

PELAGIC FISH (NORTHERN) COMMITTEE

by

A. Saville

1975

Belgium

(P. Hovart)

Herring and Sprat

No market sampling of pelagic fish has been carried out in 1975. Research Vessel surveys on the two species are given in the table below.

Research Vessel Surveys

Area	Season	Objective
Belgian Coast	Whole year. Monthly intervals	Recording densities of immature herring and sprat

Canada

(T.D. Iles & G.H. Winters)

All research relevant to this Committee has been reported to ICNAF.

Denmark

(K. Popp Madsen)

RV "Dana" participated in the international young herring surveys in February 1975 and in the Joint Herring Larvae Surveys in September 1975.

No tagging experiments or special investigations were carried out.

Sampling Herring

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
West of Shetland (02)	Jan-Mar	immat. adults					
	Apr-Jun	immat. adults		1	133	133	
	Jul-Sep	immat. adults		1	113	113	

continued...

Sampling Herring

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
NW North Sea (03)	Jan-Mar	immat.		7	96	96	
		adults		5	698	697	
	Apr-Jun	immat.				-	
		adults		1	130	130	
	Jul-Sept	immat.		2	126	126	
NE North Sea (04)		adults		1	171	171	
	Oct-Dec	immat.		5	17	17	
		adults		1	168	168	
	Jan-Mar	immat.		6	37	37	
		adults		7	82	72	
Skagerak (05)	Apr-Jun	immat.		1	116	116	
		adults					
	Jul-Sept	immat.		1	223	223	
		adults		1	3	3	
	Oct-Dec	immat.					
Buchan (08)		adults					
	Jan-Mar	immat.	4	30	891	891	
		adults		4	49	49	
	Apr-Jun	immat.		1	190	190	
		adults		7	53	53	
Central North Sea (09)	Jul-Sept	immat.		2	341	341	
		adults		21	427	427	
	Oct-Dec	immat.					
		adults					
	Jan-Mar	immat.					
Kattegat		adults		1	1	1	
	Apr-June	immat.					
		adults					
	Jul-Sept	immat.					
		adults					
Kattegat	Oct-Dec	immat.		1	219	101	
		adults					
	Jan-Mar	immat.	31	113	10 412	10 412	
		adults		22	322	314	
	Apr-Jun	immat.		2	715	272	
Kattegat		adults		106	2 174	2 174	
	Jul-Sept	immat.					
		adults		43	693	693	
	Oct-Dec	immat.					
		adults					
Kattegat	Jan-Mar	immat.		43	3 084	3 084	
		adults		6	264	264	
	Apr-Jun	immat.					
		adults		30	1 451	1 331	
	Jul-Sept	immat.					
Kattegat		adults		26	1 672	1 672	
	Oct-Dec	immat.					
		adults					
	Jan-Mar	immat.					
		adults					

Sampling Herring

Area	Season	Type of fish	No. of Samples		No. of Fish		
			Research	Market	Measured	Aged	Examined racially
Baltic	Jan.-Mar.	immat.	6	7	1158	1158	
	Apr.-Jun.	adults		3	462	462	
	Jul.-Sep.	immat.					
	Oct.-Dec.	adults					
Belt Sea	Jan.-Mar.	immat.		4	347	347	
	Apr.-Jun.	adults		2	570	570	
	Jul.-Sep.	immat.		8	704	704	
	Oct.-Dec.	adults		1	296	296	
Σ			41	523	28608	27907	

Sampling Sprat

Area	Season	Type of Fish	No. of samples		No. of fish		
			Research	Market	Measured	Aged	Examined racially
NW North Sea (03)	Jan.-Mar	immat. adults		6	57	50	
	Apr.-Jun.	immat. adults					
	Jul.-Sep.	immat. adults					
	Oct.-Dec.	immat. adults		1	1	0	
NE North Sea (04)	Jan.-Mar.	immat. adults		1	3	0	
	Apr.-Jun.	immat. adults		1	35	35	
	Jul.-Sep.	immat. adults					
	Oct.-Dec.	immat. adults					
Skagerrak (05)	Jan.-Mar.	immat. adults	1	16	1111	971	
	Apr.-Jun.	immat. adults					
	Jul.-Sep.	immat. adults		5	593	593	
	Oct.-Dec.	immat. adults		16	2160	2160	
Buchan (08)	Jan.-Mar.	immat. adults					
	Apr.-Jun.	immat. adults		1	51	51	
	Jul.-Sep.	immat. adults					
	Oct.-Dec.	immat. adults					
Central North Sea (09)	Jan.-Mar.	immat. adults	34	86	15971	5773	
	Apr.-Jun.	immat. adults		33	2258	2016	
	Jul.-Sep.	immat. adults		42	5460	5460	
	Oct.-Dec.	immat. adults		27	3939	3939	

Sampling Sprat

Area	Season	Type of fish	No. of samples		No. of fish		
			Research	Market	Measured	Aged	Examined racially
Kattegat	Jan.-Mar.	immat. adults		28	2149	1912	
	Apr.-Jun.	immat. adults		6	614	386	
	Jul.-Sep.	immat. adults		22	3005	2800	
	Oct.-Dec.	immat. adults		19	2148	1595	
Baltic	Jan.-Mar.	immat. adults		4	367	333	
	Apr.-Jun.	immat. adults	6	1	523	523	
	Jul.-Sep.	immat. adults					
	Oct.-Dec.	immat. adults					
Belt Sea	Jan.-Mar.	immat. adults		4	332	332	
	Apr.-Jun.	immat. adults		1	48	48	
	Jul.-Sep.	immat. adults		6	1047	907	
	Oct.-Dec.	immat. adults		1	215	215	
Σ			41	327	42087	30.104	

Sampling Mackerel

Area	Season	Type of Fish	No. of samples		No. of fish		
			Research	Market	Measured	Aged	Examined racially
Skagerrak (05)	Jan.-Mar.	immat.					
		adults					
	Apr.-Jun.	immat.		2	8		
		adults					
	Jul.-Sep.	immat.					
		adults					
	Oct.-Dec.	immat.					
		adults					
Central North Sea (09)	Jan.-Mar.	immat.		1	1		
		adults					
	Apr.-Jun.	immat.		1	1		
		adults					
	Jul.-Sep.	immat.		7	9		
		adults					
	Okt.-Dec.	immat.					
		adults					
Σ				11	19		

Finland

(V. Sjöblom)

No work was done on Atlantic herring and sprat in 1975. Work on these species in the Baltic has been reported to the Baltic Fish Committee.

