International Council for the
Exploration of the Sea

C.M.1983/H:1
Administrative Report

PELAGIC FISH COMMITTEE

1982

by

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BELGIUM

(R. De Clerck)

No market sampling of pelagic fish has been carried out in 1982 Research vessel surveys with bottom trawl on the two juvenile species were continued as given in the table below. The research is limited to length measurements.

Research vessel surveys.

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

DENMARK

(Per Sparre)

The following sampling of length and age distributions has been carried out in 1982.

HERRING.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	1	Mixed	15	0	1249	1249	1249
	2	"	0	0	0	0	0
	3	"	0	0	0	0	0
	4	"	0	4	556	556	397
Skager-rak	1	Mixed	0	0	0	0	0
	2	"	0	0	0	0	0
	3	"	10	5	2145	2145	2145
	4	"	0	0	0	0	0
Katte-gat	1	Mixed	0	1	221	221	221
	2	"	0	2	255	255	255
	3	"	16	1	1982	1982	1604
	4	"	0	7	5203	5203	443
The Sound	1	Mixed	0	2	223	223	223
	2	"	0	0	0	0	0
	3	"	0	1	109	109	0
	4	"	0	2	243	243	121
Baelt Sea	1	Mixed	-	4	722	722	722
	2	"	-	3	428	428	428
	3	"	-	0	0	0	0
	4	"	-	2	251	251	251
The Fiords	1	Mixed	-	1	115	115	115
	2	"	-	7	1371	1371	1371
	3	"	-	0	0	0	0
	4	"	-	0	0	0	0
Baltic	1	Mixed	-	1	140	140	0
	2	"	-	9	1419	1419	884
	3	"	-	4	936	936	0
	4	"	-	3	786	786	239

HERRING.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
4 A	1	industr.	-	3	4	4	-
	2	"	-	-	-	-	-
	3	"	-	1	3	3	-
	4	"	-	3	3	2	-
4 B	1	industr.	-	21	297	297	-
	2	"	-	6	62	6	-
	3	"	-	50	16178	16093	-
	4	"	-	35	2559	2431	-
4 C	1	industr.	-	2	95	95	-
	2	"	-	-	-	-	-
	3	"	-	1	1	1	-
	4	"	-	-	-	-	-
North Sea Total	1	industr.	-	26	396	396	-
	2	"	-	6	62	6	-
	3	"	-	52	16182	16097	-
	4	"	-	38	2562	2433	-
Skager-rak	1	industr.	-	11	446	446	-
	2	"	-	19	747	747	-
	3	"	-	19	1289	1224	-
	4	"	-	36	1892	1892	-
Katte-gat	1	industr.	-	3	271	271	-
	2	"	-	3	108	108	-
	3	"	-	3	245	245	-
	4	"	-	17	1469	1469	-
Baltic	1	industr.	-	2	199	199	-
	2	"	-	2	72	72	-
	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	"	-	1	1	1	-
	3	"	-	-	-	-	-
	4	"	-	1	1	1	-
4 B	1	industr.	-	24	2273	2095	-
	2	"	-	11	60	21	-
	3	"	-	24	1472	1305	-
	4	"	-	29	2475	2439	-
4 C	1	industr.	-	1	109	-	-
	2	"	-	1	3	3	-
	3	"	-	1	1	1	-
	4	"	-	-	-	-	-
North Sea Total	1	industr.	-	25	2382	2095	
	2	"	-	13	64	25	-
	3	"	-	25	1473	1306	-
	4	"	-	30	2476	2440	-
Skager-rak	1	industr.	-	7	168	168	-
	2	"	-	18	1064	1056	-
	3	"	-	11	480	459	-
	4	"	-	23	579	579	-
Katte-gat	1	industr.	-	3	240	240	-
	2	"	-	2	210	210	-
	3	"	-	2	152	152	-
	4	"	-	14	1180	1179	-
Baltic	1	industr.	-	3	346	346	-
	2	"	-	4	440	440	-
	3	"	-	1	63	63	-
	4	"	-	1	81	81	-

BLUE WHITING.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
4 A	1	industr.	-	1	2	-	-
	2	"	-	-	-	-	-
	3	"	-	3	142	100	-
	4	"	-	12	534	330	-
4 B	1	industr.	-	-	-	-	-
	2	"	-	-	-	-	-
	3	"	-	-	-	-	-
	4	"	-	-	-	-	-
4 C	1	industr.	-	-	-	-	-
	2	"	-	-	-	-	-
	3	"	-	-	-	-	-
	4	"	-	-	-	-	-
North Sea Total	1	industr.	-	1	2	-	-
	2	"	-	-	-	-	-
	3	"	-	3	142	100	-
	4	"	-	12	534	330	-
Skager-rak	1	industr.	-	-	-	-	-
	2	"	-	-	-	-	-
	3	"	-	3	15	10	-
	4	"	-	17	1325	1217	-

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	"	-	-	-	-	-
	4	"	-	-	-	-	-
4 B	1	industr.	-	-	-	-	-
	2	"	-	1	1	-	-
	3	"	-	-	-	-	-
	4	"	-	1	1	-	-
4 C	1	industr.	-	1	37	37	-
	2	"	-	-	-	-	-
	3	"	-	1	2	-	-
	4	"	-	-	-	-	-
North Sea Total	1	industr.	-	1	37	37	-
	2	"	-	1	1	-	-
	3	"	-	1	2	-	-
	4	"	-	1	1	-	-
Skager-rak	1	industr.	-	-	-	-	-
	2	"	-	-	-	-	-
	3	"	-	2	3	1	-
	4	"	-	2	2	-	-

OTHER.

Area	Season	Type of fish	No of samples		No of fish		
			Research vessel	Market	Measured	Aged	Examined racially
4 A	1	industr.	-	8	16	1	-
	2	"	-	4	5	-	-
	3	"	-	3	4	-	-
	4	"	-	13	24	-	-
4 B	1	industr.	-	13	53	5	-
	2	"	-	24	40	3	-
	3	"	-	5	12	5	-
	4	"	-	2	61	1	-
4 C	1	industr.	-	1	32	-	-
	2	"	-	1	4	-	-
	3	"	-	2	2	-	-
	4	"	-	-	-	-	-
North Sea Total	1	industr.	-	22	101	6	-
	2	"	-	29	49	3	-
	3	"	-	10	18	5	-
	4	"	-	15	85	1	-
Skager-rak	1	industr.	-	4	29	-	-
	2	"	-	16	51	1	-
	3	"	-	11	45	3	-
	4	"	-	27	347	2	-
Katte-gat	1	industr.	-	2	12	-	-
	2	"	-	3	24	-	-
	3	"	-	3	10	-	-
	4	"	-	11	73	-	-

FINLAND

(R. Parmanne & V. Sjöblom)

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

FRANCE

(G. Biais, A. Maucorps)

En 1982, le laboratoire de Boulogne sur Mer a participé avec deux campagnes au programme international d'évaluation de l'abondance de larves et de juvéniles de hareng en Mer du Nord. Il a été continué l'échantillonnage des débarquements (voir tableaux ci-joints). De plus, il a été effectué un suivi de la flottille industrielle en sud Mer du Nord et Manche est dans le but d'étudier l'effort de pêche.

