

PELAGIC FISH COMMITTEE

by

A. Maucorps

1983

BELGIUM

(R. DE CLERCK)

No market sampling of pelagic fish has been carried out in 1983. Research vessel surveys with bottom trawl on the juvenile herring and sprat were continued as given in the table below.

The research was limited to length measurements.

Research vessel catches

Area	Season	Objectives
IVc Belgian coast	April and September	Recording densities of immature herring and sprat

DENMARK

HERRING:

(K. Popp Madsen)

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	17	2	3113	3113	2220
	2	"	1	3	651	651	500
	3	"	2	2	466	466	388
	4	"	-	5	1015	1015	865
Skager-rak	1	mixed	-	-	-	-	-
	2	"	-	2	417	417	417
	3	"	2	4	1239	1239	1239
	4	"	-	-	-	-	-
Katte-gat	1	mixed	-	9	5500	5500	1442
	2	"	-	3	1542	1542	543
	3	"	17	3	4724	4724	1935
	4	"	-	4	741	741	362
The Sound	1	mixed	-	2	234	234	234
	2	"	-	-	-	-	-
	3	"	-	1	118	118	118
	4	"	-	2	227	227	227

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
Belt Sea	1	Mixed	-	3	412	412	412
	2	"	-	1	110	110	110
	3	"	-	2	286	286	286
	4	"	-	1	156	156	156
The Fiords	1	Mixed	-	-	-	-	-
	2	"	-	7	1256	1256	1136
	3	"	-	-	-	-	-
	4	"	-	-	-	-	-
Baltic	1	mixed	-	6	1273	1273	737
	2	"	-	7	1226	1226	606
	3	"	-	4	772	772	0
	4	"	-	-	-	-	-

HERRING.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
4 A	1	Industr.	-	2	85	85	-
	2	"	-	-	-	-	-
	3	"	-	5	6	5	-
	4	"	-	6	23	23	-
4 B	1	industr.	-	12	375	375	-
	2	"	-	14	49	47	-
	3	"	-	21	2223	2091	-
	4	"	-	37	2202	2122	-
4 C	1	industr.	-	-	-	-	-
	2	"	-	-	-	-	-
	3	"	-	-	-	-	-
	4	"	-	1	5	5	-
North Sea	1	industr.	-	14	460	460	-
	2	"	-	14	49	47	-
	3	"	-	26	2229	2096	-
	4	"	-	44	2230	2150	-

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
Skager-rak	1	Industr.	-	10	579	579	-
	2	"	-	27	1176	1176	-
	3	"	-	31	3460	3460	-
	4	"	-	20	1802	1802	-
Katte-gat	1	Industr.	-	12	2231	2231	-
	2	"	-	25	2767	2767	-
	3	"	-	6	929	929	-
	4	"	-	18	4453	4057	-
Baltic	1	Industr.	-	2	271	271	-
	2	"	-	-	-	-	-
	3	"	-	-	-	-	-
	4	"	-	-	-	-	-

SPRAT.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
4 A	1	industr.	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
	4	-	-	1	1	-	-
4 B	1	industr.	-	5	255	255	-
	2	-	-	17	83	82	-
	3	-	-	15	159	90	-
	4	-	-	38	3561	2547	-
4 C	1	-	-	-	-	-	-
	2	-	-	1	2	-	-
	3	-	-	1	2	-	-
	4	-	-	1	103	103	-
North Sea Total	1	-	-	5	255	255	-
	2	-	-	18	85	82	-
	3	-	-	16	161	90	-
	4	-	-	40	3665	2650	-

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
Skager-rak	1	industr.	-	8	81	81	-
	2	-	-	21	568	567	-
	3	-	-	17	313	312	-
	4	-	-	16	237	236	-
Katte-gat	1	industr.	-	12	1910	1910	-
	2	-	-	12	759	710	-
	3	-	-	2	38	38	-
	4	-	-	14	1480	1434	-
Baltic	1	industr.	-	2	454	454	-
	2	-	-	-	-	-	-
	3	-	-	1	231	231	-

BLUE WHITING.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
4 A	1	industr.	-	26	584	141	-
	2	-	-	9	696	696	-
	3	-	-	12	68	68	-
	4	-	-	17	897	723	-
4 B	1	industr.	-	-	-	-	-
	2	-	-	1	1	1	-
	3	-	-	-	-	-	-
	4	-	-	-	-	-	-
4 C	1	industr.	-	-	-	-	-
	2	-	-	-	-	-	-
	3	-	-	-	-	-	-
	4	-	-	-	-	-	-
North Sea	1	industr.	-	26	584	141	-
	2	-	-	10	697	697	-
	3	-	-	12	68	68	-
	4	-	-	17	897	723	-

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
Skager-rak	1	industr.	-	1	1	1	-
	2	-	-	14	735	735	-
	3	-	-	17	784	784	-
	4	-	-	4	123	123	-

MACKEREL

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
4 A	1	industr.	-	-	-	-	-
	2	"	-	-	-	-	-
	3	"	-	1	2	2	-
	4	"	-	-	-	-	-
4 B	1	industr.	-	-	-	-	-
	2	"	-	1	1	-	-
	3	"	-	3	4	-	-
	4	"	-	2	2	1	-
4 C	1	industr.	-	-	-	-	-
	2	"	-	-	-	-	-
	3	"	-	3	8	-	-
	4	"	-	-	-	-	-
North Sea	1	"	-	-	-	-	-
	2	"	-	1	1	-	-
	3	"	-	7	14	2	-
	4	"	-	2	2	1	-

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
Skager-rak	1	industr.	-	-	-	-	-
	2	"	-	-	-	-	-
	3	"	-	1	1	1	-
	4	"	-	-	-	-	-

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
VI a	1	consum. *	-	2	220	220	-
	2	"	-	-	-	-	-
	3	"	-	-	-	-	-
	4	"	-	-	-	-	-

\*) for human consumption.

CANADA

No report received.

Finland

(R. Parmanne & V. Sjöblom)

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

**FRANCE**

- 8 -

(G. BIAIS)

**HARENG**

Zone	Période (trimestre)	Type de poisson	Nombre d'échantillons		Nombre de poissons mesurés	Nombre de poissons âgés	Examen des critères raciaux
			Bateau de recherche	Marché			
Nord-Ouest Mer du Nord (03)	II	Adultes	-	3	680	202	-
	III	Adultes Géniteurs	-	2	457	161	-
Sud Buchan (08)	I	Adultes Immatures	6	-	1840	101	-
Centre Mer du Nord (09)	I	Adultes Immatures	22	-	2831	116	-
		Adultes	-	2	662	196	-
	II	Adultes	-	1	209	73	-
	IV	Adultes	-	1	315	95	-
Sud Mer du Nord (12)	I	Adultes Immatures	7	-	1852	157	-
		Adultes	-	2	467	169	-
	IV	Adultes Géniteurs	-	14	2766	520	-
Mer Celtique (VII G)	III	Adultes	-	1	276	79	-
Ouest Ecosse (VI a)	I	Adultes Immatures	4	-	753	81	-

Campagne de bateau de recherche

Zones	Dates	Objectifs
Sud Mer du Nord Manche Est	28.01.83 au 02.02.83	Evaluation de l'abondance des larves de hareng
Mer du Nord Ouest Ecosse	05.02.83 au 08.03.83	Evaluation de l'abondance des juvéniles (IYFS)

Autres travaux

Collecte de données sur l'effort de pêche par trait pour les bateaux industriels et par marée pour la pêche artisanale.