France

(A. Maucorps)

Echantillonnage Hareng

REGION	SAISON	GENRE DE POISSON	No. echantillons bateau de recherche	No. de poissons mesurés	No. de poissons dont âge déterminé
Mer du Nord septentrionale	03 ! oct. - dec.	! adulte	! -	! 1	! 955
					! 113
Mer du Nord centrale	09 ! juil.- sept.	! adulte	! -	! 2	! 2066
					! 202
Sud Mer du Nord	! oct.- dec.	! géniteurs	! 11	! 1	! 7155
Manche Est	12 !	!	!	!	! 610
Mer d'Irlande	11 ! oct.-dec.	! adulte	!	! 2	! 1147
					! 224

NAVIRE	REGION	SAISONS	OBJECTIFS
THALASSA	Manche orientale	18.11 - 16.12	cartographie des frayères de hareng: identification des substrats, caractéristiques hydrologiques.

Echantillonnage Maquerau

REGION	saison	genre de poissons	No. échantillons bateau de recherche	marché	mesurés	No. de poissons dont âge déterminé
IV a	juil.-sept.	adulte	-	1	79	-
VI a	oct. -dec.	adulte	-	1	89	27
VIIa	avril-juin	adulte	-	1	87	25
	juil.-sept.	"	-	1	190	-
	oct. -dec.	"	-	1	47	-
VIIb	avril-juin	adulte	1	3	388	45
VIIe	janv.-mars	adulte	-	5	1035	23
	avril-juin	"	-	2	276	-
VIIIf	janv.-mars	adulte	-	1	47	-
	avril-juin	"	-	1	33	-
	juil.-sept.	"	-	1	158	74
	oct. -dec.	"	1	1	223	55
VIIg	janv.-mars	adulte	-	4	573	44
	avril-juin	adulte	1	7	1472	59
	juil.-sept.	adulte	-	4	814	89
	oct. -dec.	adulte	10	6	4135	200
VIIh	janv.-mars	adulte	-	4	432	-
	avril-juin	"	-	1	137	-
	oct.-dec.	"	-	1	124	-
VIIj	janv.-mars	adulte	-	1	17	-
	avril-juin	"	-	1	50	-
VIIIa	janv.-mars	adulte	4	1	202	13

Etudes de bateaux de recherche

Bateau	Région	Saison	Objectif
THALASSA	Mer Celtique	novembre 1975	étude des concentrations d'automne au large de la Cornouaille.

Marquages

Région	Saison	Type de marque	No. marqués	Genre de poisson	Recaptures
Bretagne sud	mars - avril	dart-tag	1010	adulte	11 au 31.12.75

German Democratic Republic
(H. Schultz)

Sampling Herring

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Comm. Vessel	Measured	Aged	Examined racially
08	III	-	-	8	1 623	238	238
09	IV	-	-	3	574	149	149
03	IV	-	3	-	557	257	257
01	II	-	-	3	691	50	50
06	II	-	-	3	643	49	49
06	III	-	-	2	370	50	50
<u>Sampling Sprat</u>							
09	IV	-	-	29	7 558	837	-
<u>Sampling Mackerel</u>							
06	II	-	-	30	7 982	350	-
13	IV	-	8	-	2 229	786	-
04	III	-	2	-	477	-	-
<u>Sampling Blue Whiting</u>							
IIb	III	-	3	-	1 426	100	-
Vb	III	-	3	-	1 198	-	-

Research Vessel Surveys

Area	Season	Objectives
05, 04	18 - 19 September	Herring echo survey
03, 02	20 Sept. to 2 Oct.	Herring larvae, herring stock investigations
IIb	3 - 13 November	Blue whiting echo survey, stock investigations
Vb/IVa	22 Nov. to 6 Dec.	Blue whiting echo survey

Federal Republic of Germany

(D. Sahrhage)

Sampling Herring

Area	Season	Type of Fish*	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
NW N. Sea 03	I	<u>1,2,3,4,8</u>	26	-	1 657	400	200
	III	<u>1,2,3,4,5,7</u>	18	-	2 666	300	200
NE N. Sea 04	I	-	3	-	47	-	-
S. Buchan 08	I	<u>1, 2</u>	3	-	630	100	-
	III	-	3	-	128	-	-
Central N. Sea 09	I	<u>1,2,3,4,5,6,7</u>	32	-	7 223	800	200
	III	<u>2,3,4,5</u>	8	-	1 411	100	100
	IV	-	2	9	1 768	-	-
S. North Sea 12	I	<u>1,2,7,8</u>	5	-	1 772	100	100
	IV	-	1	-	46	-	-
W. of Shetlands 02	III	<u>2,3,4,5,6,7</u>	12	-	341	300	200
Hebrides 01	III	<u>2,3,4,5,6,7</u>	15	3	1 460	682	282
	IV	<u>2,4,5,6,7,8</u>	-	2	200	200	-
W. of Scotland 07	II	-	1	-	400	-	-
	III	-	1	-	271	-	-
NW of Ireland 06	III	<u>2,3,4,5,6,7,8</u>	26	2	3 911	600	300
	IV	<u>4,5,6,7,8</u>	-	1	100	100	100
W. of Ireland 10	III	<u>1,2,4,5</u>	2	-	238	100	100
S. of Ireland 13	III	-	3	-	46	-	-