Hareng

Région	Saison	Type de poisson	Nbre d'échantillons		Nbre de poissons	
			Bateau de recherche	Marché	mesurés	dont âge déterminé
IV c - VII d	1	mélangés	7	3	2 440	446
	4	géniteurs	-	16	4 014	699
IV b	1	juvéniles	13	-	1 868	368
	4	géniteurs	-	1	165	-
VI a nord	1	adultes	2	-	318	151
	3	adultes	-	6	1 180	454

Sprat

Région	Saison	Type de poisson	Nbre d'échantillons		Nbre de poissons	
			Bateau de recherche	Marché	mesurés	dont âge déterminé
IV c	1	mélangés	4	-	812	-
IV b	1	mélangés	9	-	1 538	-

Maquereau

Région	Saison	Type de poisson	Nb. d'échantillons		Nb. de poissons	
			Navire	Marché	Mesurés	dont âge déterminé
6A7BC	1			X	260	
	2			X	690	
	3					
	4			X	71	
7 D	1					
	2					
	3					
	4			X	700	114
7EFGHJ	1			X	730	158
	2			X	425	172
	3			X	200	113
	4			X	114	
8 AB	1			X	1 400	145
	2			X	1 200	260
	3			X	1 000	250
	4			X	800	136

Activité des navires de recherche

Région	Dates	Objectifs
IV c + VII d	18/01 - 31/01	Evaluation de l'abondance de larves de hareng.
IV c + IV b + VI a	05/02 - 05/03	Evaluation de l'abondance des juvéniles de hareng et gadidés.

German Democratic Republic

(B. Vaske)

Sampling data Blue Whiting

Area	Season quarter	No. of Samples Research vessel	Commercial vessel	No. of fish Measured	Aged
II	I		13	5195	500
	II		34	7703	400
	III		4	1154	
	III	17		4131	841
II b	III	21		419	146
IV	III	1		130	100

Research vessel survey

Area	Date	Objectives
Norwegian Sea	29.4.-21.5.	Blue whiting survey, mid-water trawling, hydrography
Norwegian Deep Skagerrak	25.3.-26.3.	Blue whiting survey midwater trawling, hydrography

Federal Republic of Germany

(H.Dornheim)

Species HERRING

Sampling

Area	Season	Type of Fish	No of Samples Research Vessel	No of Samples Factory Ship	No of Fish measured	No of Fish aged	No of Fish examined racially
Hebrides (01)	III	adults	3	21	7965	800	400
W of Shetland (02)	I	adults	1	-	34	32	32
	III	adults	-	1	380	100	-
NW-North Sea (03)	I	imm+ad	12	-	1956	343	240
NW of Ireland (06)	II	adults	4	-	698	100	100
	III	adults	8	2	2430	400	200
Central North Sea (09)	I	imm+ad	31	-	3966	674	200
	II	immature	42	-	732	100	100
	III	imm+ad	7	2(Market)	1020	100	100
	IV	-	+	-	124	-	-
W of Ireland (10)	II	adults	1	-	49	-	-
	III	adults	2	-	194	100	100
S-North Sea (12)	I	immature	4	-	225	100	100
S of Ireland (13)	II	adults	5	-	850	100	100
Brist.Channel (14)	II	adults	1	-	659	100	100
West Channel (15)	II	adults	4	-	642	100	100

Research Vessel Surveys

Area		Date	Objectives
Central North Sea S-North Sea	(09) (12)	05.01.-19.01.82	Groundfish Survey
Central North Sea	(09)	18.02.-28.02.82	Groundfish Survey
W of Shetland NW-North Sea Central North Sea	(02) (03) (09)	16.02.-17.03.82	International Young Fish Survey
Central North Sea	(09)	Mar-Dec 82	Shrimp bycatch analysis
NW of Ireland W of Ireland S of Ireland Brist.Channel West Channel	(06) (10) (13) (14) (15)	31.03.-30.04.82	Mackerel (adults,eggs) and Herring Survey

Central North Sea	(09)	April/May 82	Waddensea Survey
Central North Sea	(09)	10.06.-25.06.82	Groundfish Survey
Central North Sea	(09)	Sept/Oct 82	Waddensea Survey
Central North Sea	(09)	13.09.-24.09.82	Groundfish Survey
Hebrides NW of Ireland W of Ireland	(01) (06) (10)	14.09.-05.10.82	Herring, Mackerel, Sprat and Horse Mackerel Survey

Species SPRAT

Sampling

Area		Season	No of Samples Research Vessel	Market	No of Fish measured
N-North Sea	IVa	I	1	-	53
Central North Sea	IVb	I	16	-	2196
		II	31	-	615
		III	4	4	932
		IV	+	-	77
S-North Sea	IVc	I	1	-	36
S of Ireland	VIIg-k	II	5	-	601
Engl.Channel	VIId,e	II	5	-	562
Brist.Channel	VIIf	II	1	-	19

Research Vessel Surveys

Area		Date	Objectives
Central North Sea S-North Sea	IVb IVc	05.01.-19.01.82	Groundfish Survey
Central North Sea	IVb	18.02.-28.02.82	Groundfish Survey
N-North Sea Central North Sea	IVa IVb	16.02.-17.03.82	International Young Fish Survey
Central North Sea	IVb	Mar-Dec 82	Shrimp bycatch analysis
S of Ireland Engl.Channel Brist.Channel	VIIg-k VIId,e VIIf	31.03.-30.04.82	Mackerel (adults,eggs) and Herring Survey
Central North Sea	IVb	Apr/May, Sep/Oct 82	Waddensea Survey
Central North Sea	IVb	13.09.-24.09.82	Groundfish Survey

Species MACKEREL

Sampling

Area	Season		Type of Fish	No of Samples Research Vessel	No of Samples Factory Ship	No of Fish measured	No of Fish aged
N-North Sea	IVa	III	adults	-	1	184	100
Central North Sea	IVb	III	-	1	-	123	-
NW of Scotland	VIa	II	adults	11	-	1837	300
		III	imm+ad	12	1	1405	396
W of Ireland	VIIb,c	II	adults	15	-	5765	400
		III	-	1	-	20	-
S of Ireland	VIIg-k	II	adults	28	-	5783	300
		III	imm+ad	2	-	489	84
Brist.Channel	VIIf	II	adults	1	-	190	-
Engl.Channel	VIId,e	II	adults	5	-	971	100
Bay of Biskay	VIII	I	immat.	1	-	192	100

Research Vessel Surveys

Area		Date	Objectives
Bay of Biskay	VIII	02.02.-12.03.82	Groundfish Survey
NW of Scotland W of Ireland S of Ireland Brist.Channel Engl.Channel	VIa VIIb,c VIIg-k VIIf VIId,e	31.03.-30.04.82	Mackerel (adults, eggs) and Herring Survey
NW of Scotland W of Ireland S of Ireland	VIa VIIb,c VIIg-k	14.09.-05.10.82	Herring, Mackerel, Sprat and Horse Mackerel Survey
Central North Sea	IVb	13.09.-24.09.82	Groundfish Survey