# ECHANTILLONNAGE

Zones	Période trimestre	Type de poisson	Nombre d'échantillons		Nombre de poissons mesurés	Nombre de poissons mesurés	Examen des critères ratiaux
			Bateaux de recherche	Marché			
<u>ANCHOIS</u>							
Golfe de Gascogne (VIII)	II	adultes géniteurs	16	-	2 050	-	-
<u>CHINCHARD</u>							
Golfe de Gascogne (VIII)	II	immatures	17	-	1 853	-	-
		adultes	5	-	402	-	-
<u>MERLAN BLEU</u>							
Golfe de Gascogne	II	adultes	2	-	185	-	-
<u>SARDINE</u>							
Golfe de Gascogne	II	adultes	12	-	1 846	-	-
<u>SPRAT</u>							
Centre-Mer du Nord (IV b)	I	adultes immatures	28	-	3 524	-	-
Sud-Mer du Nord (IV C)	I	adultes immatures	7	-	786	-	-
Golfe de Gascogne (VIII)	II	adultes	5	-	513	-	-
<u>MAQUEREAU</u>							
Centre-Mer du Nord (IV b)	I	adultes	1	-	108	-	-
Ouest-Ecosse (VI a)	I	adultes	1	-	118	-	-
Manche-Est (VII D 1)	II	adultes	-	15	1 890	-	-
	III	adultes	-	8	762	-	-
	IV	adultes	-	2	302	-	-
Manche-Ouest (VII E 1)	I	adultes immatures	-	3	327	-	-
	III	immatures	-	1	162	-	-

Mer Celtique (VIII F-G)	I	adultes	-	x	300	-	-
	II	adultes	-	x	550	-	-
Nord Gascogne (VIII A)	I	adultes	-	x	300	-	-
	II	adultes	-	x	850	-	-
Golfe de Gascogne (VIII)	II	géniteurs	5	-	600	-	-

CAMPAGNES DE BATEAUX DE RECHERCHE

Zones	Dates	Objectifs
Golfe de Gascogne (VIII B, C, D)	19/04 au 4/05/83	Evaluation acoustique du stock de petits pélagiques du Golfe de Gascogne
Sud ouest Irlande à Nord Gascogne (VII - VIII)	22/06 au 17/07/83	Evaluation de l'abondance des oeufs de maquereau

German Democratic Republic

L. Danke

Sampling

Blue whiting

Area	Season	Typ of fish	No. of samples		No. of fish	
			Research vessel	Market	Measured	Aged
IIb	July		14		388	138
IIa	August		12		3180	577
IVa <sub>E</sub>	August		3		1352	186
Vb <sub>1</sub>	Apr/May			8	2654	250
XII	April			1	100	100
IVa <sub>w</sub>	May			5	1786	250
IIa	May/Jun			25	7664	700

Research vessel surveys

Area	Date	Objectives
Spitsbergen/Bear Isl IIb	31.7.-1.8.83	Acoustic survey midwater trawling, hydrography
Norwegian Sea IIa	2.8.-20.8.83	
N-North Sea IVa	21.8.-22.8.83	

Federal Republic of Germany

(H.Dornheim)

Species HERRING

<u>Sampling</u>								
Area	Season	Type of Fish	<u>No of Samples</u>		<u>No of Fish</u>			examined racially
			Research Vessel	Factory Ship	measured	aged		
Hebrides	I	adult	2	-	1095	100	-	
(01)	III	adult	7	6	3334	400	-	
W of Shetland	III	adult	1	8	2945	200	-	
(02)								
NW-North Sea	I	imm+ad	5	-	1195	341	100	
(03)	III	adult	23	13	9035	600	-	
NW of Ireland	II	adult	10	-	2236	400	200	
(06)	III	adult	11	5	4926	300	-	
	IV	adult	-	2	200	200	-	
South Buchan	I	imm+ad	7	-	1463	100	100	
(08)	III	adult	15	-	2774	300	-	
Central North Sea	I	imm.	28	-	4368	500	200	
(09)	II	imm.	20	-	2741	150	-	
	III	imm+ad	18	-	7573	100	-	
W of Ireland	II	adult	1	-	161	100	-	
(10)								
S-North Sea	I	imm+ad	4	-	659	200	-	
(12)								

Research Vessel Surveys

Area	Date	Objectives
Central North Sea (09) }	05.01.-18.01.83	Groundfish Survey
S-North Sea (12) }	17.02.-28.02.83	
NW-North Sea (03)	03.02.-04.03.83	International Young Fish Survey
South Buchan (08)		
Central North Sea (09)		
NW of Ireland (06)	22.03.-29.04.83	Mackerel (adults, eggs) and Herring Survey
W of Ireland (10)		
Hebrides (01)	24.02.-31.03.83	Ground- and Pelagic Fish Survey
South Buchan (08)	21.06.-29.07.83	Ground- and Pelagic Fish Survey
Central North Sea (09)		
Hebrides (01)	21.07.-23.08.83	Ground- and Pelagic Fish Survey
NW-North Sea (03)		
Hebrides (01)	16.08.-05.09.83	Herring, Mackerel, Sprat and Horse Mackerel Survey
W of Shetland (02)		
NW-North Sea (03)		
NW of Ireland (06)		
South Buchan (08)		
Central North Sea (09)		

Species SPRAT

Sampling

Area	Season	No of Samples Research Vessel	No of Fish measured
Central North Sea	I	26	3103
	IVb III	17	1565
NW of Scotland	II	1	64
	VIa		
Engl. Channel	VIIId,e I	2	404
	VIIb,c,d,e II	2	103

Research Vessel Surveys

Area		Date	Objectives
Central North Sea	IVb	04.01.-17.01.83	Groundfish Survey
Central North Sea	IVb	03.02.-04.03.83	International Young Fish Survey
NW of Scotland	VIa		
W of Ireland	VIIb,c	22.03.-29.04.83	Mackerel (adults, eggs) and Herring Survey
Engl. Channel	VIIId,e	24.02.-31.03.83	Ground- and Pelagic Fish Survey
Central North Sea	IVb	21.06.-29.07.83	Ground- and Pelagic Fish Survey
Central North Sea	IVb	16.08.-05.09.83	Herring, Mackerel, Sprat and Horse Mackerel Survey
Central North Sea	IVb	13.09.-26.09.83	Groundfish Survey

Species MACKEREL

Sampling

Area	Season	Type of Fish	No of Samples Research Vessel	Factory Ship	No of Fish measured	aged
N-North Sea	I	-	1	-	35	-
	IVa III	adult	10	2	1651	300
Central North Sea	I	-	2	-	413	-
	IVb III	adult	5	-	610	60
NW of Scotland	I	-	3	-	710	-
	VIa II	ad+imm	15	-	3222	300
	III	ad+imm	5	7	1528	197
	IV	adult	-	2	200	200
W of Ireland	II	adult	19	-	5277	300
	VIIb,c					
Engl. Channel	I	adult	2	-	820	100
	VIIId,e II	mixed	1	-	78	75
Bristol Channel	II	adult	1	-	185	100
	VIIIf					
S of Ireland	I	-	7	-	1489	-
	VIIg-k II	adult	36	-	12995	358

Research Vessel Surveys

Area		Date	Objectives
N-North Sea	IVa	03.02.-04.03.83	International Young Fish Survey
Central North Sea	IVb		
NW of Scotland	VIa	24.02.-31.03.83	Ground- and Pelagic Fish Survey
Engl.Channel	VIIId,e		
S of Ireland	VIIg-k		
NW of Scotland	VIa	22.03.-29.04.83	Mackerel (adults, eggs) and Herring Survey
W of Ireland	VIIb,c		
Engl.Channel	VIIId,e		
Bristol Channel	VII f		
S of Ireland	VIIg-k	21.06.-29.07.83	Ground- and Pelagic Fish Survey
N-North Sea	IVa		
Central North Sea	IVb	21.07.-26.08.83	Ground- and Pelagic Fish Survey
N-North Sea	IVa		
NW of Scotland	VIa	16.08.-05.09.83	Herring, Mackerel, Sprat and Horse Mackerel Survey
N-North Sea	IVa		
Central North Sea	IVb		
NW of Scotland	VIa		

Sampling

Species HORSE MACKEREL

Area	Season	Type of Fish	No of Samples Research Vessel	<u>No of Fish measured aged</u>	
N-North Sea	IVa	III adults	7	90	-
Central North Sea	IVb	III "	9	335	-
NW of Scotland	VIa	II "	2	5	-
		III "	35	1637	-
W of Ireland	VIIb,c	II "	7	15	-
		III "	7	657	-
S of Ireland	VIIg-k	I "	6	1037	142
		II "	31	2173	369
Bristol Channel	VIIIf	II "	1	14	13
Engl.Channel	VIIId,e	I "	3	1181	380
		II "	7	1667	142