*) stages of maturity

Research Vessel Surveys

Area	Season	Objectives
NW-North Sea (03) NE-North Sea (04) South Buchan (08) Central North Sea (09) S-North Sea (12)	25 Jan to 22 Feb 1975	International Young Herring Survey

Research Vessel Surveys

Area	Season	Objectives
NW-North Sea (03) South Buchan (08) Central North Sea (09) W. of Shetlands (02) Hebrides (01) W. of Scotland (07) NW of Ireland (06) W. of Ireland (10) S. of Ireland (13)	11 Aug. to 16 Sept. 1975	Adult Herring
Central North Sea (09) Southern N. Sea (12)	7 to 22 Jan. 1975	Groundfish Survey (herring bycatches)
Central North Sea (09)	10 - 17 Apr. 1975 2 - 22 Jun. 1975 1 - 22 Sept. 1975	Groundfish Survey (herring bycatches)
Southern North Sea (12)	2 - 19 Dec. 1975	Groundfish Survey Eel investigations (herring bycatches)

Sampling Sprat

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
IVb	I	-	7	9	1 306	-	-
	II	-	24	-	25	-	-
	III	-	5	6	918	-	-
	IV	-	2	-	332	-	-
IVc	I	-	3	-	345	-	-
	IV	-	2	-	291	-	-
IIId	IV	-	3	-	532	-	-
VIIg,h,j,k	III	-	4	-	353	-	-

Sampling Mackerel

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
IVb	III	-	5	6	826	-	-
	II	-	2	-	112	-	-
IVa	III	-	7	-	1 391	-	-
VIa	III	-	7	-	727	-	-
VIIg,h,j,k	III	-	6	-	1 006	-	-
<u>Sampling Whiting</u>							
Ib	III	-	1	-	120	-	-
Ic	III	-	1	-	224	-	224
IIa ₁	III	-	1	-	242	-	242
IIb ₁	III	-	6	-	1 165	-	644
IIb ₂	III	-	2	-	214	-	94
IIb ₃	III	-	1	-	243	-	-
Vb ₁	I	-	2	-	966	100	262
IVa	I	-	1	-	231	91	100
VIa	II	-	4	-	3 993	100	86
	III	-	10	-	1 407	100	-
VIIb,c	II	-	7	-	1 889	100	127
VIIg-k	II	-	4	-	1 191	99	99
VIII	II	-	20	-	3 002	92	98
IX	II	-	3	-	690	100	100
XIV	III	-	5	-	722	-	-

Research Vessel Surveys

Area	Date	Objectives
Faroe Islands, Shetlands, Otterbank, Skagerak	20 Jan. to 24 Feb. 1975	Gear Research Trawl testing
Hebrides, Porcupinebank Great- and Little Solebank Gulf of Biscay Cape Fini- sterre	23 Apr. to 20 May 1975	Survey for uncon- ventional fish species along Continental slope
North Sea, waters W, NW and SW of British Isles	11 Aug. to 16 Sept. 1975	Adult herring blue whiting bycatch
Greenland	23 Jul. to 20 Aug. 1975	Groundfish survey (part I)
Barents Sea Spitzbergen Bear Island	23 Aug. to 20 Sept. 1975	Groundfish survey (part II)

Iceland
(J. Jakobsson)

Sampling Herring

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Fishing Vessel	Measured	Aged	Examined racially
South	Jan-May	Adult	2	4	310	310	310
Ice-	Jun-Sept	Adult	8	15	1 497	1 497	1 497
land	Oct-Dec	Adult	8	31	3 244	2 744	2 744
VIa	June	Adult	-	1	44	43	44
N.S. IVa	Oct-Nov	Adult	-	2	200	199	199
N.S. IVb	June	Adult	-	1	100	94	94

Research Vessel Surveys

Area	Date	Objectives
Shetland - Hebrides	12 June - 2 July	Herring Surveys
South Iceland	12 - 21 September	Herring Surveys
South Iceland	27 October - 6 December	Abundance Estimates

Other Research Activities

Icelandic research vessels participated in the annual International Pelagic Fish and Environmental Surveys in May-June, as well as in the International O-group Surveys in July - August.

Sampling Capelin

Area	Season	Type of fish x)	No. of samples		No. of fish measured	No. of fish aged	No. of fish examined racially
			research vessel	fishing vessel			
V a Icel.	Jan.- March	adult	7	34	3937	3937	3937
"	Apr.- June	"	7	1	667	661	661
"	July-Sept.	"	2		200	200	200
"	" "	Imm.	2	3	500	500	500

x) Adults, spawners, immature, etc.