Species HORSE MACKEREL

Sampling

Area	Season		No of Samples Research Vessel	No of Fish measured	No of Fish aged
NW of Scotland	VIa	III	6	761	223
W of Ireland	VIIb,c	III	11	1240	120
S of Ireland	VIIg-k	II	9	1230	-
		III	10	1184	51
Engl.Channel	VIId,e	II	5	643	-
		III	4	574	100

Research Vessel Surveys

Area		Date	Objectives
S of Ireland Engl.Channel	VIIg-k VIId,e	31.03.-30.04.82	Mackerel (adults,eggs) and Herring Survey
NW of Scotland W of Ireland S of Ireland Engl.Channel	VIa VIIb,c VIIg-k VIId,e	14.09.-05.10.82	Herring, Mackerel, Sprat and Horse Mackerel Survey

Species BLUE WHITING

Sampling

Area		Season	No of Samples Research Vessel	No of Fish measured	aged	exam. racially
Norweg.Sea	IIa	III	1	376	-	-
Iceland Grounds		II	2	83	-	-
	Va	III	1	243	243	-
Faroe Plateau		II	17	4024	1414	-
	Vb	III	2	376	184	-
NW of Scotland		I	6	361	100	100
	VIa	II	9	2914	656	-
		III	12	1120	-	-
Rockall	VIb	I	19	1538	751	200
		II	6	1758	320	-
		III	18	5539	1053	160
W and S of Ireland		I	7	1111	400	400
	VIIb,c+g-k	II	58	8604	370	-
		III	8	825	-	-
Bay of Biskay	VIII	I	26	6077	1347	250
Portug.Waters	IX	I	1	269	100	100
East of Greenland		II	4	297	150	-
	XIV	III	26	6047	2142	90
		IV	6	472	123	-

Research Vessel Surveys

Area		Date	Objectives
NW of Scotland	VIa		
Rockall	VIb		
W+S of Ireland	VIIb,c+g-k	02.02.-12.03.82	Groundfish Survey
Bay of Biskay	VIII		
Portug.Waters	IX		

Iceland Grounds Faroe Plateau NW of Scotland Rockall East of Greenland	Va Vb VIa VIb XIV	24.03.-29.04.82	Blue Whiting Survey
W+S of Ireland	VIIb,c+g-k	31.03.-30.04.82	Mackerel (adults,eggs) and Herring Survey
Norweg.Sea Iceland Grounds Faroe Plateau Rockall East of Greenland	IIa Va Vb VIb XIV	14.07.-09.08.82 10.08.-03.09.82	Blue Whiting Survey Gear Research
NW of Scotland W of Ireland	VIa VIIb,c	14.09.-05.10.82	Herring, Mackerel, Sprat and Horse Mackerel Survey
East of Greenland	XIV	15.09.-29.10.82	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
S.SW-Iceland	March	Adult, immature	9		724	
SW.S Iceland	April	Adult, immature	7		660	468
S Iceland	May	Adult, immature	1		69	
S, SE, E, NE Iceland	August	Adult, immature	9		612	479
W, NW, N, E,SE, S,SW Iceland	Sept-Oct.	Adult, immature	53		3137	

Research vessel surveys

Area	Date	Objective
SW, S and SE Iceland	13.4. - 28.4.	Spawning survey
S, SE, E and NE Iceland	6.8. - 31.8.	Abundance estimates, hydrography

Sampling CAPELIN

Area	Season	Type of fish	No. of samples Res. vessels	No. of samples Fish vessels	No. of fish measured	No. of fish aged	Examined racially
W, N, E Iceland	Jan.-Apr.	Mixed	16	3	2239	1815	-
SE, S, SW Iceland	Jan.-Apr.	Adult	2	10	1200	1200	-
Iceland - Jan Mayen	Jan.-Dec.	Adult	9	0	1177	800	-
Iceland - E Greenland	August	Mixed 0-gr.	4	0	400	400	200
W, N, E Iceland	Aug.-Dec.	Mixed	28	0	3052	1565	50

Research vessel surveys

Area	Date	Objective
N, E Iceland	7.1. - 24. 1.	Abundance estimates
E.S Iceland	10.1. - 22.1.	Abundance estimates T.S. measurements
E, N, W Iceland	27.1. - 21.2.	Abundance estimates, hydrography
Icelandic waters	6.8. - 31. 8.	0-group capelin and other spp. Abundance estimates, 1-group capelin
NW, N, NE Iceland	2.10. - 23. 10.	Abundance estimates

Sampling HERRING

Area	Season	Type of fish	No of samples Res. vessel	Fish vessels	No of fish measured	aged	Examined racially
E, S Iceland	Jan.-May	Mixed	12	7	5226	1240	1240
W, N, E, S Iceland	Aug.-Dec.[1)]	Adult		68	6408	4774	4081
W, N, E, S Iceland	Sep.-Dec.	Mixed	20	-	4188		693

1) Fishing season

Research vessel and other surveys

Area	Date	Objective
SW Iceland	7.1. - 10. 1.	Abundance estimates
S Iceland	7.9. - 20. 9.	Herring larvae
SW Iceland	7.10. - 9.10.	Herring survey
S Iceland	19.10. - 21.10.	Herring survey
W, N, E Iceland	29.10. - 23.11	Abundance estimates
E, S Iceland	5.12. - 17.12	Abundance estimates
		T.S. measurements

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
						Species Herring
Div. VI, a North West	III, V, VI, VIII VIII, IX, XI, XII	Adult	31	9233	1545	1545
Div. VII, b-c West	I, II, IV, X, XI	Adult	6	1476	284	284
Div. VII, j South West	I, V, VII, VIII, IX, X, XI	Adult	13	1810	546	546
Div. VII, g Celtic Sea	VI, VII, IX, X, XI, XII	Adult	34	5054	1643	1643
Div. Vii, a Irish Sea	IV, VII, VIII, IX, X, XII	Adult	26	7304	1273	1273
						Species Mackerel
Div. VI, a North West	I, V, VI, VIII, IX, X, XI, XII	Adult	15	5685	1815	-
Div. VII, b West	II, III, IV	Adult	5	941	480	-
Div. VII, j South West	I, II, III, IV, IX	Adult	8	2532	825	-
						Species Sprat
Div. VII, j South West		Adult	2	373	120	
Div. VII, g South		Adult	7	1168	203	

Research Vessel Surveys

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

THE NETHERLANDS

(A. Corten)

Herring

Area	Quarter of year	Type of fish	No. of samples			No. of fish	
			research vessel	market	measured	aged	examined racially
01 Hebrides	3	adults	-	12	1,361	600	-
02 W. Shetland	3	"	-	2	336	100	-
"	4	"	-	2	287	100	-
06 NW. Ireland	1	"	-	2	261	100	-
"	4	"	-	3	477	150	-
09 Centr. North Sea	2	"	5	-	981	350	-
12 South.North Sea	1	"	-	12	2,343	600	-
"	4	"	-	26	4,467	1,300	-
15 West Channel	3	"	-	2	203	100	-
"	4	"	-	1	106	50	-
Total			5	62	10,722	3,450	-