Research Vessel Surveys

Area		Date	Objectives
S of Ireland	VIIg-k	24.02.-31.03.83	Ground- and Pelagic Fish Survey
Engl.Channel	VIIId,e		
NW of Scotland	VIa	22.03.-29.04.83	Mackerel (adults, eggs) and Herring Survey
W of Ireland	VIIb,c		
Bristol Channel	VIIIf		
SW of Ireland	VIIg-k		
Engl.Channel	VIIId,e		

N-North Sea	IVa		
Central North Sea	IVb		
NW of Scotland	VIa	16.08.-05.09.83	Herring, Mackerel, Sprat and Horse Mackerel Survey
W of Ireland	VIIb,c		

<u>Sampling</u>				Species <u>BLUE WHITING</u>	
Area	Season	No of Samples Research Vessel	No of Fish measured aged		
Norweg.Sea	IIa III	5	2856	422	
N-North Sea	IVa I	3	2611	420	
	III	2	1210	361	
Iceland Grounds	Va III	6	1524	493	
Faroe Plateau	Vb I	15	2542	247	
NW of Scotland/ Rockall	VIa,b I	20	10341	2072	
	II	2	1014	1014	
	III	1	1	-	
Irish Sea	VIIa I	2	3	-	
W of Ireland	VIIb,c I	2	1503	503	
	II	1	409	409	
S of Ireland/ Engl.Channel	VIIId-k I	12	4712	571	
East Greenland	XIV III	43	8204	1158	
	IV	24	464	190	

<u>Research Vessel Surveys</u>				
Area	Date	Objectives		
NW of Scotland/Rockall	VIa,b 04.01.-04.02.83	Gear research		
W + S of Ireland	VIIb,c+g-k 02.05.-31.05.83	Groundfish Survey		
W of Scotland/Rockall	VIa,b			
N-North Sea	IVa			
Faroe Plateau	Vb			
W of Scotland/Rockall	VIa,b 21.07.-23.08.83	Ground- and Pelagic Fish Survey		
Irish Sea	VIIa			
W of Ireland	VIIb,c			
S of Ireland/Engl.Channel	VIIId-k			
East Greenland	XIV			
East Greenland	XIV 12.09.-20.10.83	Groundfish Survey		

ICELAND  
(Jakob Jakobsson)

Sampling BLUE WHITING

Area	Season	Type of fish	No. of samples		No. of fish	
			Res. vessels	Fish. vessels	Measured	Aged
SE-Iceland	Jan. Mar.	Immature	2		150	150
S-SE-Iceland	Apr.	Immature	4		84	
SE, E-Iceland	Jun.	Mixed	6		607	113
E-Greenland, V, SW,						
S. SE-Iceland	Aug.	Juvenile, immature	14		672	353
V. S. Iceland	Sept-Oct.		2	14	2399	261

Research vessel surveys

Area	Date	Objective
E, SE Iceland	20.6. - 1.7.	Blue whittings migration, abundance estimates, hydrography, zooplankton.
S, SE, E, NE Iceland	7.8. - 31.8.	Abundance estimates, hydrography.



Sampling HERRING

Area	Season	Type of fish	No. of samples		No. of fish		
			Res.vessels	Fish.vessels	Measured	aged	Ex. racially
E, SE, S Iceland	Jan.-Apr.	Mixed	8	3	4192	890	890
W, NW, N, NE, E,	Sep.-Dec. <sup>1)</sup>	Mixed		77	9699	4616	4616
SE, S, SW Iceland							
W, NW, N, NE, E	Sep.-Dec.	Mixed	25		6287	547	547
SE, S, SW Iceland							

1) Fishing season

Research vessel surveys

Area	Date	Objective
SW, S, SE Iceland	11. - 21. jan.	Abundance estimates
SW Iceland	10. - 13. febr.	Abundance estimates
SW, S, SE Iceland	7. - 15. Aug.	Herring larvae
SW, S, SE, E Iceland	14. - 29. Nov.	Abundance estimates
W, N, NE, E, SE Iceland	5. - 19. Dec.	Abundance estimates

Sampling CAPELIN

Area	Season	Type of fish	No. of samples		No. of fish		
			Res.vessels	Fish.vessels	Measured	aged	Ex. racially
W,N, E Iceland	Jan.-Apr.	Mixed	22	4	4736	2095	
SE, S Iceland	Jan.-Apr.	Adult	10	1	2650	1083	
Iceland-E-Greenland	Aug.	Mixed	5	3	607	607	240
Iceland-JanMayen	Oct.	Mixed	33		4608	2387	
N, NE, E Iceland	Nov.	Mixed	2	4	530	530	

Research vessel surveys

Area	Date	Objective
NW, N, NE, E Iceland	14.1. - 13.2.	Abundance estimates
E, SE, S Iceland	25.1. - 10.2.	Abundance estimates
		T.S. measurements
Icelandic waters	4.8. - 31.8.	0-group capelin and other spp.
" "	15.8. - 31.8.	1-group capelin abundance estimates
NW, N Iceland, Greenland -		
Jan Mayen area	3.10. - 23. 10.	Abundance estimates
NW Iceland	4.10. - 23. 10.	" "

IRELAND  
(J. Molloy)

Area	Season	Type of fish	No. of samples (market)	No. of fish measured	No. of fish aged	No. of fish examined racially
Div VIa North West	II, III, IV, V, VI VIII, IX, X, XI	Adult	49	9564	1372	1372
Div. VII, b-c West	I, II, III, V, VII, VIII, IX, XI, XII	Adult	20	4278	797	797
Div. VIIj	IV, VI, VII, IX, X XI, XII	Adult	18	2307	600	600
Div. VIIg Celtic Sea	VII, VIII, IX, X, XI, XII	Adult	43	5451	1098	1896
Div. VIIa Irish Sea	I, III, VII, IX, X	Adult	26	5426	747	747
<u>Mackerel</u>						
Div. VIa North West	III, IV, V, VI, X, XI, XII	Adult	43	6842	1588	-
Div. VII, b-c West	III, IV, V, XII	Adult	16	4520	775	
Div. VIIj South West	III, IV	Adult	5	1304	245	

Research Vessel Surveys 1983

Area	Time	Objective
Celtic Sea	October to February	Larval survey to obtain estimate of abundance of herring population
VIa	October to November	Larval survey to obtain estimate of abundance of herring population.
VIIa	February	Young Herring Survey
VIa	November	Young Herring Survey

THE NETHERLANDS

(A. Corten)

Herring/Sampling

Area	Quarter of year	Type of fish	No. of samples		No. of fish		
			research vessel	market	measured	aged	examined racially
01 Hebrides	1	adult	-	2	276	100	-
01 Hebrides	2	"	-	2	251	50	-
01 Hebrides	3	"	-	12	1,317	300	-
02 West of Shetland	1	"	-	1	139	50	-
02 West of Shetland	3	"	-	1	112	25	-
03 N.W. North Sea	2	"	-	7	1,139	175	-
03 N.W. North Sea	3	"	6	10	2,091	400	200
06 N.W. of Ireland	1	"	-	1	147	50	-
06 N.W. of Ireland	3	"	-	14	1,447	350	-
06 N.W. of Ireland	4	"	-	11	1,530	275	-
08 South Buchan	2	"	-	3	616	75	-
08 South Buchan	3	"	5	3	1,085	225	100
09 Central North Sea	1	"	-	3	717	150	100
09 Central North Sea	3	"	2	-	290	50	50
12 Southern North Sea	1	"	-	16	3,582	800	-
12 Southern North Sea	4	"	-	32	5,353	825	300
13 South of Ireland	3	"	1	1	331	50	-
13 South of Ireland	4	"	-	2	299	50	-
15 West Channel	4	"	-	1	118	50	-
Total			14	122	20,840	4,050	750

Herring/Research vessel surveys

Area	Dates	Objectives
IVa, b, c North Sea	31 Jan. - 5 March	ICES Young Fish Survey
IVb, c Central+Northern N. Sea	4 July - 23 July	Herring echo survey
IVa Northern North Sea	5 Sept - 24 Sept	ICES Herring larval survey
IVb Central North Sea	13 Sept - 29 Sept	ICES Herring larval survey
IVc Southern North Sea	12 Dec - 20 Dec	ICES Herring larval survey
IVc Dutch Waddensea	21 Febr - 4 May	Herring larval survey