TAGGING

Area	Season	Type of tags	No. tagged	Type of fish	Recoveries
N-Icel.	July	Internal	470	pre recruit	0

RESEARCH VESSEL SURVEYS

Area	Date	Objectives
N & E Iceland	2 - 30 Jan	Monitoring capelin runs
E & S "	5 - 26 Feb.	" "
S & W "	4 - 26 March	Capelin survey
N "	9 - 26 July	" " tagging
N & NW Iceland	4 - 20 Sept.	" "
" "	8 - 22 Nov.	" "

Sampling Blue Whiting

Area	Season	Type of fish	Research vessel	No. of samples	No. of fish measured	No. of fish aged
Scotland-Faroes Iceland Iceland	April-June	adults, immature	A. Fridriksson	4	253	253
	July-Sept.	adults, immature	A. Fridriksson B. Saemundsson	13	1157	1157
	Oct.-Dec.	adults, immature	B. Saemundsson	15	619	100

- 14 -

RESEARCH VESSEL SURVEYS

Area	Date	Objectives
East-Southwest Iceland West of Scotland, Faroes, Southeast Iceland	14-25 April	Blue whiting investigations
	2-27 May	" "

Ireland
(J. Molloy)

Sampling Herring

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
N.W.Ireland(06)	I-XII	adult	-	40	8 944	2 055	2 055
W. Ireland (10)	I-XII	adult	-	11	3 240	600	600
S. Ireland (13)	I-II	adult	-	7	1 486	526	526
S. Ireland (13)	IX	adult	-	4	108	367	367
S. Ireland (13)	X-XII	adult	-	20	1 206	1 421	1 421
E. Ireland (11)	VI-IX	adult	-	18	2 908	979	979
E. Ireland (11)	XI-XII	adult	-	4	261	211	211
E. Ireland (11)	I-III	immat.	-	2	177	177	75
E. Ireland (11)	IV-VI	immat.	-	7	870	870	175
E. Ireland (11)	XI-XII	immat.	-	10	749	749	261

Research Vessel Survey

Area	Season	Objective
Irish Sea (11)	VI - VIII	Young Herring Survey

Sampling Sprat

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
Irish Sea (11)	X-XII	Adult	-	14	2 486	644	-

Netherlands

(A. Corten)

Sampling 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	-	4	418	200	50
"	4	"	-	4	542	200	50
02 West of Shetland	3	"	-	1	90	50	50
03 NW Norht Sea	3	"	-	4	885	200	0
"	4	"	-	2	356	100	0
04 NE North Sea	2	"	-	1	107	50	0
06 NW Ireland	3	"	-	4	429	200	100
"	4	"	-	4	523	200	100
08 South Bucham	2	"	-	6	972	300	0
"	3	"	-	1	125	50	0
09 Centr. North Sea	2	"	-	1	86	50	0
"	3	spawners	-	25	3238	1250	700
"	4	"	-	15	2939	750	300
10 W of Ireland	1	adults	-	1	75	50	0
"	3	"	-	6	617	300	150
11 Irish Sea	2	"	-	1	210	50	0
12 South. North Sea	1	"	-	1	286	50	0
"	4	spawners	-	16	3069	800	450
13 South Ireland	2	adults	-	2	228	100	0
"	4	"	-	1	122	50	0
14 Bristol Channel	1	"	-	1	122	50	0
"	2	"	-	2	256	100	50
Young Herring Surveys	1	imma- tures		-	4444	750	0
North Sea							
Total				104	20139	5950	2000

Research Vessel Surveys

Area	Date	Objectives
Southern North Sea	7 - 16 Jan	ICES herring larval survey
Dutch coastal zone	10 Febr - 1 May	Q-group herring survey
North Sea	17 Febr - 14 Mar	ICES young herring survey
Centr. North Sea	15 - 23 Sept	ICES herring larval survey
Centr. North Sea	21 - 29 Oct	ICES herring larval survey
South. North Sea	8 - 18 Dec	ICES herring larval survey

Sampling Mackerel

AREA	Quarter of year	Type of fish	No. of samples		No. of fish	
			Research vessel	Market	measured	aged
IVa Northern North Sea	1	adults	-	1	21	0
"	2	"	-	11	434	150
"	3	"	-	5	103	100
"	4	"	-	4	160	100
IVb Central North Sea	2	"	-	5	195	0
"	3	"	-	19	661	100
"	4	"	-	5	197	0
IVc Southern North Sea	2	"	-	17	882	150
"	3	"	-	15	816	450
"	4	"	7	23	981	150
VIa NW of Ireland	3	"	-	8	323	200
"	4	"	-	7	244	150
VII g-k South Ireland	1	"	-	5	546	100
"	2	"	-	14	1129	250
"	3	"	-	6	269	150
"	4	"	-	3	131	50
Total			7	148	7029	2100

Tagging

Experiments were started to study the mortality caused by catching and tagging of the mackerel.

Area	Dates	Type of Tags	No. tagged	Type of fish	Recoveries
Southern North Sea	11 Aug - 26 Sept	Floy	2590	adults	2

Norway
(O.J. Østvedt & J. Hamre)

Sampling Herring

Area	Seasons (quarters)	Type of fish	No of samples		No. of fish		
			Research vessels	Commer- cial vessel	measured	aged	Examined racially
Hebrides (01)	III	adults		1	100	100	
West of Shetland (02)	II	adults		1	77	77	
	III	spawners	1	9	894	894	
	IV	adults		1	100	100	
NW North Sea (03)	I	adults		4	360	360	
	II	adults		27	2696	964	
	III	immature	1	1	186	186	
	III	spawners		4	395	193	
Skagerak (05)	II	immature		1	106	-	
	IV	"	1		57	57	
South Buchan (08)	IV	immature		1	100	100	
Central North Sea (09)	I	immature	9	1	606	482	282
	II	"	1	2	250	150	
	IV	"		15	1394	100	

Sampling Sprat

Area	Season (quarters)	Type of fish	No. of samples		No. of fish		
			Research vessel	Commer- cial vessel	measured	aged	Examined racially
Central North Sea (09)	I	Immat. and adults	2	59	7 077	150	
	IV	"		460	50 600	100	
NW North Sea (03)	II	Immat. and adults	2		158		
NE North Sea (04)	I	Immat. and adults	1		74		

Research Vessel Surveys

Area	Date	Objectives
North Sea	3/2 - 6/3	ICES Young herring survey
Northern North Sea	1/4 - 25/4	Larval survey
North Sea/Skagerak	26/5 - 11/7	Fish survey
Fjords of western and northern Norway	27/10 - 11/11	O-group survey

Sampling Mackerel (*Scomber scombrus*)

Area	Season	Type of fish	No. of samples ^x		No. of fish		
			Res. vessel	market	measured	aged	examined racially
Shetland ^{xx}	July/	adult		1270	67 127		
North Sea	October						
North Sea/ Skagerak	July/ October	"		2	2 660	2660	
Skagerak	August	young			61	51	
SW of Ireland	May	"			400	400	

x) Samples obtained from fish co-operative and meal and oil factories

xx) Shetland, here defined as localities north of latitude 60°N.