Mackerel

Area	Quarter of year	No. of samples		No. of fish		
		research vessel	market samples	measured	aged	racial invest.
IVa N. North Sea	3	-	1	47	47	-
IVb Centr. North Sea	2	-	3	284	125	-
" " "	3	-	5	442	150	-
" " "	4	-	1	72	25	-
IVc S. North Sea	2	-	4	321	75	-
"	3	-	4	247	75	-
"	4	-	4	436	100	-
VIa NW. Ireland	1	-	5	328	125	-
"	3	-	4	362	175	-
"	4	-	16	887	475	-
VII South of Ireland	1	-	26	1,812	669	-
"	2	-	27	1,847	650	-
"	3	-	7	1,038	250	-
"	4	-	11	1,445	300	-
Total		-	118	9,568	3,241	-

Research vessel surveys

Area		Dates	Objectives
IV a, b, c	Total North Sea	1 Febr. - 6 March	ICES Young Fish Survey
IV a	N. North Sea	25 Aug. - 3 Sept.	ICES herring larval survey
IV b	C. North Sea	6 Sept. - 22 Sept.	ICES herring larval survey
IV c	S. North Sea	13 Dec. - 24 Dec.	ICES herring larval survey
IV c	Dutch Waddensea	8 March - 24 April	Herring larval survey
IV b	C. North Sea	5 July - 17 July	Herring echo survey
IV b	C. North Sea	24 May - 12 June	Mackerel egg survey
VII	around Ireland	15 Nov. - 4 Dec.	Mackerel mesh selection

NORWAY

(O. Dahl et I. Røttingen)

Herring (Clupea harengus)

Sampling

North Sea, Skagerrak

Area	Season	Type of fish	No of samples		No. of fish measured	No. of fish aged	No.of fish examined racially
			Research vessel	Market			
Central North Sea IVb	I	Immat.	18		1400	1400	1400
	IV	"	13		1113	1113	1113
Northern North Sea IVa	II	Adult	2		127	127	127
	III	"	12	3	1124	1124	1124
	IV	Immat.	14	1	1159	1159	1159
Skagerrak	I	Adult	1	4	422	422	422
	II	"		1	100	100	100
IIIa	IV	Immat.	22	2	2373	2373	2373
NW North Sea VIa	II	Adult		3	300	300	300
	IV	"		1	100	100	100

Research vessel surveys

Area	Season	Objectives
North Sea	Jan/Feb.	Int. Young fish survey, herring
NW North Sea	July	North Sea herring acoustic survey
North Sea	October	Int.herring larvae investigation
North Sea - Skagerrak	November	Acoustic and trawl survey in selected areas (sprat/herring)
Skagerrak - along the Norwegian coast north to Varangerfjord	November	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.
Norw.coast (Finnmark) I	III	O-group	10		318		
	IV	Mixed	3		203	63	
Barents Sea I	III	O-group	11		26		
Norw.coast IIa	I	Mixed	34		3554	1537	
	II	-"-	13		1082	1028	
	III	-"-	16	1	513	358	
	IV	-"-	32	14	3919	2290	
Northern Norw.Sea IIb	III	O-group	5		9		
Total			124	15	9624	5276	

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
Barents Sea/ Norwegian Sea	June	Post-larvae distribution
- " -	August	O-group distribution
Norwegian coast 62°N - 69°N	October-November	Sampling commercial fishery, experimental fishing
Norwegian coast 62°N - 71°N	November-December	O-group survey

Tagging

Area	Season	Type of tags	No. tagg.	Type of fish	Recoveries
Norw.coast	II	internal	32291	adult	

Mackerel (Scomber scombrus)

Sampling

Area	Season	Type of fish	No.of samples Research vessel	Market	No. of fish measured	No. of fish aged
Norwegian Sea IIa	III	Adult		4	400	398
Skagerrak	I	Adult		1	100	100
	II	"		2	200	200
IIIa	III	Mixed		2	177	177
Northern	II	Adult		6	522	522
North Sea	III	Mixed	5	8	1108	1108
IVa	IV	Adult		1	100	100
Central North Sea	II	Adult	3	1	245	245
IVb	III	Mixed	5	4	709	695
NW North Sea	I	Mixed		5	494	493
VIa	IV	"		6	586	586
SW of Ireland VIIg-k	II	Mixed	3		259	259

Research vessel surveys

Area	Season	Objectives
North Sea	June/Aug.	Egg and larval survey, mackerel

Tagging

Area	Season	Types of tags	No tagged	Type of fish
SW of Ireland VIIg-k	II	Int.steel	10065	mackerel
North Sea IVb, IVa	III	Int.steel	13164	mackerel

Sprat (Sprattus sprattus)

Sampling

Area	Season	Type of fish	No. of samples		No. of fish measured	No.of fish aged
			research vessel	market		
Central North Sea IVb	I	Adult	16	3	1788	1788
	IV	Adult/Imm.	8		685	685
South North Sea IVc	I	Adult		1	100	100
Northern North Sea IVa	IV	Adult	2		173	173
Skagerrak IIIa	I	Adult	1		100	100
	IV	Adult/Imm.	17		1357	1357

Research vessel surveys

Area	Season	Objectives
North Sea - Skagerrak	November	Acoustic and trawl survey in selected areas (sprat/herring)
Skagerrak- along the Norwegian coast north to Varangerfjord	November	Fish survey, 0-group sprat/herring

Capelin (Mallotus villosus)

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.
Barents Sea I	I	Mixed	70	1549	163447	7868	
	II	-"-	77	27	9763	5166	
	III	-"-	226	2	19951	4535	
	IV	-"-	4		400	237	
Norw.coast IIa	I	-"-	34	499	53900	3136	
	II	-"-	39	77	11607	2685	
	III	-"-	35		2601		
	IV	-"-	5		195	102	
Jan Mayen IIa	III	-"-	13		547	420	
	IV	-"-	1		100	96	
Bear Island Svalbard IIb	I	-"-	20		2000	1366	
	II	-"-	6	2	1266	596	
	III	-"-	123	885	97243	2254	
	IV	-"-	6	121	13026	410	
Iceland Va	IV	-"-	29		3136	1058	
Jan Mayen, Greenland XIVa	IV	-"-	5		490	150	
Iceland, Greenland XIVb	IV	-"-	17		1518	724	
Total			710	3162	381190	30803	

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	August - September	O-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 Research vessels	Market	No. of fish measured	No.of fish aged	No. of fish exam.rac.
Norwegian Sea IIa	I	Mixed	27		1138	1082	
	III	-"-	58		1601	1544	
	IV	-"-	21	1	1717	224	
Northern Norwegian Sea IIb	I	-"-	2		83	81	
	III	-"-	1		7	7	
Skagerak IIIa	III	-"-		1	100		
	IV	-"-		7	699		
Northern North Sea IVa	I	-"-		1	97	97	
	II	-"-		6	371	367	
	III	-"-	10	115	11498	581	
	IV	-"-		98	9573	300	
West of Scotland VIa	I	-"-	6	1	571	555	
West of Ireland VIIb,c	I	-"-	8		731	691	
South of Ireland VII, g,h,i,k	I	-"-	1		100	97	
Total			134	230	28286	5626	

Blue whiting (Micromesistius poutassou)

Research vessel surveys

Area	Date	Objectives
Bear Islands	March	Distribution of adult stock
Norwegian Sea	July - August*)	Survey feeding area
Norwegian coast	October-November	Distribution adult fish

*)
International survey, five countries with 8 vessels participated.