Mackerel/Sampling

Area	Quarter of year	Type of fish	No. of samples		No. of fish		
			research vessel	market	measured	aged	racial invest.
IVb Central North Sea	2	adults	-	1	51	49	-
" " "	3	"	-	2	155	50	-
" " "	4	"	-	1	84	25	-
IVc Southern North Sea	2	"	-	4	287	100	-
" " "	3	"	1	5	346	109	-
" " "	4	"	-	3	246	75	-
IVa N.W. Ireland	1	"	-	3	215	100	-
" " "	3	"	-	17	1,298	425	-
" " "	4	"	-	17	973	425	-
VII South of Ireland	1	"	-	17	2,250	450	-
" " "	2	"	-	19	1,437	475	-
" " "	3	"	-	4	378	100	-
" " "	4	"	-	16	1,651	400	-
VIII Bay of Biscay	2	"	5	-	271	125	-
Total			6	109	9,642	2,908	-

Mackerel/research vessel surveys

Area	Dates	Objectives
VIII Bay of Biscay	2 May - 11 June	ICES mackerel egg survey

Horse mackerel/Sampling

Area	Quarter of year	No. of samples		No. of fish		
		research vessel	market samples	measured	aged	racial invest.
IVc Southern N. Sea	4	-	1	72	25	-
VIa N.W. Ireland	3	-	5	341	125	-
" " "	4	-	2	108	50	-
VII South Ireland	1	-	2	169	50	-
" " "	2	-	7	473	175	-
" " "	3	-	4	433	100	-
" " "	4	-	8	1,056	200	-
Total			29	2,652	725	-

NORWAY

- 22 -

(O. DAHL et I. ROTTINGEN)

Herring (Clupea Harengus) South of 62°N  
Sampling

Area	Season	Type of fish	Research vessel	Market	No. of fish measured	No. of fish aged	No. of fish exam. racially
Skagerrak	I	Adult		4	400	400	400
IIla	II	Adult		2	200	200	200
	III	Adult		3	185	185	185
	IV	Mixed	13	7	2000	2000	1600
Northern	II	Adult		14	1168	1168	1168
North Sea	III	Adult	16	9	1754	1754	1754
IVa	IV	Adult	7	2	676	676	400
Central	I	Immat.	11		897	800	800
North Sea	II	Adult	2		195	195	195
IVb	IV	Mixed	15	1	1495	1495	100
Southern	I	Mixed	1		100	100	100
North Sea							
IVc							
NW North	III	Adult		1	100	100	100
Sea							
VIa							

Research vessel survey

Area	Season	Objectives
North Sea	Jan/Feb	Int. Young fish survey. herring
NW North Sea	July	North Sea herring acoustic survey
Skagerrak along the Norw. coast north to Varanger- fjord	Oct/Nov/Dec	Fish survey. 0-group sprat/herring
North Sea-Skagerrak	December	Acoustic and trawl survey in selected areas (sprat/ herring)

Mackerel (Scomber scombrus)  
Sampling

Area	Season	Type of fish	No. of samples		No. of fish measured	No. of fish aged
			Research vessel	Market		
Norwegian Sea, IIa	III	Mixed		5	498	498
Skagerrak IIIa	III	Mixed		3	274	274
Northern North Sea IVa	II	Mixed	2	4	595	595
	III	Mixed	7	8	1100	1100
Central North Sea IVb	I	Mixed	1		21	21
	II	Mixed	3		139	139
NW North Sea, VIa	I	Mixed		3	288	288
	IV	Mixed		2	199	199
SW Ireland VIIg-k	II	Mixed	4		402	402

Research vessel surveys

Area	Season	Objectives
North Sea	May/July	Egg and larval survey, mackerel

Tagging

Area	Season	Type of tag	No. tagged	Type of fish
SW Ireland VIIg-k	II	Int. steel	13 400	Mackerel
North Sea - Skagerrak IVa,b, IIIa	III	Int. steel	9 216	Mackerel

Sprat (Sprattus sprattus)

Sampling

Area	Season	Type of fish	No. of samples of Research vessel	Market	No. of fish measured	No. of fish aged
Skagerrak III	IV	Mixed	10	-	1000	600
Norwegian coast IVa	IV	Mixed	22	-	2500	2100
Central North Sea IVb	I	Adult	6	43	4700	700
	IV	Mixed	14	-	1500	1350

Research vessel surveys

Area	Season	Objectives
North Sea	Jan/Feb	Int.Young Fish Survey, sprat
North Sea-Skagerrrak	December	Acoustic and trawl survey in selected areas (sprat/herring)
Skagerrak - along the Norw. coast north to Varanger-fjord	Oct/Nov/Dec	Fish survey, 0-group, sprat/herring



Herring (Clupea harengus) North of 62°N

Sampling

Area	Season	Type of fish	No. of samples Research vessels	Market	No. of fish measured	No. of fish aged	No. of fish exam.rac.
I							
Barents Sea	III	0-group	6		340	30	
Finnmark	IV	0- and					
coast		I-group	37		2707	547	
IIa	I	Mixed	11	30	4815	2277	
Norw.coast	II	"-"	18	5	1901	1393	
Norw. Sea	III	"-"		4	350	308	
	III	0-group	8		502		
	IV	Mixed	12	19	3082	2878	
	IV	0- and					
		I-group	75		6759	1926	
Total			167	58	20456	9359	

Herring (Clupea harengus) north of 62°N

Research vessel surveys

Area	Date	Objectives
Norwegian coast 62°N - 70°N	January - March	Experimental fishing, acoustic survey of spawning stock
Norwegian coast 62°N - 70°N	April - May	Distribution herring larvae
Norwegian coast 62°N - 69°N	April - May	Tagging
Norwegian coast 62°N - 70°N	April May	Distribution of adult herring on coastal banks
Barents Sea/ Norwegian Sea	June	Post-larvae distribution
Barents Sea/ Norwegian Sea	August	0-group distribution
Norwegian coast 62°N - 69°N	October - November	Sampling commercial fishery, experimental fishing
Norwegian coast 62°N - 71°N	November-December	0-group survey

Tagging

Area	Season	Type of tags	No. tagg.	Type of fish	Recoveries
Norw.coast	II	internal	33816	adult	

Capelin (Mallotus villosus)

Sampling

Area	Season	Type of fish	No. of samples of Research vessels	Market	No. of fish measured	No. of fish aged	No. of fish exam.rac.
I	I	Mixed	66	823	87964	3365	
Barents	II	"-	3	1	401	235	
Sea	III	"-	98	16	10114	3779	
	IV	"-	8	1	352		
IIa	I	"-	24	1721	179168	4038	
Norwegian	II	"-	3	109	11325	392	
Sea	III	"-	3		216	116	
	IV	"-	4		106		
IIb	I	"-	5		500	259	
Northern	II	"-	4		379	224	
Norwegian Sea,	III	"-	68	821	91446	4297	
Svalbard area	IV	"-	1	401	41510	756	
Va							
Northern	IV	"-	18		1427	1102	
Iceland							
XIV							
Jan Mayen,	III	"-	8		728	724	
Greenland	IV	"-	19		1399	1226	
Total			332	3893	427035	20513	

Capelin (Mallotus villosus)

Research vessel surveys

Area	Date	Objectives
Barents Sea	January	Distribution, spawning, migration
Barents Sea, Finnmark coast	March	Spawning capelin
Barents Sea	May - June	Investigations on feeding grounds of capelin
Barents Sea Finnmark coast	June	Distribution of larvae
Barents Sea	June	Distribution and behaviour feeding capelin
Barents Sea	August - September	0-group survey
Barents Sea	September - October	Distribution and abundance
Jan Mayen - Iceland	October	Distribution and abundance

Tagging

None

Blue whiting (Micromesistius poutassou)

Sampling

Area	Season	Type of fish	No. of samples		No. of fish measured	No. of fish aged	No. of fish exam.rac.
			Research vessels	Market			
I							
Barents Sea	III	Mixed	7	4	474		
	IV	"-	4		107	57	
IIa	I	"-	8	17	1793	100	
Norwegian	II	"-	42		2351	1224	
Sea	III	"-	86	9	4005	2415	
IIb	II	"-	2		198	148	
Northern	III	"-	7	3	27		
Norwegian							
Sea							
IIIa, IVa,b	I	"-		4	397	197	
North Sea	II	"-	2	166	11857	437	
	III	"-	13	39	3807	829	
	IV	"-		32	1711	108	
VIa, VIb,	I	"-	8	43	3527	690	
VIIb,c	II	"-	21	142	11308	1605	
West of the							
British Isles							
Vb	II	"-	1		100	50	
Faroe	III	"-	1		100	50	
Islands							
XIV	III	"-	1		3	3	
East	IV	"-	1		85	85	
Greenland							
Total			204	459	41850	7998	

Blue whiting (Micromesistius poutassou)

Research vessel surveys

Area	Date	Objectives
West of British Isles	April	Distribution and abundance of spawning stock.
Norwegian Sea	August <sup>x)</sup>	Distribution, abundance and structure of total stock.

x) International survey, 3 norwegian vessels of 8 total from 5 countries.