Tagging

Area	Season	Type of tag	No. tagged ^x	Type of fish	Recoveries
SW of Ireland	May	internal tag	10 003	adult	115
North Sea/ Skagerak	July/ September	"	9 995	"	678

x) Length measurements are taken of all tagged fish

Research Vessel Surveys

Area	Season	Objectives
SW Ireland	May	Mackerel tagging
North Sea/ Skagerak	May - July	Plankton, egg-larvae survey Hydrography
North Sea/ Skagerak	August-September	Mackerel tagging
Southern Norwegian Sea. West of Shetland	September	Echo survey of mackerel and blue whiting
Skagerak	November	Echo survey of young mackerel

Horse mackerel (Trachurus trachurus L.)

In connection with the Norwegian purse-seine fishery for mackerel about 3 200 tons of horse mackerel were caught as by-catch in the areas where purse-seiners were operating. The Norwegian total catch of horse mackerel was only about a sixth of that in 1974. The horse mackerel was landed for fish meal and oil production.

Sampling Horse mackerel

Area	Season	Type of fish	No. of samples ^x	No. of fish measured
N. North Sea W and E of Shetland	July-October	Adult	100	4 944

Dogfish (Squalus acanthias L.)

The Norwegian total catch of dogfish in 1975 was about 12 000 tons.

Sampling Dogfish

Area	Season	Type of fish	No. of samples Res. vess.	No. of fish measured
Central North Sea	September	Adult	15	2 554

Tagging

Area	Season	Type of fish	Type of tag	No. tagged	Recoveries
N of Dogger	September	Adult	Ext. yellow alkathene	300	12

Research vessel surveys

Area	Season	Objectives
Central North Sea	September	Long-line fishing experiments and tagging experiments on dog fish.

Sampling Capelin

Area		Season	Type of fish	No. of Samples		No. of Fish measured	No. of Fish aged
Code No.	Name			Research vessel	Market		
20	Barents Sea	1	Mixed	2		115	115
15	- " -	1	"	15		1900	1895
13	- " -	1	"	22	165	19449	1785
16	- " -	1	"	2		197	197
14	- " -	1	"	2		199	199
12	- " -	1	"		1	105	
04	- " -	1	"		5	572	
03	- " -	1	"	11	1574	166729	985
10	- " -	1	"	10	187	20477	612
11	- " -	1	"	4	4	676	217
02	- " -	1	"	1	347	36012	17
01	- " -	1	"		8	875	
23	- " -	2	"	5		496	175
20	- " -	2	"	8	1	910	227
15	- " -	2	"	6	1	690	174
13	- " -	2	"	5	35	4388	395
14	- " -	2	"	2		198	97
12	- " -	2	"	3		298	92
03	- " -	2	"	3	186	19147	199
10	- " -	2	"	5		428	189
11	- " -	2	"	1		100	
02	- " -	2	"		1	110	
	New Foundland	2	Spawners	10		815	777

continued...

Area		Season	Type of fish	No. of Samples		No. of Fish measured	No. of Fish aged
Code No.	Name			Research vessel	Market		
23	Barents Sea	3	Mixed 1)	5	28	3539	198
24	" "	3	"	13	203	24716	393
17	" "	3	"	32	280	34132	1347
18	" "	3	"	19		1849	636
20	" "	3	"	3	37	4352	79
15	" "	3	"	17	22	4232	719
16	" "	3	"	27	89	12281	1381
12	" "	3	"	1	1	200	99
13	" "	3	"	29	13	3602	413
14	" "	3	"	28	19	3906	476
03	" "	3	"	4		213	-
10	" "	3	"	18		1495	234
11	" "	3	"	23	1	1633	200
02	" "	3	"	4		200	
01	" "	3	"	5		291	26
	New Foundland	3	Spawners	6	2	699	450
24	Barents Sea	4	Mixed 1)	11	13	2316	396
23	" "	4	"	5	99	11067	197
13	" "	4	"	5		288	100
14	" "	4	"	4		378	51
10	" "	4	"	5		282	
11	" "	4	"	4		347	

1) 0-group included.

Tagging

Area		Season	Type of tags	No. tagged	Type of fish	Recoveries
Code No.	Name					
03	E. Finnmark	1	Internal	8000	Spawners	1042

Research Vessel Surveys

Area	Date	Objectives
Barents Sea	6 Jan - 15 March	Distribution and migration
Barents Sea	27 Jan - 20 March	Distribution, migration and tagging
Finnmark coast	7 March - 20 April	Spawning and spawning localities, spawning behaviour
Finnmark coast and		
Barents Sea	1 May - 10 June	Distribution of larvae
Barents Sea	1 June - 28 June	Distribution and abundance
Barents Sea	15 July - 10 Sept	Distribution
Barents Sea	25 Aug - 7 Sept +)	0-group survey
Barents Sea	12 Sept - 15 Oct +)	Distribution and abundance

+) Two vessels.

