Aged	Measured	Aged	Measured	Aged	Measured	Aged
North Sea	43305	11960	103770	11159	78501	7676	11494	4691
W of Scotland	9781	3855	35881	5061	34399	3751	6970	1721
Faroes	-	-	163	70	33	24	40	33

TABLE 3 SCOTTISH SAMPLING OF DISCARDS, 1981

Quarter	Number of boats sampled	Cod		Haddock		Whiting	
		Measured	Aged	Measured	Aged	Measured	Aged
1	14	1454	373	18196	1566	6784	896
2	10	1721	471	15572	1124	5507	535
3	9	383	138	12772	880	6638	583
4	9	679	176	6113	1173	2158	672

TABLE 4 SCOTTISH SAMPLING OF SANDEELS & NORWAY POUT, 1981

	Number of samples		Measured	Aged
	Research Vessel	Commercial		
Sandeels	29	40	20025	1863
Sub-area IV				
N.Pout	151	-	37813	1648
Sandeels	-	5	1459	294
Sub-area VI				
N.Pout	23	2	2402	416

U.S.A.

No report received.

U.S.S.R.

(V.P. Ponomarenko & K.A. Zemskaya)

In 1981 investigations were carried out to determine the abundance of the main commercial fishes by the total trawl survey method. Possible recruitment of cod, haddock, redfish and other fish stocks was estimated by means of juvenile fish assessment in the area of the Barents sea and adjacent waters. The amount, quality and peculiarities of ichthyoplankton distribution, and conditions of juvenile fish were studied.

Research was carred out to determine the relationship between peculiarities of fish distribution and behaviour on the one hand, and hydrographical conditions and nutritive base, on the other hand.

Methods of fishery forecasting were improved on this basis.

Materials of age/length composition, distribution and feeding pattern of cod, haddock, redfish, catfishes, Greenland halibut and other fishes in the ICES areas: I, IIa, IIb were collected this year. Data collected in 1981 by research, scouting and fishing vessels in the Barents, Norwegian and Greenland seas are presented in Tables 1-8.

In 1981 three cruises were made to different areas of the Eastern Central Atlantic

Area	Season	Objectives	Vessel
Western Sahara	April-May	Oceanographic	RTMT Belogorsk
	September	investigations	
Guinea Bissau	July	trawl surveys on	
Sierra Leone	July-August	fish abundance,	
		acoustic surveys	
Liberia	January	to determine the	RTMT Belogorsk
Sierra Leone	February	prospects for	
Guinea Bissau	March	exploitation of	
Sierra Leone	February	fish resources	
Guinea Bissau	March		SRTM-8018 Kvant

A total of 850 hauls were made and 1050 hydrolgraphical stations occupied.

Sampling data

Species	Length measurements (sp)	Biological analyses (sp)	Age samples (sp)
Sparidae	20 000	7 000	1 500
Merluccius merluccius	1 500	300	100
Merluccius senegalensis	5 000	500	200
Sciaenidae	2 000	300	150

The minimum biomass and abundance of hakes and four Sparidae ssp. were estimated. Dentex congoensis and Dentex angolensis prevailed among the groundfish.

In the spring of 1981 hydrographical data was collected and the catches examined within the framework of the International trawl survey in the North Sea. For biological studies of the commercial fish species the following data was collected and processed:

	Length measurements (sp)	Age determinations (sp)	Feeding (sp)
Haddock	18 999	488	100
Saithe	28	28	3
Whiting	16 086	648	215
Cod	1 105	533	193
Norway pout	5 928	134	0

Materials on feeding were analysed according to the methods applied in the experiment on verification of the multi-species stock assessment model

Table 1. Data on COD sampling, 1981

Area	Quarter	Number of specimens		
		Measured	Feeding sample	Age
The Barents Sea Sub-area	1	24 982	4 250	2 247
	2	9 189	1 105	302
	3	37 026	3 385	900
	4	31 223	4 706	1 204
Bear Island - Spitsbergen area	1	2 088	431	-
	2	1 542	349	-
	3	8 091	1 364	100
	4	8 032	2 479	1 577
The Norwegian Sea Sub-area	1	44 159	6 274	2 038
	2	21 755	2 860	1 700
	3	31 143	2 521	300
	4	2 645	452	-