Tagging

None.

Polar cod (Boreogadus saida)

Sampling

Area	Season	Type of fish	No. of samples Research vessel	Market	No.of fish measured	No.of fish aged	No. of fish exam.rac.
Barents Sea I	I	Mixed	15		1173	198	
	II	-"-	9		788	275	
	III	-"-	30		3034	1129	
Northern Norw. Sea IIb	III	-"-	11		542		
	IV		1		100	100	
Total			66		5637	1702	

Great silver smelt (Argentina silus)

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.
Norwegian	I	Mixed	26		2030	1627	
Sea	II	-"-	19	13	3218	1397	
IIa	III	-"-	3	1	164	159	
	IV	-"-	14		904	738	
Skagerak	II	-"-		3	398		
III							
Northern	II	-"-	1		100	96	
North Sea	III	-"-	3		139	28	
IVa	IV	-"-		1	8	8	
West of Scotland	I	-"-	2		113	14	
VIa							
West of Ireland	I	-"-	2		92	63	
VII b,c							
Total			70	18	7166	4130	

POLAND

No report received.

PORTUGAL

(I. Barraca)

Echantillonage:

Espèce: Sardina Pilchardus

Région	Saison	Type de poissons	N. échantillons		N. poissons mesurés		N. poissons	
			Marché	Navire de recherches	marché	Navire de recherches	Dont âge determiné Otolithes	écailles
IX_a	1er trimestre	Tous	142	8	10 200	1 298	531	300
IX_a	2ème trimestre		207	5	14 940	680	293	266
IX_a	3ème trimestre		179	11	12 385	1 944	727	67
IX_a	4ème trimestre		191	9	12 771	323	336	176

Espèce: Micromesistius poutassou

Région	Saison	Type de Poissons	N. échantillons		N. poissons mesurés		N. poissons
			Marché	Navire de recherches	Marché	Navire de recherches	Dont âge determiné
IX_a	1er trimestre	Tous	69	-	5 357	-	192
IX_a	2ème trimestre		75	47	6 104	3 315	295
IX_a	3ème trimestre		106	76	8 359	8 326	229
IX_a	4ème trimestre		60	50	4 561	2 739	137

Espèce: Scomber scombrus

Région	Saison	Type de Poissons	N. échantillons		N. poissons mesures	N. poissons dont âge determiné
			Marché	Navire de recherches		
IX_a	1er trimestre	Tous	155	-	8 773	660
IX_a	2ème trimestre		159	10	8 060	627
IX_a	3ème trimestre		119	21	9 323	800
IX_a	4ème trimestre		100	19	5 321	378

Espèce: Scomber japonicus

Région	Saison	Type de poissons	N. échantillons		N. poissons mesures	N. poissons Dont âge determiné
			Marché	Navire de recherches		
IX_a	1er trimestre	Tous	8	-	335	8
IX_a	2ème trimestre		5	1	260	65
IX_a	3ème trimestre		24	1	1 212	135
IX_a	4ème trimestre		10	1	260	52

Espèce: Trachurus trachurus

Région	Saison	Type de poissons	N. échantillons		N. poissons mesurés		N. poissons
			Marché	Navire de recherches	Marché	Navire de recherches	Dont âge determiné *
IX_a	1er trimestre	Tous	361	2	24 077	252	406
IX_a	2ème trimestre		308	44	21 594	5 282	482
IX_a	3ème trimestre		335	39	23 373	3 099	249
IX_a	4ème trimestre		312	101	21 604	28 006	1 049

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

SPAIN

No report received.

SWEDEN

(R. Rosenberg)

HERRING

Area	Season	Type of fish	No. of Samples Research		No. of Fish		No. of Fish examined racially
			Vessel	Market	Measured	Aged	
Kattegat	II,III		10	75	55 035	2 282	2 282
	IV,V,VI		-	14	4 016	685	685
	VII,VIII, IX		-	52	14 878	619	619
	X,XI,XII			45	15 947	1 351	1 351
Skagerak	II,III		7	14	8 131	1 238	1 238
	IV,V,VI		-	1	171	79	79
	VII,VIII, IX		5	12	5 982	1 347	1 347
Total			22	213	104 160	7 601	7 601

RESEARCH VESSEL SURVEYS

Area	Season	Objectives
Kattegat, Skagerak	II	Investigation on young fish; herring larvae and stock seperation
	VIII-IX	Echointegrations

UNITED KINGDOM

ENGLAND AND WALES

(A.C. Burd)

Sampling 1982

HERRING

Area		No. of samples		No. of fish		
		Research vessel	Market	Measured	Otolithed*	Racial investigation
North Sea	4A	10		1 617	659	659
	4B	14	4	5 944	1 940	1 940
	4C	7	18	3 646	2 120	2 120
West of Scotland	6A	3		252	146	146
Irish Sea	7A	1		62	62	62
Eastern English Channel	7D	1		95	75	75

SPRAT

Area		No. of samples		No. of fish		
		Research vessel	Market	Measured	Otolithed*	Racial investigation
North Sea	4C		1	577	149	
Western English Channel	7E	4	23	2 179	1 030	
Bristol Channel	7F	1		230	82	

MACKEREL

Area		No. of samples		No. of fish		
		Research vessel	Market	Measured	Otolithed*	Racial investigation
North Sea	4	+	1	85		
West of Scotland	6A	+	1	32		
Western English Channel	7E)	+	132	16 182	4 340	
Bristol Channel	7F)					

*Not all read yet.

PILCHARD

Area		No. of samples		No. of fish	
		Research vessel	Market	Measured	Otolithed*
Western English Channel	7E)				
Bristol Channel	7F)	1	38	2 902	519
SE of Ireland	7G)				

SCAD (HORSE MACKEREL)

Area		No. of samples		No. of fish	
		Research vessel	Market	Measured	Otolithed*
Bristol Channel	7F)				
Western English Channel	7E)	1	8	2 471	1 764
SE of Ireland	7G)				
SW of Ireland	7J	1		122	122

RESEARCH VESSEL SURVEYS, 1982

Area	Month	Objectives
North Sea	January	Sprat acoustic survey
North Sea and English Channel	"	Herring larval survey
Western Channel, Celtic Sea	"	Mackerel, scad and pilchard
North Sea	February	International Young Fish Survey
Continental Slope	April	Mackerel, scad and pilchard
North Sea	July	Mackerel spawning survey
North Sea	August	Herring acoustic survey
North Sea	"	"
North Sea	October	Herring larvae and acoustics
Celtic Sea and Biscay	November	Mackerel and scad survey
North Sea	"	Herring acoustic survey
North Sea and English Channel	December	"

UNITED KINGDOM

SCOTLAND

(R.S. Bailey)