Other Research Activities

Area	Date	Objectives
Finnmark Coast	28 July - 10 Sept	Target strength measurements of capelin

Sampling Blue Whiting

Area		Season	Type of Fish	No. of samples		No. of fish measured	No. of fish Aged
No.	Name			Research vessel	Market		
28	Vikingbank	1			32	2337	
08	Jærens Rev	1			2	73	
42	Tampen	1			2	117	
07	Frøyabank, Storegga	2			18	1514	
08	Jærens Rev	2			7	495	
28	Vikingbank	2			19	740	
31	East of Faroe Islands	2		5		464	464
42	Shetland-Tampen	2	spawners,	2	5	209	141
43	W. Br. Islands	2	- " -	5		428	428
50	East of Iceland	2	Post-spaw.	3		254	254
50	- " -	2	- " -	3		341	317
07	Frøyabank	3	Adults		9	671	
08	Jærens Rev	3			2	100	
28	Vikingbank	3			1	25	
07	Frøyabank	4	Adults		6	405	
08	Jærens Rev	4			10	856	
28	Vikingbank	4			13	1271	
42	Tampen	4			3	300	

Research Vessel Surveys

Area		Date	Objectives
Code No.	Name		
43-42-31	Hebrides/Faroe/ Shetland	5.5. - 15.5.	Distribution and migration
51-43-42-31-57	Hebrides/Faroe/ Shetland/Iceland	15.6. - 30.6.	Distribution and migration

Sampling Herring

Area		Season	Type of fish	No. of Samples		No. of Fish measured	No. of Fish aged
Code nr.	Name			Research vessel	Market		
08	South of Bergen	1	spawners	1		62	56
07	Møre-Trøndelag	1	- " -	5		358	327
06	Trøndelag-Helgeland	1	spawners/ immature	2		200	198
05	Helgeland-Troms	1	- " -	6		488	462
07	Møre-Trøndelag	2	- " -	2		200	198
06	Trøndelag-Helgeland	2	- " -	2		200	193
05	Helgeland-Troms	2	immature	1		100	99
04	Troms-W. Finnmark	2	- " -	2		200	196
07	Møre-Trøndelag	3	adult/ immature	8		792	718
06	Trøndelag-Helgeland	3	- " -	1		100	78
05	Helgeland-Troms	3	- " -	2		183	170
07	Møre-Trøndelag	4	- " -	5		442	416
06	Trøndelag-Helgeland	4	- " -	5		500	472
05	Helgeland-Troms	4	- " -	18		1566	1493
04	Troms-W. Finnmark	4	- " -	6		512	500
03	E. Finnmark	4	immature	1		100	99

Tagging

Area		Season	Type of Tag	No. Tagged	Type of Fish	Recoveries
Code No.	Name					
07-06-05-07	Stad/ Finnmark	2	inter- nal	31 892	juv./adult/spawners	18

Research Vessel Surveys

Area		Date	Objectives
Code no.	Name		
07-06-05-04	Stad/Finnmark	Jan. - March	Spawning migration
07-06-05-04	"	6.4. - 21.4.	Larval survey
07-06-05-04	"	20.10-12.12	Distribution of adult herring
07-06-05-04	"	7.11.-21.11	0-group survey

Poland

(J. Sosinski & M. Liwoch)

Sampling Herring

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
03	3rd	Adults	-	-	6 510	600	-
08	3rd	Adults	-	-	1 193	200	-
09	3rd	Adults	-	-	1 322	200	-
W of 3°E	3rd	Adults	-	-	364	100	-
01	3rd	Adults	-	-	2 476	200	-
06	3rd	Adults	-	-			

All samples were taken on board commercial trawlers.

Sampling Mackerel

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
IVa	3rd	-	-	3	1 097	300	-
IVb	3rd	-	-	2	1 034	200	-
VIa	3rd	-	-	6	3 985	600	-

Portugal
(M. Sobral)

No work was done in 1975 in the area of interest of the Pelagic Fish (Northern) Committee.

Spain
(O. Cendrero)

No work was done in 1975 on pelagic fish in the area of the Pelagic Fish (Northern) Committee.

Sweden
(A. Lindquist & H. Ackefors)

Sampling Sprat

Area	Season	Type of Fish	No of Samples Research Vessel Market	No of Fish measured	No of Fish aged	No of Fish examined racially
Inner Skagerrak	I-III	Adults	- 1	130	130	-
"	IX-XII	"	- 24	13505	2618	-
Skagerrak	I-III	"	5 -	1628	747	-
"	IV-VI	"	3 -	1202	418	-
"	IX-XII	"	- 2	1064	214	-
Kattegat	I-III	"	6 4	4214	1477	-
"	IV-VI	"	- 2	826	285	-
"	IX-XII	"	- 7	4238	693	-
Baltic	I-III	"	4 15	2779	1709	-
"	IV-VI	"	- 10	681	576	-
North Sea	I-III	"	6 -	1671	895	-

Sampling Mackerel

Area	Season	Type of Fish	No of Samples Research Vessel Market	No of Fish measured	No of Fish aged	No of Fish examined racially
Skagerrak	June-July	Spawners	1 5	646	588	-

Sampling Herring

Area	Season	Type of fish	No. of Samples		No of Fish measured	No. of Fish aged	No. of Fish examined x) racially
			Research Vessel	Market			
Kattegat	I	Ad., Spawn.		4	467	194	194
"	II	Ad., Spawn.		6	803	581	581
"	"	Imm.	7		2195	533	533
"	III	Ad., Spawn.		1	57	100	100
"	IV	Ad., Spawn.	1	9	1516	951	951
"	V	Imm., Ad., Spawn.		5	680	599	599
"	IX	Imm., Ad.		8	1988	528	528
"	X	Imm., Ad.		4	1048	369	369
"	XI	Imm., Ad., Spawn.		5	1586	403	403
"	XII	Imm., Ad.		3	1256	189	189
Skagerak	II	Imm., Ad.	5		1482	339	339
"	IV	Imm.	1		171	52	52
Inner Skagerak	I	Ad.		2	110	182	182
"	II	Imm., Ad., Spawn.		3	164	206	206
"	V	Imm., Ad., Spawn.		1	275	99	99
"	XI	Imm., Ad., Spawn.		2	365	216	216
"	XII	Imm., Ad.		1	215	100	100
North Sea	II	Imm., Ad.	9		2977	452	452

x) approximate figures.

