

Pelagic Fish (Northern) Committee

by

Alan Saville

1974

Belgium

(P. Hovart)

Herring and Sprat

No market sampling has been carried out in 1974. Research vessel surveys on these 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

(G. H. Winters, J. Scott)

Herring

Provisional figures indicate that total Canadian landings of herring in 1974 were about 225 000 m. tons, the same level as in 1973. While most fisheries remained stable in 1974, a significant increase in catch occurred in ICNAF subdivision 4X which was offset by an equivalent decrease in herring landings in ICNAF subdivision 4T; recruitment fluctuations were responsible for both changes in catch levels.

Herring larval studies conducted in the Banquereau-Canso area and in the Bay of Fundy gave added evidence of separate spawning stocks. Preliminary results of recaptures of tagged fish released in the Bay of Fundy suggest dispersion of the so-called Bay of Fundy stock of herring to areas as far south as Maine, USA. (ICNAF subdivision 5Y) and as far north as Chedabucto Bay (ICNAF subdivision 4Wa).

### Mackerel

Canadian landings decreased slightly from 18 000 m. tons in 1973 to just under 17 000 m. tons in 1974. Studies continued on description of various biological parameters including growth, size at maturity and recruitment to the adult stock. Tagging studies were expanded in 1974 to validate returns from earlier experiments which suggested that the so-called northern contingent of mackerel contributed at least partially and perhaps substantially to the international mackerel fishery in ICNAF Subareas 5 and 6. Multivariate analyses indicate that mackerel are depressing both the growth and recruitment of southern Gulf of St Lawrence (ICNAF subdivision 4T) herring and short-term prospects for improved recruitment of that herring stock are pessimistic.

### Capelin

Total landings of capelin in the Northwest Atlantic area remained stable at approximately 260 000 m. tons in 1974. Canadian landings more than doubled from less than 7 000 m. tons in 1973 to over 15 000 m. tons in 1974.

Research studies continued on possible interactive effects of a capelin fishery on its major predators, stock discrimination and description of various biological parameters. A simple deterministic model of surplus production of capelin released by declines in predator population levels indicates that yields up to 1 million tons may be possible.

### Sand launce

Studies on the ecology and life history of sand launce continued as material became available.

### Commercial sampling data

Information on sampling activities associated with pelagic fish research may be obtained from documentation on file at ICNAF Headquarters.

Denmark

(K. Popp Madsen)

RV "Dane" participated in the international young herring surveys in February 1974 and in the Conjoint Herring Larvae Surveys in August-September 1974.

No tagging experiments or special investigations were carried out.

Herring:

Area	Season	Type of Fish	No. of Samples		No. of Fish		
			Research	Market	Measured	Aged	Examined racially
West of Shetland (02)	Jan-Mar.	immat.		1	162	104	104
	Jul-Sep.	adults		2	245	245	245
NW North Sea (03)	Jan-Mar.	immat.		4	12	7	457
		adults		4	500	457	
	Apr-June	immat.		1	1		105
		adults		1	105	105	
	Jul-Sep.	immat.		1	1	1	
		adults		1	154	154	
	Oct-Dec.	immat.		13	119	116	743
		adults		5	743	743	
NE North Sea (04)	Jan-Mar.	immat.	1	1	2		121
		adults					
	Apr-June	immat.		1	2		
		adults		1	121	121	
	Jul-Sep.	immat.		2	13	2	124
		adults					
	Oct-Dec.	immat.		4	124	124	
		adults					
Skagerrak (05)	Jan-Mar.	immat.	3	3	841	315	302
		adults		9	262	262	278
	Apr-June	immat.		2	278	278	
		adults		14	467	467	166
	Jul-Sep.	immat.		3	595	534	
		adults		25	463	461	
Buchen (08)	Jan-Mar.	immat.		5	5	1	
		adults		1	63	63	
	Apr-June	immat.		1	1	1	
Central North Sea (09)	Jan-Mar.	immat.	16	47	5291	2173	1235
		adults		13	330	330	
	Apr-June	immat.		86	1558	1476	
	Jul-Sep.	immat.		63	1669	1667	
	Oct-Dec.	immat.					
		adults					
Sout. N. Sea (12)	Jan-Mar.	immat.	1		1		
Kattegat	Jan-Mar.	immat.		15	977	977	
		adults		1	56	56	
	Apr-June	immat.		10	936	936	
		adults		2	433	250	
	Jul-Sep.	immat.		44	1686	1666	
		adults		2	200	200	