HERRING SAMPLING

AREA	SEASON	NO OF SAMPLES RESEARCH VESSEL	NO OF SAMPLES MARKET	NO OF FISH MEASURED	NO OF FISH AGED	NO OF FISH EXAMINED RACIALLY	TYPE OF FISH
IVa Northern North Sea NW of Sea (03)	Jan-Mar	5	0	229	57	0	Adult
		1	0	237	9	0	Mixed
		6	0	551	94	0	Juvenile
	Jul-Sep	37	0	6796	1038	195	Adult
	Oct-Dec	8	0	1114	25	0	Juvenile
		20	0	238	20	0	Mixed
NEN Sea (04)	Jul-Sep	6	0	208	0	0	Adult
IVo Central North Sea South Buchan (08)	Jan-Mar	11	0	1365	183	0	Juvenile
	Jul-Sep	12	0	1251	186	0	Adult
	Oct-Dec	14	0	2508	105	0	Juvenile
		1	0	275	44	0	Mixed
Central North Sea (09)	Jan-Mar	17	0	3121	65	0	Juvenile
	Jul-Sep	16	0	1759	189	0	Adult
	Oct-Dec	11	0	1351	43	0	Juvenile
		3	0	503	158	0	Mixed
VIa West of Scotland Hebrides (01)	Jul-Sep	0	5	1449	156	0	Adult
N. Rona and W Shetland (02)	Jan-Mar	4	0	545	153	0	Mixed
	Jul-Sep	6	5	2160	527	272	Adult
North West Ireland (06)	Jan-Mar	3	0	387	127	0	Mixed
Minch (07)	Jan-Mar	6	0	1066	336	0	Mixed
Clyde		2	1	89	82	0	Adult
	Apr-Jun	0	36	8433	1034	727	Adult
	Jul-Sep	0	65	11927	2275	610	Adult
	Oct-Dec	1	68	13582	2196	0	Adult
		9	0	1868	457	0	Mixed
		23	0	4217	434	0	Juvenile

HERRING

RESEARCH VESSEL SURVEYS

AREA	SEASON	OBJECTIVES
North western North Sea to German Bight	February	International Young Fish Survey[1]
North and West of Scotland	Feb-Mar	Recruit trawling survey
North-western North Sea	July	Acoustic and trawling survey[2]
Central North Sea (Buchan)	September	Larval survey[1]
West coast of Scotland and north-west of Ireland	Sep-Oct	Larval survey
Northern North Sea	Sep-Oct	Larval survey[1]
Firth of Clyde	November	Recruit trawling survey
Minch	December	Recruit 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.

Tagging

Area	Season	Tag Type	No Tagged	Type of Fish	Recoveries
Clyde	June	Magnetic Microtag	2663	Mixed	2
Clyde	Oct-Jun	Magnetic Microtag Flat T Tag	3980 400	Mixed Mixed	- -

MACKEREL SAMPLING

Area	Season	No of Samples Research Vessel	Market	No of Fish Measured	Aged	Type of Fish
IVa	Jan-Mar	2	-	7	7	Adults and
Northern North	Apr-Jun	1	3	281	168	juveniles
Sea	Jul-Sep	15	4	1220	631	
	Oct-Dec	1	3	304	275	
IVb	Jan-Mar	-	-	-	-	Adults and
Central North	Apr-Jun	4	-	64	64	juveniles
Sea	Jul-Sep	4	2	650	235	
	Oct-Dec	-	2	142	69	
VIa	Jan-Mar	5	3	172	105	Adults and
West of	Apr-Jun	-	10	1532	188	juveniles
Scotland	Jul-Sep	1	35	3273	1034	
	Oct-Dec	17	57	7312	1595	

Research vessel surveys

Area	Season	Objectives
North Sea	June	Egg survey, acoustic and midwater trawling survey

Tagging

Area	Season	No Tagged	Type of Fish	Recoveries
VIa N Minch	October-November	548	Adult	1

Other Research Activities

Intestines taken for tag parasite analysis in Minch.
Mackerel captured for acoustic target strength measurements.
Stomachs taken from various research vessel cruises in the North Sea in accordance with C. Res. 1981/2:21

SPRAT SAMPLING 1982

Area	Season	Number of samples		Number of fish	
		Research Vessel	Market	Measured	Aged
IVa	January-March April-June July-September October-December	17 9	1	1017 1514	84 76
IVb	January-March April-June July-September October-December	30 28	1 3	4638 4549	296 394
VIa	January-March April-June July-September October-December	 27	1 14	127 8290	48 569

Research Vessel Surveys

Area	Date	Objective
Western North Sea	January	Acoustic and trawling survey (in accordance with C. Res. 1981/2:22)
Western North Sea	November	Acoustic and trawling survey for 0-group

Squalus acanthias

Spurdog

Sampling

Area	Season	No of samples		No of fish measured	
		Research Vessel	Market	Research Vessel	Market
IVa	January-December	49	12	743	1689
VIa	January-December	32	24	3265	2466
VIIa	January-December	0	3	0	195

Tagging

Area	Season	Type	Tag Type	No tagged	Recoveries
VIa	December	Mixed	2 x Howitt flags/swiftachments	2199	7

Research vessel surveys

Area	Date	Objectives
VIa	December	Trawling survey

BLUE WHITING

SAMPLING

Area	Season	Type of Fish	No. of samples Research vessel	Market	No of fish Measured	Aged
VIa	January-March	Mixed	5	-	470	366
VIa	April-June	Mixed	5	-	1221	441
VIIc	January-March	Mixed	1	-	412	128

Research vessel cruises

Area	Date	Objectives
VIa, VIb, VIIb, VIIc	March-April	Acoustic and fishing survey
VIa	April-May	Dual beam sonar development

Other research activities

Observations were made on blue whiting concentrations to develop techniques for measuring acoustic target strength using dual beam sonar.

U.S.A.

(R.C. Hennemuth & H. Houde)

SPECIES AND SPECIES GROUPINGS

ALEWIVES AND BLUEBACK HERRING

The National Marine Fisheries Service's (NMFS) Northeast Fisheries Center (NEFC) updated information on catch and abundance of alewives and blueback herring in support of a regional fishery management plan being developed by the Atlantic States Marine Fisheries Commission (ASMFC).

The Maine Department of Marine Resources (MDMR) completed a 3-year study of the alewife population of Damariscotta Lake. The study centered on relationships between escapement and subsequent timing, abundance, and size of emigrating fry.

The Virginia Institute of Marine Science continued its studies of the alewife and blueback herring fishery in Virginia's three major river systems: York, James, and Rappahannock.

AMERICAN AND HICKORY SHADS

The NEFC updated information on catch and abundance of American and hickory shads in support of a regional fishery management plan being developed by the ASMFC.

The Maryland Department of Natural Resources continued its survey of the production of juvenile American and hickory shad in upper Chesapeake Bay.

The Connecticut Department of Environmental Protection continued its study of the fishery and juvenile population of American shad in the Connecticut River.

The MDMR examined the feasibility of transplanting American shad to several rivers in that state.

ATLANTIC HERRING

The NEFC prepared an assessment update for Atlantic herring stocks in the Gulf of Maine for input to a new fishery management plan being developed jointly by state and federal agencies.

The NEFC is preparing an analysis of environmental influences on herring recruitment in the Gulf of Maine.

A combined bottom trawl-hydroacoustic survey was conducted from Maine to Maryland during February by the NEFC's R/V Delaware II to study the winter distribution of herring by age classes.

The MDMR conducted herring tagging research, and continued a larval monitoring program in coastal Maine waters. Additionally, the MDMR initiated a larval aging program. The MDMR also conducted studies on herring fecundity and herring parasites, respectively, cooperatively with the University of Maine and the NEFC.