Research Vessel Surveys

Area	Season	Objectives
Kattegat	II	Investigations on young herring (trawling)
"	V, VI	" " herring larvae
Skagerak	II	" " young herring
"	IX	" " herring larvae
North Sea	X	" " " "

United Kingdom

1. England and Wales

(A.C. Burd)

Sampling Herring

Area		No. of samples		No. of fish		
		Research Vessels	Market Samples	Measured	Aged	Racial Invest
M. North Sea	104B		24	4424	2144	2144
S. North Sea	104C		2	325	200	200
W. English Channel	107E		1	137	100	100
Irish Sea	107A	1	11	1450	1088	1088

Sampling Sprat

Area		No. of samples		No. of fish		
		Research Vessels	Market Samples	Measured	Aged	Racial Invest
North Sea	104		48	8768	574	
W. English Channel	107E		18	1689	227	

Mackerel : Reported to Pelagic Southern Committee.

Research Vessel Surveys

Herring

Area	Month	Objectives
Southern N. Sea and Channel	January	ICES Herring Larval Survey
North Sea	February	ICES Young Herring Survey
East Coast England	June/July	
N. North Sea	September	ICES Herring Larval Survey
Central North Sea	October	ICES Herring Larval Survey

2. Scotland

(R.S. Bailey)

Sampling Herring

Area	Season	Type of Herring	No of Samples		No of Fish		
			Research Vessel	Market	Measured	Aged	Examined racially
<u>IVa Northern North Sea</u>							
West of Shetland [02]	Jul-Sep	Adult	0	38	4235	966	608
	Oct-Dec	Adult	5	-	91	72	-
NW North Sea [03]	Jan-Mar	Immature	0	4	249	84	-
	Jul-Sep	Adult	0	55	6298	2377	1009
	Oct-Dec	Adult	0	16	1301	758	-
		Immature	0	29	876	286	-
<u>IVb Central North Sea</u>							
South Buchan [08]	Jan-Mar	Immature	13	-	721	319	-
Central North Sea [09]	Jan-Mar	Immature	0	14	210	96	-
	Jul-Sep	Adult	0	5	713	667	555
<u>VIa W of Britain</u>							
West of Scotland [07]	Jan-Mar	Adult	0	156	18992	5111	3208
		Immature	0	4	12	12	-
	Apr-Jun	Adult	0	111	12773	3195	961
		Immature		1	229	150	150
	Jul-Sep	Adult	0	94	9179	3546	730
		Immature	35	-	1558	-	-
Oct-Dec	Adult	5	137	17677	4023	1662	
	Immature	27	-	106	-	-	

Tagging

Area	Season	Type of tags	No Tagged	Type of fish	Recoveries
07 Clyde	January	Internal	4698	Adult	43
		Scottish Combination	2234	"	90
		Spaghetti	940	"	28
07 N Minch	December	Internal	20	"	0
		Scottish Combination	50	"	0

Research Vessel Surveys

Area	Season	Objectives
North Sea	Feb-Mar	International Young Herring Survey
Clyde	Mar-Apr	Larval Survey of Spawning Grounds
North Sea and Minch	Aug-Oct	Larval Surveys
West coast and north coast of Ireland	Sep-Oct	Larval Surveys
Minch	Sep-Oct	Young Herring Survey

Other Research Activities

Immature herring were examined for the parasites Renicola and Lacistorhynchus and all types of herring for the presence of Anisakis.

Experimental studies continued on the development, growth and survival of herring eggs and larvae in water varying in the intensity of contamination by industrial pollutants.

Sampling Sprat

Area	Season	No of Samples		No of Fish	
		Research Vessel	Market	Measured	Aged
IVa Northern	Jan-Mar	0	8	1325	301
North Sea	Apr-Jun	11	0	2954	301
	Jul-Sep	0	0	0	0
	Oct-Dec	0	29	5606	624
IVb Central	Jan-Mar	10	13	2356	526
North Sea	Apr-Jun	0	0	0	0
	Jul-Sep	0	0	0	0
	Oct-Dec	0	4	811	148
VIa Scottish	Jan-Mar	0	9	1905	223
West Coast	Apr-Jun	0	0	0	0
	Jul-Sep	35	0	3747	272
	Oct-Dec	25	9	3905	547

Research Vessel Surveys

Area	Month	Objectives
North coast of Scotland, Orkney-Fair Isle area	June	Acoustic and midwater-trawling survey
Moray Firth and east coast Scotland	July	Egg and larval survey

Other Research Activities

A histological examination of gonad maturation in sprats was carried out.