Tagging

None

Great silver smelt (Argentina silus)

Sampling

Area	Season	Type of fish	No. of samples of Research vessels	Market	No. of fish measured	No. of fish aged	No. of fish exam.rac.
I, IIa	I	Adult		3	204	204	
Norwegian coast	II	"-	10	12	1791	1168	
	III	"-	5		146	96	
	IV	"-	2		9	1	
IIa							
Norwegian Sea	II	"-	5		335	335	
IIIa, IVa	I	"-		1	33	33	
North Sea	II	"-	21	16	2761	1092	
	III	"-	8		511	239	
	IV	"-		1	22	20	
Vb							
Faroe Islands	III	"-	1		52		
VIa, VIIb,c							
West of the British Isles	II	"-	4		189	125	
Total			56	33	6053	3313	

Research vessel surveys

Area	Date	Objectives
Norwegian coast	April	Distribution and structure of adult stock.

Polar cod (Boreogadus saida)

Sampling

Area	Season	Type of fish	No. of samples Research vessels	Market	No. of fish measured	No. of fish aged	No. of fish exam.rac.
I	I	Mixed	18		1545		
Barents	III	0-group	3		5		
Sea	III	Mixed	5		429	75	
I Ib							
Svalbard	III	0-group	36		1141		
area							
Total			62		3120	75	

POLAND

(J. Elwertowski)

No work carried out which would be relevant to the Committee.



PORTUGAL  
(I. BARRACA)

Echantillonnage:

Espèce - Sardina pilchardus

Région	Saison	Type de poissons	N. échantillons		N.poissons mesurés		N. de poissons dont âge déterminé	
			Marché	Navire de recherches	Marché	Navire de recherches	Otolithes	Écailles
IXa	1 <sup>er</sup> trimestre	Tous	129	-	9792	-	395	272
IXa	2 <sup>ème</sup> trimestre		164	-	12360	-	285	114
IXa	3 <sup>ème</sup> trimestre		203	8	15504	2330	845	170
IXa	4 <sup>ème</sup> trimestre		179	22	12968	1610	353	248
TOTAUX			675	30	50624	3940	1878	804

Espèce - Trachurus trachurus

Région	Saison	Type de poissons	N. échantillons		N.poissons mesurés		N. poissons dont âge déterminé
			Marché	Navire de recherches	Marché	Navire de recherches	
IXa	1 <sup>er</sup> trimestre	Tous	293	48	25503	3357	88
IXa	2 <sup>ème</sup> trimestre		389	42	22974	10210	176
IXa	3 <sup>ème</sup> trimestre		340	21	20921	3102	126
IXa	4 <sup>ème</sup> trimestre		317	76	16810	5500	276
TOTAUX			1339	187	86208	22169	666

Espèce - Scomber scombrus

Région	Saison	Type de poissons	N. échantillons		N.poissons mesurés		N. de poissons dont âge déterminé
			Marché	Navire de recherches	Marché	Navire de recherches	
IXa	1 <sup>er</sup> trimestre	Tous	257	—	15099	—	514
IXa	2 <sup>ème</sup> trimestre		315	—	17681	—	489
IXa	3 <sup>ème</sup> trimestre		234	—	15392	—	389
IXa	4 <sup>ème</sup> trimestre		197	—	11917	—	302
TOTAUX			1003	—	60089	—	1694

Espèce - Scomber japonicus

Région	Saison	Type de poissons	N. échantillons		N.poissons mesurés		N. de poissons dont âge déterminé
			Marché	Navire de recherches	Marché	Navire de recherches	
IXa	1 <sup>er</sup> trimestre	Tous	14	-	357	-	36
IXa	2 <sup>ème</sup> trimestre		18	-	757	-	150
IXa	3 <sup>ème</sup> trimestre		26	-	1472	-	142
IXa	4 <sup>ème</sup> trimestre		6	-	243	-	62
TOTAUX			64	-	2829	-	390

Espèce - Micromesistius poutassou

Région	Saison	Type de poissons	N. échantillons		N.poissons mesurés		N. poissons dont âge déterminé *
			Marché	Navire de recherches	Marché	Navire de recherches	
IXa	1 <sup>er</sup> trimestre	Tous	73	36	4592	6194	352
IXa	2 <sup>ème</sup> trimestre		102	34	6093	5072	494
IXa	3 <sup>ème</sup> trimestre		95	37	6108	2240	599
IXa	4 <sup>ème</sup> trimestre		52	79	3288	4061	115
TOTAUX			322	186	20081	76776	1560

\* Les chiffres enregistrés dans le tableau concernent les paires d'otolithes qui ont été retirés mais pas encore observés.

SPAIN  
(R. ROBLES)

SAMPLING DATA FOR 1.983 .....

SPECIES *Micromesistius poutassou* .....

A R E A	S E A S O N	Research Vessel Samples		Market Samples	
		Nº of samples	Nº of fish Measured	Nº of samples	Nº of fish Measured
VIIIc	1	38	2322	36	3871
	2			41	3743
	3	41	7790	51	5883
	4			39	4320
IXa	1			9	1179
	2			11	1527
	3	28	4616	8	1138
	4			9	1394

SAMPLING DATA FOR 1.983

SPECIES *Sembar scombrus*

A R E A	Season	Research Vessel Samples				Market Samples			
		Nº of samples	Nº of fish Measured	Aged	Racial investig.	Nº of samples	Nº of fish Measured	Aged	Racial investig.
VII	1					2	276		
	2					2	287		
	3					-	-		
	4					-	-		
VIIIa,b	1					2	95	-	
	2					6	286	-	
VIIIc	1	38	346			71	5158	350	
	2					74	5238	457	
	3	46	887			4	292		
	4					1	80		

#### OTHER ACTIVITIES

Maturity studies were also made

SAMPLING DATA FOR 1.983

SPECIES Sardina pilchardus (Walbaum)

A R E A	Season	Research Vessel Samples				Market Samples			
		Nº. of samples	Nº of fish Measured	Aged	Racial investig.	Nº of samples	Nº of fish Measured	Aged	Racial investig.
VIIIc	1					42	2009	154	
	2					47	2609	191	
	3					55	3329	280	
	4					70	3186	290	
IXa	1					54	4921	261	
	2					61	6027	353	
	3	24	1990			61	6032	587	
	4					52	5314	205	

#### OTHER ACTIVITIES

##### Surveys

Area Date

VIIIc, IXa August Biomass determination  
by acoustic method.

SAMPLING DATA FOR 1.983 .....

SPECIES Trachurus trachurus .....