Table 2. Data on HADDOCK sampling, 1981

Area	Quarter	Number of specimens		
		Measured	Feeding sample	Age
Barents Sea Sub-area	1	9 869	2 213	1 395
	2	1 311	150	301
	3	613	141	138
	4	2 060	518	300
Bear Island - Spitsbergen area	1	2	-	-
	2	5	-	-
	3	102	53	-
	4	60	36	36
Norwegian Sea Sub-area	1	18 220	3 484	3 134
	2	16 587	3 012	1 857
	3	554	5	-
	4	108	50	-

Table 2

Data on haddock sampling, 1981

Area	Quarter	Number of specimens		
		Measured	Feeding sample	Aged
Barents	1	9869	22I3	I395
Sea	2	I3II	I50	30I
Subarea	3	6I3	I4I	I38
	4	2060	5I8	300
Bear Island-	1	II	-	-
Spitsbergen	2	5	-	-
area	3	I02	53	-
	4	60	36	36
Norwegian	1	I8220	3484	3I34
Sea	2	I6587	30I2	I857
Subarea	3	554	5	-
	4	I08	50	-

Table 3

Data on redfish sampling, 1981

Area	Quarter	Number of specimens		
		Measured	Feeding sample	Aged
Barents	1	I3462	476	-
Sea	2	9634	225	-
Subarea	3	5444	86I	-
	4	324	40	I5
Bear Island-	1	27609	77I	54I
Spitsbergen	2	606I	425	300
area	3	40497	2555	I000
	4	9574	I895	I22I
Norwegian	1	7353I	6I44	2943
Sea	2	63922	3I79	I800
Subarea	3	28278	I7I6	-
	4	830	I76	26

Table 4

Data on Greenland halibut sampling, 1981

Area	Quarter	Number of specimens		
		Measured	Feeding sample	Aged
Subarea	1	502	I65	-
	2	369	-	-
	3	469	25	-
	4	64	-	-
Bear Island-Spitsbergen area	1	2739	425	300
	2	5442	950	600
	3	3840	602	900
	4	3628	II60	540
Norwegian Sea Subarea	1	4078	9I3	543
	2	6I5	I25	300
	3	360	I50	-
	4	I0	I0	-

Table 5

Data on saithe sampling, 1961

Area	Quarter	Number of specimens		
		Measured	Feeding sample	Aged
Sea Subarea	1	66	I4	I4
	2	349	25	-
	3	I3I	-	-
	4	9	-	-
Bear Island-Spitsbergen area	1	2	-	-
	2	-	-	-
	3	I	-	-
	4	-	-	-
Sea Subarea	1	8436	966	308
	2	8238	I03I	6I9
	3	302	-	-
	4	-	-	-

Table 6

Data on catfish sampling, 1961

Area	Quarter	Number of specimens		
		Measured	Feeding sample	Aged
Barents	1	440	-	-
Sea	2	482	65	-
Subarea	3	II8I	38	-
	4	9I2	26	-
Bear Island-	1	544	26	I
Spitsbergen	2	622	-	-
area	3	8I3	25	-
	4	I42I	2I	-
Norwegian	1	793	44	I
	2	382	-	-
Sea	3	I86	-	-
Subarea	4	II	-	-

Table 8

Data on long rough dab sampling

Area	Quarter	Number of specimens		
		Measured	Feeding sample	Aged
Subarea	1	I0562	426	-
	2	II672	925	200
	3	I4687	I50	-
	4	30399	II95	20I
Bear Island-Spitsbergen area	1	566I	75	-
	2	2562	25	-
	3	3464	225	-
	4	I6859	I350	-
Sea Subarea	1	I3605	550	400
	2	II85I	650	200
	3	355I	25	-
	4	32	-	-

Table 7

Data on plaice sampling, 1981

Area	Quarter	Number of specimens		
		Measured	Feeding sample	Aged
Subarea	1	I665	I08	-
	2	I824	586	I00
	3	665I	402	604
	4	8086	776	336
Bear Island-Spitsbergen area	1	-	-	-
	2	-	-	-
	3	-	-	-
	4	-	-	-
Sea Subarea	1	-	-	-
	2	-	-	-
	3	-	-	-
	4	-	-	-