Sampling Mackerel

Area	Season	Type of Fish	No of Samples		No of Fish	
			Research Vessel	Market	Measured	Aged
IVa Northern North Sea	Apr-Jun	Adult	0	3	382	212
	Jul-Sep	"	0	35	4019	680
	Oct-Dec	"	0	5	542	112
IVb Central North Sea	Jul-Sep	"	0	27	3126	334
	Oct-Dec	"	0	2	154	57
VIa West of Scotland	Jan-Mar	"	0	1	28	28
	Apr-Jun	"	0	17	1423	388
	Jul-Sep	"	0	63	5694	1404
	Oct-Dec	"	0	9	901	487

Tagging

Area	Season	Type of Tag	No Tagged	Type of Fish	Recoveries
VIa Minch	Sep-Oct	External combination	100	Adult	0
		Internals	117	"	0

Sampling Blue Whiting

Area	Season	Type of Fish	No of Samples		No of Fish	
			Research Vessel	Market	Measured	Aged
IVa Northern North Sea	Oct-Dec	Adult + Immature	2	0	147	47
Vb Faroe	Apr-Jun	Adult	23	0	1840	432
	Oct-Dec	Adult + Immature	2	0	248	69
VIa West of Scotland	Apr-Jun	Adult	15	2	10144	1169
	Oct-Dec	Adult + Immature	21	0	3580	554
VIb Rockall	Oct-Dec	Adult + Immature	2	0	332	164

Research Vessel Surveys

Area	Season	Objectives
West of Scotland	April	Midwater trawling and echo-integrator survey
West of Scotland	November	Midwater trawling and echo-integrator survey

U.S.A.

(V.C. Anthony)

All work done within the field of interest of the Pelagic Fish (Northern) Committee has been reported to ICNAF.

U.S.S.R.

(P.A. Moiseev)

In 1975 research activities in the North Sea, English Channel, in the area westwards of the British Isles, and in the Bay of Biscay directed to the task of studying the abundance dynamics and the state of pelagic fish stocks were continued.

In February, a trawling survey of young herring was conducted under an international programme. In autumn, an abundance survey of 0-group sprat was undertaken.

In January-February, an abundance survey of pelagic fishes was made in the area westwards of the British Isles and in the Bay of Biscay.

Material on biology of horse mackerel and mackerel, as well as on environmental conditions on the shelf of Southwest Ireland was collected.

Species	Massive Measurements	Age reading, sp.
Herring	34 415	1 500
Mackerel	61 086	1 700
Horse Mackerel	41 184	2 100
Sprat	60 420	980

In 1975 investigations of the biology of Atlanto-Scandian herring in the Norwegian and Barents Seas, capelin in the Barents Sea and Northwest Atlantic, blue whiting in the Norwegian Sea and west of Great Britain, polar cod in the Barents and Kara Seas were continued.

The age-length structure of stocks was analysed, hydroacoustic and photogrammetrical surveys were carried out for the evaluation of the fish stocks. A seasonal distribution of fish, conditions and factors determining the formation of fishing concentrations were investigated. Observation and collection of data were performed on board the research vessels "Odysseus", "Poisk", Fridtjof Nansen".

In June, a complex oceanographic survey of the Norwegian Sea was conducted together with scientists of Iceland; in July-August investigations of 0-group fish in the Icelandic area were carried out together with scientists of Iceland; in August-September investigations of 0-group fish in the Barents and eastern Norwegian Seas were conducted together with scientists of Great Britain and Norway; in September-October stocks of capelin in the Barents Sea were evaluated together with scientists of Norway.

Sampling Herring

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
IIa	I	Adult	10	-	2 353	489	-
IIa	IV	Adult	1	-	19	19	-
IVa ₁	III	Adult	3	-	1 215	250	-
IVb ₁	III	Adult	1	-	100	100	-
I (with many vertebrae)	I	Adult & Immat.	2	-	39	5	-
I (with few vertebrae)	II	Adult & Immat.	10	-	241	147	-
I	IV	"	7	-	1 541	273	-

100 specimens of herring were tagged.

Sampling Blue Whiting

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
IIa	I	Adults	-	-	39	-	-
IIa	II	Adults	8	-	2 217	360	-
IIa	III	Adults	11	-	960	762	-
IIa	IV	Adults	1	-	-	25	-
Va	II	Adults	1	-	2 035	100	-
Va	III	Adults	1	-	11 025	25	-
Vb	II	Adults	-	-	1 311	-	-
IVa ₁	II	Adults	2	-	2 899	200	-
IVa ₁	III	Adults	1	-	1 032	100	-
VIA ₁	I	Spawners	3	-	2 060	225	-
VIA	II	Adults	4	-	14 993	400	-
VIIb,c	I	Spawners	7	-	6 912	700	-
VIIb,c	II	Adults	3	-	868	225	-
I	I	Adults	-	-	76	-	-
I	III	Adults	2	-	193	73	-
I	IV	Adults	-	-	622	-	-
IIb	I	Adults	-	-	610	-	-
IIb	III	Adults	2	-	4 771	200	-
IIb	IV	Adults	3	-	6 545	300	-

Sampling Capelin

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
I	I	Spawners	13	-	9 445	1 300	-
I	II	Adults	22	-	7 243	1 825	-
I	III	Adults	21	-	24 651	2 000	-
I	IV	Adults	8	-	3 598	339	-
IIb	I	Immat.	-	-	821	-	-
IIb	III	Adult & Immat.	3	-	6 179	300	-
IIb	IV	Immat.	10	-	10 711	1 000	-

Sampling Polar Cod

Area	Season	Type of Fish	No. of Samples			No. of Fish	
			Research Vessel	Market	Measured	Aged	Examined racially
I	I	Adults	-	-	236	-	-
I	II	Adults	12	-	2 698	792	-
I	III	Adults	9	-	6 822	700	-
I	IV	Pre-spawners & Spawners	19	-	20 701	1 711	-
IIb	III	Adults	-	-	496	-	-
IIb	IV	Adults	-	-	3 748	-	-
IIa	I	Adults	2	-	60	99	-

85 specimens of Polar Cod were tagged.