A R E A	Season	Research Vessel Samples				Market Samples			
		Nº of samples	Nº of fish Measured	Aged	Racial investig.	Nº of samples	Nº of fish Measured	Aged	Racial investig.
VII	1								
	2								
	3								
	4								
VIIIc	1	38	2293			14	966		
	2					18	1832		
	3					11	1591		
	4					10	1088		

SWEDEN

(R. ROSENBERG)

SAMPLING

1983

herring

Area	Season	Type of fish	No. of Samples		No. of Fish		No. of Fish examined racially
			Research	Market	Measured	Aged	
Kattegat	I, II, III		16	5	10 328	2 615	2 615
	IV, V, VI		-	78	21 582	624	624
	VII, VIII, IX		2	48	15 057	899	899
	X, XI		-	37	9 660	261	261
Skagerrak	I, II, III		9	10	6 608	1 795	1 795
	IV, V, VI		-	17	5 326	1 158	1 158
	VII, VIII, IX		18	12	9 554	2 331	2 331
	X, XI, XII		-	9	2 770	511	551
Nordsjön	VI		-	3	1 137	224	224
TOTAL			45	219	82 022	10 418	10 418

RESEARCH VESSEL SURVEYS

Area	Season	Objectives
Kattegatt, Skagerrak	II	Investigation on young fish; herring larvae and stock separation
	VIII-IX	Echointegrations



UNITED KINGDOM  
ENGLAND AND WALES  
(A. C. Burd)

SAMPLING 1983

HERRING

Area		No. of samples		No. of fish		
		Research vessel	Market	Measured	Otololithed	Racial investigation
North Sea	4A	2		522	260	145
	4B	14		2303	1088	819
	4C	3	11	5851	1303	1303
West of Scotland	6A	1		26	26	26
Eastern English Channel	7D	4	3	2421	721	517
Western English Channel	7E	1		116	85	85

SPRAT

Area		No. of samples		No. of fish		
		Research vessel	Market	Measured	Otolithed	Racial investigation
North Sea	4B	36	2	4567	748	
	4C	17	5	1901	897	
Western English Channel	7E		17	1680	691	

MACKEREL

Area		No. of samples		No. of fish		
		Research vessel	Market	Measured	Otolithed	Racial investigation
North Sea	4B	1		95	95	
West of Scotland	6A	1		59	59	
Irish Sea	7A	1		450	189	
South West	7E+F	1	8	11217	1071	150
Celtic Sea	7J, G, H	3		1311	812	
Biscay	8	4		1041	550	150

SAMPLING 1983

PILCHARD

Area		No. of samples		No. of fish		
		Research vessel	Market	Measured	Otolithed	Racial investigation
South West	7E+F	1	2	1637	328	
Celtic Sea	7J	1		21	21	
Biscay	8	3		433	228	

SCAD (HORSE MACKEREL)

Area		No. of samples		No. of fish		
		Research vessel	Market	Measured	Otolithed	Racial investigation
North Sea	4	2		239	225	
West of Scotland	6	1		170	114	
Irish Sea	7A	2		1489	372	
South West	7E-H	5	12	11266	1139	
Celtic Sea-Irish coast	7BCJ					
Biscay	8	5		4076	1154	

RESEARCH VESSEL SURVEYS, 1983

Area	Month	Objectives
North Sea and English Channel	January	Herring larval survey
North Sea and English Channel	"	Sprat acoustic survey
North Sea	February	International Young Fish Survey
Continental Slope	March	Mackerel egg Survey
Continental Slope	May	Mackerel egg Survey
Continental Edge	July	'0' group Mackerel Survey
North Sea	August	Herring acoustic Survey
North Sea	October	Herring larval Survey
North Sea and Westerly	November	'0' group Mackerel Survey
North Sea	"	Herring acoustic Survey
Western Channel	December	Sprat and Mackerel acoustic Survey

UNITED KINGDOM

SCOTLAND

(R.S. Bailey)

HERRING SAMPLING

AREA	SEASON	NO OF SAMPLES		NO OF FISH		EXAMINED	TYPE OF
		RESEARCH	MARKET	MEASURED	AGED	RACIALLY	FISH
IVa Northern North <u>Sea</u>	Jan-Mar	17	0	727	181	240	Adult
		1	0	55	29		Mixed
		5	0	1756	87		Juvenile
	Apr-Jun	3	37	3730	344		Adult
		5	0	12	0		Juvenile
		33	38	8769	1663		Adult
	Jul-Sep	1	0	378	0		Mixed
		10	0	1739	181		Juvenile
		6	27	7475	576		Adult
	Oct-Dec	3	0	259	107		Mixed
		11	0	586	33		Juvenile
NEN Sea (04)	Jan-Mar	3	0	248	28		Adult
	Apr-Jun	1	0	2	0		Juvenile
	Jul-Sep	5	0	48	0		Adult
	Oct-Dec	1	0	40	0		Adult
IVb Central North <u>Sea</u> South Buchan	Jan-Mar	1	0	446	41		Adult
		9	0	1940	107		Juvenile
	Apr-Jun	0	1	30	122		Adult
		11	0	1476	287		Adult
	Jul-Sep	2	0	174	0		Juvenile
		7	0	343	74		Adult
		3	0	328	94		Mixed
		14	0	2104	49		Juvenile
	Oct-Dec						
Central North <u>Sea</u>	Jan-Mar	3	0	28	2		Adult
		4	0	1472	111		Mixed
		16	0	4531	160		Juvenile
	Jul-Sep	15	1	1891	445		Adult
		2	0	11	0		Mixed
		1	0	252	34		Juvenile
	Oct-Dec	6	0	394	248		Adult
		10	0	898	131		Juvenile
Hebrides (01)	Jan-Mar	7	0	685	287		Adult
	Jul-Sep	0	7	1317	170		Adult
	Oct-Dec	5	6	1816	346		Adult

AREA	SEASON	NO OF SAMPLES RESEARCH VESSEL MARKET		NO OF FISH MEASURED AGED		EXAMINED RACIALLY	TYPE OF FISH
N Rona and Shetland (02)	Jan-Mar	6	2	655	332	100	Adult
		1	0	30	0		Juvenile
	Apr-Jun	1	0	1	0		Adult
		2	0	1	0		Juvenile
	Jul-Sep	2	15	1829	553		Adult
	Oct-Dec	3	0	463	175		Mixed
		3	4	1262	418		Adult
N West Ireland (06)	Jan-Mar	7	0	519	248		Adult
Minch (07) Clyde	Jan-Mar	5	22	3491	1311	54	Adult
		8	1	2379	613		Mixed
		2	0	68	0		Juvenile
	Apr-Jun	0	19	2409	460		Adult
	Jul-Sep	0	88	11726	1947		Adult
		0	6	1621	101		Mixed
	Oct-Dec	10	29	4976	1636		Adult
		2	2	809	146		Mixed
		17	0	1163	312		Juvenile

#### TAGGING

AREA	SEASON	TAG TYPE	NO TAGGED	TYPE OF FISH	RECOVERIES
North Western North Sea	June	Magnetic Microtag	48000	Adult	-

#### HERRING

##### RESEARCH VESSEL SURVEYS

AREA	SEASON	OBJECTIVES
North-western North Sea to German Bight	February	International Young Fish Survey
North and West of Scotland	Feb-Mar	Recruit Trawling Survey
Firth of Clyde (Ballantrae Bank)	March	Larval Survey Acoustic and Trawling Survey
North Western North Sea, North and North West Scotland	July	Acoustic and Trawling Survey <sup>2</sup>
West of Scotland and North West Ireland	September	Larval Survey <sup>1</sup>
Moray Firth to Firth of Forth	September	Larval Survey <sup>1</sup>
Northern North Sea	September	Larval Survey <sup>1</sup>
West of Scotland and North West Ireland	October	Larval Survey <sup>1</sup>
Firth of Clyde	November	Recruit Trawling Survey
North and West of Scotland	November	Acoustic Trawling Survey

Notes: 1. In accordance with previous ICES resolutions.  
2. In accordance with C. Res. 1980/2:24.

##### Additional Research Activities

- 1) Continued evaluation of coded microwire tags in accordance with C. Res. 1980/2:25.
- 2) Continuation of herring parasitological work with a view to using parasitological data for studying models of migration.