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 1983-84.

The NEFC, in cooperation with the Polish Sea Fisheries Institute in Gdynia, conducted a mackerel survey/fishery in the area between Georges Bank and Cape Hatteras, North Carolina, during January-April 1982 using two Polish commercial trawlers, the F/V Admiral Arciszewski and the F/V Kanaryjka. The objectives of this survey/fishery were to: locate and fish on overwintering concentrations of mackerel; collect age, length, and other biological data on mackerel; collect catch-per-unit-of-effort (CPUE) data; monitor bycatch of other species; and collect hydroacoustical data on mackerel schools.

As part of the biological program on mackerel, intensive sampling aboard the Admiral Arciszewski included blood smears and kidney and spleen tissue imprints for cytogenetic and hematozoan studies, gonadal and somatic tissues for contaminants analysis, ectoparasites for identification of potential disease vectors, and observations of external and internal lesions. Samples collected aboard the Polish vessel, as well as other later in the year both from inshore USA waters and off Canada, were analyzed.

Experimental laboratory studies were begun by the NEFC. Adult mackerel were captured and held in aquaria for spawning. Growth studies will be conducted on laboratory-spawned larvae.

Plans were developed for conducting a joint USA-Poland mackerel research survey and fishery during January-April 1983 in the Georges Bank-Cape Hatteras area.

An age-validation study on mackerel was conducted by the NEFC. Mackerel samples were collected from research and commercial catches in USA waters and provided to Canada for a meristic/morphometric analysis on mackerel. The NEFC prepared a report on the use of commercial CPUE data in assessing the mackerel stock.

BLUEFIN TUNA

Stock assessment reports on Atlantic bluefin tuna (as well as blue marlin, white marlin, and sailfish) were prepared by the NMFS Southeast Fisheries Center (SEFC) for the 1982 ICCAT meeting and related international discussions.

An ichthyoplankton survey was conducted by the SEFC, and the data gathered were used to estimate the spawning population of bluefin tuna in the Gulf of Mexico.

BLUEFISH

The NEFC updated information pertaining to survey abundance indices for young-of-the-year and catch statistics.

The State University of New York at Stonybrook began a study of seasonality in the offshore distribution of bluefish, based on surveys conducted by the NEFC.

BLUE MARLIN, WHITE MARLIN, SAILFISH, AND SWORDFISH

Stock assessment reports on swordfish and other billfish species were prepared for a stock assessment workshop held at the SEFC in August 1982. The workshop report will be published in 1983.

Japanese longline catch-and-effort statistics for swordfish were used by the SEFC to estimate annual effective fishing intensity by the Japanese fleet in the Atlantic Ocean. Because of difficulties in estimating total catch, no total stock assessment was attempted. The CPUE was considered an index of local availability.

As part of the NEFC's (in cooperation with the Woods Hole Oceanographic Institution) research on large pelagic fishes a number of experiments were conducted in which transmitters were attached to billfish, sharks, or tunas, allowing them to be followed in course and depth as they swam free in the open ocean.

BUTTERFISH

The NEFC prepared an assessment of the status of butterfish for use in amending the fishery management plan for 1983-84.

KING MACKEREL

Research in this program is designed to support the Gulf of Mexico and South Atlantic Fishery Management Plan for Coastal Pelagics, which was implemented in 1983. Studies in 1982 concentrated on quantitative information for use in stock assessment. The possible effect of environmental variables on recreational catches was also explored. The state of current knowledge on king mackerel stocks in the southeastern USA was one topic of discussion at a stock assessment workshop held at the SEFC in August 1982.

LARGE SHARKS

In 1982, a total of 4,553 sharks and teleosts were tagged under the NMFS Cooperative Shark Tagging Program. These represented 36 species of sharks and seven species of teleosts. Of the total number of fish tagged, rod-and-reel fishermen accounted for 44%; USA longline fishermen, 11%; USA fishery observers on foreign vessels, 17%; USA R/V Geronimo, 15%; Polish R/V Wieczno, 10%; and the remaining 3% were released by NMFS biologists.

A total of 139 tags from 18 species were returned in 1982. These came from blue (66), mako (15), sandbar (10), tiger (9), lemon (8), dusky (6), other sharks (20), and teleosts (5). The categories of fishermen who returned tags in 1982 were: USA sportsmen, 41%; USA longliners, 24%; other USA fishermen, 5%; foreign longliners, 21%; and other foreign fishermen, 9%. In the latter categories, tags were returned by fishermen from 15 countries including Japan (11), Mexico (5), Korea (5), Cuba (5), Spain (3), Taiwan (2), Canary Islands (2), Canada (1), West Indies, Bermuda, and Bahama Islands (5), and others (3).

Age and growth of the sandbar shark were estimated by the NEFC from rings in the vertebrae, tagging data, and size-frequency distributions.

The NEFC estimated the USA recreational catch of sharks in the Atlantic. Several past national surveys were examined and it was decided that the most recent survey, directed specifically at sport fishing for billfish and sharks, provided the "best available data" on the number of sharks caught (dogfish were excluded).

ROUND SCAD

A 3-yr sampling project by the SEFC for round scad was completed in 1982. The samples will be used for biological and ecological research. Electrophoretic studies on round scad were initiated in 1982. Investigations on food habits will begin in 1983.

SPINY DOGFISH

The Virginia Institute of Marine Science completed a study on the life history of the spiny dogfish off the northeastern USA.

STRIPED BASS

Monitoring of striped bass stocks off the northeastern USA continued with funds provided through the Emergency Striped Bass Study. Monitoring included characterization of the fisheries and young-of-the-year abundance surveys. Examination of feeding ecology, starvation indices, contamination, and predation in larval populations continued in Chesapeake Bay and Albemarle Sound.

The NEFC conducted a study that related juvenile production to subsequent catch in coastal fisheries and begn automating tagging records of the American Littoral Society.

GENERAL BIOLOGY AND ECOLOGY

AGE DETERMINATION

An international workshop on "Age Determination of Oceanic Pelagic Fishes--Tunas, Billfishes, and Sharks" was held at the SEFC in February 1978. There were 63 scientists in attendance from 10 states in the continental USA and Hawaii, three provinces in Canada, France, Senegal, Spain, Mexico, Ivory Coast, and New South Wales (Australia). The meeting started with two general overview papers, one on statistical characteristics of aging data for population analysis and another that reviewed age and growth assessment.

The section on tunas addressed age determination of various life stages of six species of scombrids. Examples of aging techiques included: otolith microstructure of young-of-the-year; vertebrae, otolith, and fin-spine analyses of adults and juveniles; stochastic age-frequency estimation using the von Bertalanffy growth equation; and tetracycline and tag-recapture validation of age estimates.

There were three separate papers on: aging swordfish using otoliths and anal spines; age estimation of sailfish from dorsal spines; and a review of anatomical characteristics of otoliths from seven species of billfishes and their potential use as aging structures. A general paper reviewed aging techniques used on California elasmobranchs, while other papers covered silver-nitrate staining of vertebrae, x-radiography, tagging, and length-frequency analysis to estimate age as a means to validate age estimates of sharks using vertebrae from several species.