MACKEREL SAMPLING 1983

AREA	SEASON	NO OF SAMPLES		NO OF FISH		EXAMINED	TYPE OF
		RESEARCH	MARKET	MEASURED	AGED	RACIALLY	FISH
IVa <u>Northern North Sea</u>	Jan-Mar	8	1	320	284		Imm/Adult
	Apr-Jun	6		11			Adult
	Jul-Sep	46		1540	213		Imm/Adult
	Oct-Dec	19	2	419	155		Adult
IVb <u>Central North Sea</u>	Jan-Mar	9		191	88		Imm
	Apr-Jun						
	Jul-Sep	25		774			Imm/Adult
	Oct-Dec	7		100			Imm/Adult
VIa <u>West of Scotland</u>	Jan-Mar	17	6	1616	782		Imm/Adult
	Apr-Jun						
	Jul-Sep		54	4840	920		Imm/Adult
	Oct-Dec	21	107	12964	1842		Imm/Adult
VIIb <u>West Ireland</u>	Apr-Jun	1		174	80		Imm/Adult
VII J+H <u>South Ireland</u>	Apr-Jun	11		379	279		Imm/Adult
VIII <u>Biscay</u>	Apr-Jun	1		141	99		Adult

RESEARCH VESSEL SURVEYS

<u>AREA</u>	<u>SEASON</u>	<u>OBJECTIVES</u>
West of Ireland to Bay of Biscay	Apr/May	Egg Survey
West of Ireland to Bay of Biscay	June	Egg Survey
North West of Scotland	November	Acoustic Survey

SPRAT SAMPLING 1983

AREA	SEASON	NO OF SAMPLES		NO OF FISH	
		RESEARCH	COMMERCIAL	MEASURED	AGED
IVa	Jan-Mar	7		1321	78
	Apr-Jun				
	Jul-Sep				
	Oct-Dec	12		2310	117
IVb	Jan-Mar	25	4	4858	301
	Apr-Jun				
	Jul-Sep	10		199	0
	Oct-Dec	33		4326	501
VIa	Jan-Mar	16	6	2156	459
	Apr-Jun				
	Jul-Sep				
	Oct-Dec		25	10885	732

RESEARCH VESSEL SURVEYS

<u>AREA</u>	<u>DATE</u>	<u>OBJECTIVE</u>
Western North Sea	January	Sprat acoustic and trawling survey (in accordance with C. Res. 1981/2:22)
Western North Sea	November	Trawling survey for O-group

SQUALUS ACANTHIAS

SPURDOG SAMPLING

AREA	SEASON	NO OF SAMPLES		NO OF FISH	
		RESEARCH VESSEL	MARKET	RESEARCH VESSEL	MARKET
IVa	Jan-Mar	6	1	10	216
	Apr-Jun	-	1	-	107
	Jul-Sep	15	-	35	-
	Oct-Dec	-	4	-	218
IVb	Jan-Mar	5	-	76	-
	Jul-Sep	6	-	8	-
VIa	Jan-Mar	21	2	562	203
	Apr-Jun	-	3	-	374
	Jul-Sep	-	5	-	496
	Oct-Dec	-	10	-	1340
VIIa	Apr-Jun	-	1	-	106

Tagging

No releases of spurdog were made in 1983. Returns from experiments carried out in 1977-1982 continued with the bulk of returns coming from VIa, the main release area.

USA

(R. C. Hennemuth)

SPECIES AND SPECIES GROUPINGS

ATLANTIC HERRING

The National Marine Fisheries Service's Northeast Fisheries Center (NEFC) prepared an assessment update for Atlantic herring stocks in the Gulf of Maine and for the Cape Hatteras-Nova Scotia region. An evaluation of abundance indices based on research vessel surveys (NEFC and Massachusetts Division of Marine Fisheries), estuarine sampling, and larval herring surveys (Maine Department of Marine Resources) was made and incorporated into the assessment.

A winter survey was completed by NEFC vessels R/V ALBATROSS IV and R/V DELAWARE II during February to study relative year-class strength and distribution patterns.

One-year-old herring were tagged, and an attempt was made to tag spawning herring. Maine Department of Marine Resources and NEFC scientists also continued cooperative studies to evaluate incidence of herring parasites and their use as natural tags. The University of Massachusetts, in cooperation with NEFC, is undertaking stock-identification studies using biochemical methods and morphometric studies.

#### ATLANTIC MACKEREL

The NEFC provided an assessment of the status of the Northwest Atlantic mackerel stock (North Carolina to Newfoundland) for use in amending the fishery management plan for 1984-85.

The NEFC, the Polish Sea Fisheries Institute (Gdynia), and the GRYF Deep Sea Fishing Company (Szczecin) cooperated in conducting a research fishery for mackerel during February-May 1983 between Georges Bank and Cape Hatteras, North Carolina. Two Polish factory stern trawlers and the R/V WIECZNO were used in this program.

The NEFC prepared a report on Atlantic mackerel mutation (micronuclear) frequencies in fish sampled in 1982 from Long Island Sound and from several areas in offshore waters. Pathobiological samples collected in 1982 and 1983 from the Polish vessels and from several inshore areas have been analyzed to determine the rate of incidence of hemoparasites and possible vectors. Some mackerel were held in the laboratory for several months to determine the effects of stress on infected fish.

#### BUTTERFISH

The NEFC prepared an assessment of the status of butterfish for use in amending the fishery management plan for 1984-85.

#### SPINY DOGFISH

Work is in progress at the NEFC to prepare a first analytical assessment of the status of spiny dogfish off the northeastern coast of the USA.



#### ALEWIVES, BLUEBACK HERRING, AND SHADS

The Atlantic States Marine Fisheries Commission completed a profile of biological, fisheries, and management information pertaining to East Coast stocks of these species.

The Maine Department of Natural Resources initiated a new study of alewife reproduction in several Maine lakes.

The Virginia Institute of Marine Science completed a feasibility study for expansion of spawning habitat for anadromous fishes (including alewife, river herring, shads, and striped bass) by constructing fish passage facilities on low-head dams.

The Connecticut Department of Environmental Protection completed studies on feeding dynamics and mortality of larval American shad in the Connecticut River. They are also examining the relationship between catch per unit effort and stock abundance, and between spawning escapement and subsequent year-class strength.

#### BLUEFISH

The NEFC prepared an assessment of bluefish stocks, conducted experiments on feeding behavior of bluefish, and began a voluntary bluefish data collection system with the cooperation of angling clubs in the New York metropolitan area.

The State University of New York at Stony Brook continued examination of the offshore distribution of bluefish, based on NEFC survey data.

#### STRIPED BASS

The National Marine Fisheries Service and the US Fish and Wildlife Service continued monitoring the age, sex, and stock composition of the commercial fisheries by gear and location, assessment of annual production of juveniles in

the major spawning rivers, and sampling spawning populations to obtain age, sex, and fecundity data. Experimental studies determine the effects of contaminants and contaminant mixtures on early life-stage survival, effects of sewage-treatment practices on nutrient availability to striped bass larvae, feeding ecology of striped bass larvae, and predation on striped bass larvae by other fish species.

#### BLUEFIN TUNA

The Southeast Fisheries Center (SEFC) updated its assessment of the status of Atlantic bluefin stocks by developing adjusted catch-per-unit-of-effort (CPUE) indices of stock abundance for recruits and adults based on coastal rod and reel fisheries and high-seas longline fisheries data. A sample survey was carried out to estimate the magnitude of juvenile fish caught by the rod and reel sport fishery and as a bycatch of the purse seine skipjack fishery, and to establish CPUE for rod and reel fisheries. An ichthyoplankton survey was carried out in the Gulf of Mexico spawning grounds, thus continuing the time-series of those data.

#### BLUE MARLIN, WHITE MARLIN, SAILFISH, AND SWORDFISH

Stock assessment emphasis by SEFC was placed on sailfish assessment in the Western Atlantic Ocean. The appropriateness of various growth models was investigated, mortality rates were estimated, and a yield-per-recruit analysis was conducted.

In cooperation with the State of New Jersey, the SEFC carried out a census survey to estimate the number of Atlantic blue marlin and white marlin caught by US recreational fishermen during 1983. The survey was conducted along the US eastern seaboard, in the Gulf of Mexico, and in Puerto Rico and the Virgin Islands.

#### KING MACKEREL

Mark-recapture data were analyzed to examine the movement of individuals between the Gulf of Mexico and the Atlantic Ocean. Total and fishing mortality rates were also estimated by area and year from those tagging data. Temporal changes in size-frequency samples were investigated as an index of changes in exploitation levels. Yield-per-recruit simulations were used to discern possible methods of maximizing yield, and the current status of exploitation levels compared to the maxima. Catch and effort data were used to estimate maximum sustainable yield.

#### SHARKS

The NEFC has implemented a data processing system to analyze tag-return and length/weight records from over 100,000 Atlantic sharks, tunas, and swordfish, and to summarize longline catch records for sharks and swordfish taken by research and commercial vessels over the last 20 years. Ongoing research emphasizes the population structure, migratory behavior, age and growth, food habits, and reproductive habits of several species of large sharks.

## GENERAL BIOLOGY AND ECOLOGY

### AGE DETERMINATION

Dorsal spines and otoliths (sagittae) from blue marlin and white marlin were collected from catches in the Western Atlantic Ocean, Caribbean Sea, and Gulf of Mexico, to see if these structures could be used as a source of age-and-growth information (see 1983 Int. Comm. Conserv. Atl. Tunas Working Doc. SCRS/83/65). Methodologies were developed for sectioning dorsal spines, polishing otoliths, and taking measurements of these two skeletal structures.

Five different approaches were employed to determine the accuracy of age estimates: (1) scanning electron microscope techniques to examine otoliths from juvenile marlin to count daily growth bands; (2) collecting skeletal structures from tag-return marlin where age can be closely approximated from tagging records; (3) determining the month(s) of band formation from collections taken throughout the year; (4) determining the degree of agreement between counts of bands in two different skeletal structures from the same fish; and (5) applying radiochemical techniques for dating skeletal structures.

### ECOSYSTEM STUDIES

The NEFC refined and augmented the energy budget for Georges Bank to include production estimates for pre-recruit fishes and production-biomass-consumption estimates for top predators in the ecosystem (large pelagic sharks and fishes, marine mammals and birds).

The NEFC conducted stomach sampling of major fish predators on the New England shelf, including a special series with focus on incidence of fish larvae in mackerel guts.

USSR  
(A.S. SELIVERSTOV)

In 1983 researches on the biology of Atlanto-Scandian herring and blue whiting in the Norwegian Sea, of blue whiting to the north of Ireland, mackerel in the Bay of Biscay, of capelin and polar cod in the Barents Sea were continued.

The state of stocks, distribution peculiarities, size and age compositions of fish were investigated during the cruises of the RVs "Perseus-III", "Alaid", "menzelinsk", "Kapitan Demidov", "Nikolai Kononov" and scouting vessels.

In March-May the acoustic survey was performed by the RV "Perseus-III" to assess blue whiting at the spawning grounds. In August the same research vessel participated in the international survey aimed at assessing the blue whiting stocks in the Norwegian Sea under the programme of ICES Pelagic Fish Committee. As in previous years the oceanographic survey of the Norwegian and south Greenland Seas was performed jointly with the Icelandic experts.

The 0-group commercial fishes were surveyed in the Barents Sea and adjacent waters together with the Norwegian scientists in August-September. The acoustic capelin survey was undertaken in September.

The results of the researches have become the base for the ICES Working Groups to recommend the total allowable catches of pelagic fishes for future time.

# D A T A

on pelagic fishes collected in 1983

ICES area	Season: month	Type of fish	Number of samples col- lected Research vessel	Number of fish mea- sured Market	Number of fish aged	Number of fish for ra- cial analysis
1	2	3	4	5	6	7
:	:	:	:	:	:	:

## Polar cod

I	I	I Immature	I	4558	100
		II Immature	I	1603	100
		III Adult	2	5211	200
			4	11372	400
	II	IY Adult	I	2449	100
		Y Adult		470	
			I	2919	100
		YII Adult	3	8963	300
	III	YIII Adult	I	2470	100
		IX Adult	4	4238	330
			8	15671	730
	IY	X Adult	7	5090	340
		XI Prespawning	I	7826	100
			8	12916	440
	Total		21	42878	1670
II b	I	I Spawning		263	
				52	
	III	YII Adult		1033	
		YIII Adult			
				1720	
	IY	X Prespawning		454	
		XII Spawning		2123	
				2577	
	Total			4560	

(continued)

				1	2	3	4	5	6	7	8
				:	:	:	:	:	:	:	:
Capelin											
I	I	I Prespawning	9						23618		900
		II Prespawning	9						16020		833
		III Spawning	3						9531		300
			21						49169		2033
	II	IV Spawning	1						2785		100
		V Adult							1614		
		VI Adult	3						1092		300
			4						5491		400
	III	VII Adult	4						5869		400
		VIII Adult	6						23155		600
		IX Adult	13						10965		740
			23						39989		1740
IIa	IV	X Adult							1150		
		XI Adult							3429		
		XII Adult	2						25662		200
			2						30241		200
	Total		50						124890		4373
	I	I Prespawning	2						8054		200
		II Prespawning	6						16132		600
		III Spawning	4						19929		400
			12						44115		1200
	II	IV Spawning							2415		
		V Adult							211		
									2626		
	Total		12						46741		1200
IIb	I	I Prespawning							752		
		II Prespawning							164		
									916		
	II	IV Spawning							639		
		VI Adult							285		
									924		
	III	VII Adult	1						1330		100
		VIII Adult	3						22702		300
		IX Adult	20						27513		1350
			24						51545		1750
	IV	X Adult	6						21275		600
		XI Adult	1						10739		100
		XII Adult							7327		
			7						39341		700
	Total		31						92726		2450

(continued)

		I	2	3	4	5	6	7	8
Blue whiting									
IIa	II	IY Young					196		
		Y Adult	10				38376	1000	
		YI Adult	9				19750	900	
	YII	Adult	19				58322	1900	
		YII Adult	3				8702	300	
		YIII Adult	4				2133	400	
		IX Adult	1				4108	100	
			8				14943	800	
	IY	XI Adult					4615		
IIb	YIII	Adult	1				1667	100	
		IX Adult	2				1995	200	
	Total		3				3662	300	
	IY	X	1				1174	100	
Yb <sub>I</sub>	Total		4				4836	400	
	I	II Prespawning	5				14544	430	
		III Young	3				5840	300	
	Total		8				20384	730	
	II	IY Postspawning	2				5157	200	
		Y Postspawning	4				1913	400	
		YI Postspawning	—				582	—	
	Total		6				7652	600	
	III	YIII Young	1				282	100	
		IX Young					673	—	
IYa	Total		1				955	100	
	IY	XI Adult	—				701	—	
	Total		14				29692	1430	
	II	Y Postspawning	3				2924	300	
		YI Young	—				332	—	
	Total		3				3256	300	
	I	II Spawning					774		
		III Spawning	1				753	100	
	II		1				1527	100	
		IY Postspawning	1				1051	100	
		Y Postspawning	3				2070	300	
IYa	Total		4				3121	400	



(continued)

		1	2	3	4	5	6	7	8
		:	:	:	:	:	:	:	:
VIb	II Spawning			I			1498	100	
	I III Spawning			7			15327	500	
	IV Spawning			I			2367	100	
	Total			9			19192	400	
VIb	II IV Postspawning			6			2402	521	
	Total			6			2402	521	
c	II Spawning			8			3262	400	
	III Spawning			8			25040	400	
	III IV Postspawning			8			3202	641	
	Total			24			31504	1441	
VII	IY Young			-			980	-	
	V Young			-			975	-	
	II VI Young			-			150	-	
	IV Postspawning			3			2486	300	
	Total			3			4591	300	
VIII	II IV Immature			-			150	-	
	Total			-			150	-	

(continued)

		I	2	3	4	5	6	7	8
		Mackerel							
II <sub>a</sub>	II	VI	Prespawn. and spawn.	3			1459	100	
	III	VI	Prespawn. and spawn.	5			7703	400	
	IV	VI	Postspawn.	3			3281	200	
	IX	VI	Postspawn.				131		
Total				11			12568	708	
Y b	Y		Prespawn. postspawn.				1184		
	VI		Prespawn., postspawn.				2453		
	III	VI	Postspawn.				3637		
	Total						213		
IYa	II	VI	Prespawn.	1			375	100	
VI a	II	VI	Postspawn.				237		
VI b	II	VI	Postspawn.				1078		
VI	II	IV	Prespawn., postspawn.	1			554	100	
		VI	Postspawn.	1			1905	100	
Total				2			2459	200	