Subjects covered by round-table discussions included age validation, back-calculation of length from growth bands on skeletal hardparts, ring-

counting techniques, and the use of silver nitrate in combination with tetracycline to age sharks. The majority of participants agreed that the lack of validation of age estimates or means to accomplish the same is one of the most serious problems in assessing the age and growth of fishes, particularly oceanic pelagics. The proceedings of the workshop will be published as a NOAA Technical Report in late 1983.

ECOSYSTEM MODELING

The NEFC continued to investigate the apparent deficit in zooplankton and pelagic fish production per unit of primary production on Georges Bank relative to other ecosystems like the North Sea. Using a logistic model, the effect of water-residence time on primary and zooplankton production and larval fish loss rates was compared to a system without advective loss. The results indicate that the differences in secondary production may be largely accounted for by the advective loss of organisms, since their generation time approaches the residence time of water on the Bank. The NEFC also examined the relation between survival of larvae and 0-group fish and entrainment of shelf water by warm-core rings, ekman transport, and position of the shelf/slope front. On the time and spatial scale of the available data for seven years, there was no correlation between these physical processes and survival during the first year of life and subsequent year-class strength.

Work continued by the NEFC on a mutlispecies model with increased emphasis on the role of pelagic predators such as spiny dogfish and squid on the survival of fish during the first year of life. Stomach analysis of spiny dogfish has shown significant increases in the occurrence of juvenile Atlantic mackerel in recent years, probably a result of their increased abundance.

POLLUTANT IMPACTS

The NEFC developed a description of the fish and fisheries that could be impacted by the disposal of chemical wastes from the highly industrialized New York-New Jersey area. The disposal currently occurs at Deepwater Dumpsite 106--106 nautical miles (nm) from Ambrose Lightship and 90 nm east of Cape Henlopen, Delaware. Some of the species at risk are spiny dogfish, blueback herring, alewives, Atlantic mackerel, butterfish, yellowfin tuna, big-eye tuna, albacore, white marlin, blue marlin, and swordfish.

U.S.S.R.

(A. Seliverstov & V. Shleinik)

In 1982 the pelagic fish specialists of the PINRO laboratory continued their investigations of the biology of the Barent Sea capelin and polar cod, the Norwegian Sea blue whiting, Atlantic mackerel and herring.

Pelagic fish stock conditions, their migrations, conditions favouring the formation of commercial fish concentrations were studied on the basis of the results of observations on the distribution and behaviour of fish, analyses of stocks,age/length compostion, acoustic survey data obtained during the cuises of the R/Vs"Persey-III", "Alaid", "I. Spiridonov", Menzelonsk", and "Nagorsk".

Observations on migrations of the Barent Sea capelin to the shores for spawning were carried out by the R/Vs "Persey-III" and "Nagorsk" in February - March.

An ichthyoplankton survey of polar cod was carried out by the R/V"Menzelinsk" to study its spawning efficiency in April - July.

Studies of the Norwegian Sea larval herring and the Barent Sea capelin were carried out by the R/V "Alaid" in April - June.

In August - September the O-group survey of the Barent Sea and Spitsbergen area on commercial fish was undertaken jointly with Norwegian scientists. In September - October capelin and polar cod stock assessments were made.

During the whole year a collection of biological data on blue whiting with acoustic surveys were carried out simultaneously in the Norwegian Sea. In August, the Soviet R/V "Persey-III" took part in the international survey of blue whiting on feeding grounds.

A collection of biological data on Atlantic mackerel of the Norwegian Sea was carried out by research vessels simultaneously with that of blue whiting inverstigations in the summer period.

Similar studies will also be continued in 1983.

In 1982, for the study of the biology of commercial fish the following material was collected by AtlantNIRO specialists.

SAMPLING

Species: Mackerel

Area	Season	Type of Fish	No. of Samples		No. of Fish Measur.	No. of Fish Aged	No. of Fish Examined Racially
			Research Vessel	Market Samples			
VIII	June	immature	60	-	6 000	155	-
		mature	71	-	7 079	174	-

SPECIES: Blue whiting

Area	Season	Type of Fish	No. of Samples		No. of Fish Measur.	No. of Fish Aged	No. of Fish Examined Racially
			Research Vessel	Market Samples			
VIII	June	immature		-	1 970	-	-
	July	immature		-	277	-	-
VII	February	mature	1	-	2 508	150	-
	May	immature	1	-	1 375	100	-
	June	immature		-	1 925	-	-
VII,C	March	mature	3	-	3 983	300	-
VI, b	March	mature		-	1 290	-	-
	April	mature	1	-	1 768	100	-

In 1982, the RV "Korifena" participated in the International Young Fish Survey of the North Sea.

RESEARCH VESSEL SURVEYS

Area	Date	Objectives
IV	31 Jan. - 10 Feb.	Young fish abundance survey

Amount of material collected in 1982

ICES Div.	Season month	Type of fish	Samples number on vessel	Samples number on market	Number of measured fish	Number of fish at age	Number of fish for racial analysis
I	2	3	4	5	6	7	8
		CAPELIN					
I	I	Prespawn., Spawning	35	-	I03973	3400	-
	II	Adult	9	-	6322	900	-
	III	Adult	I9	-	22642	I3I5	-
	IV	Adult	I0	-	278I5	838	-
	Total		73	-	I60752	6453	-
IIa	I	Prespawn., Spawning	I	-	3383	I00	-
	II	Adult	I	-	2892	I00	-
	Total		2	-	6275	200	-
IIb	I	Prespawn.	-	-	3II9	-	-
	II	Adult	I	-	I00	I00	-
	III	Adult	I0	-	28I62	750	-
	IV	Adult	6	-	34094	600	-
	Total		I7	-	65475	I450	-
		POLAR COD					
I	I	Spawning	4	-	8940	400	-
	II	Adult	8	-	5872	800	-
	III	Adult	I3	-	I2369	I0I9	-
	IV	Prespawning	20	-	450I3	I906	-
	Total		45	-	72I94	4I25	-

1	2	3	4	5	6	7	8
IIb	II	Adult	2	-	II98	200	-
	III	Adult	4	-	6577	400	-
	IV	Adult	-	-	7238	-	-
	Total		6	-	I50I3	600	-
	B L U E	W H I T I N G					
IIb	III	Adult	-	-	5I	-	-
	IV	Adult	-	-	2055	-	-
	Total		-	-	2I06	-	-
IIa	I	Adult	3	-	6I33	300	-
	II	Adult	22	-	44I69	2200	-
	III	Adult	I6	-	22448	I600	-
	IV	Adult	4	-	I2873	400	-
	Total		45	-	85623	4500	-
IVa	I	Prespawn.	-	-	864	-	-
	II	Postspawn.	3	-	I550	300	-
	Total		3	-	24I4	300	-
Va	II	Adult	I	-	8I4	I00	-
V	I	Prespawn., postspawn.	2	-	4782	200	-
	II	Postspawn.	6	-	62I2	600	-
	III	Adult	-	-	377	-	-
	Total		8	-	II37I	800	-
IV a	II	Adult	2	-	934	200	-
	A T L A N T I C	M A C K E R E L					
IIa	II	Adult	4	-	I07I	200	-
	III	Adult	6	-	2I335	523	-
	Total		I0	-	22406	723	-