Herring continued

Area	Season	Type of Fish	No. of Samples		No. of Fish		
			Research Market		Measured	Aged	Examined racially
Baltic	Jan-Mar.	mixed	18	2	1568	902	285
	Oct-Dec.	mixed		2	553	553	
Hebrides (01)	Apr-June	adults		1	112	112	112
	Jul-Sep.	adults		1	104	104	104
$\Sigma$			40	394	20753	15963	3514

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.		4	12		
	Apr-June	immat.		1	1		
	Oct-Dec.	immat.		4	6		
NE North Sea (04)	Jan-Mar.	immat.		1	16		
	Apr-June	immat.		2	2		
	Oct-Dec.	immat.		1	1		
Skagerrak (05)	Jan-Mar.	immat.	3	4	842		
	Apr-June	immat.		3	110		
	Jul-Sep.	immat.		1	89	89	
	Oct-Dec.	immat.		3	219	218	
Buchan (08)	Jan-Mar.	immat.		7	16		
	Apr-June	immat.		1	26		
Central North Sea (09)	Jan-Mar.	immat.	16	54	7664		
	Apr-June	immat.		26	1583	216	
	Jul-Sep.	immat.		15	2369	829	
	Oct-Dec.	immat.		18	2778	2491	
South. Nor. Sea (12)	Jan-Mar.	immat.	1		166		
	Apr-June	immat.		1	4		
Kattegat	Jan-Mar.	immat.		13	1044		
	Apr-June	immat.		2	151	51	
	Jul-Sep.	immat.		5	446	146	
	Oct-Dec.	immat.		21	2345	1958	
Baltic	Jan-Mar.	immat.	14	1	1367	255	
	Oct-Dec.	immat.		1	59	59	
Σ			34	189	21316	6312	

Mackerel:

Area	Season	Type of Fish	No. of Samples		No. of Fish		
			Research	Market	Measured	Aged	Examined racially
NE North Sea (04)	Jan-Mar.	immat.	2		10		
Skagerrak (05)	Apr-June	immat.		2	4		
Central North Sea (09)	Jan-Mar.	immat.	2		4		
	Apr-June	immat.		2	2		
	Jul-Sep.	immat.		7	10		
	Oct-Dec.	immat.		1	2		
Baltic	Jan-Mar.	immat.	1		1		
$\Sigma$			5	12	33		

Finland

(V. Sjöblom)

No work was done in 1974 in the area of the Pelagic Fish (Northern) Committee. Work on Baltic herring and sprat has been reported to the Baltic Fish Committee.

France  
(Alain Maucorps)

Echantillonnage

HARENG

Région	Saison	Genre de poisson	Nb. échantillons (Marché)	Nb. de poissons	
				mesurés	dont âge déterminé
Mer du Nord centrale (09)	Juillet-Septemb.	géniteurs	1	208	50
	Oct.-décembre	géniteurs	1	239	50
Sud Mer du Nord Manche orientale (12)	Juillet-septemb.	géniteurs	2	341	100
	Oct.-décembre	adultes	1	252	50
		géniteurs	2	620	100
Hébrides (01)	Oct.-décembre	adultes	2	360	100
Mer d'Irlande (11)	Janvier-mars	adultes	1	334	100
	oct.décembre	adultes	1	302	50
Canal de Bristol (14)	Janvier-mars	adultes	1	311	100

MAQUEREAU

Ouest Shetlands (02)	Juillet-septemb.	adultes	1	46	
Ouest et sud-ouest Irlande (10)	Avril-juin	adultes	2	260	
	Octobre-décemb.	"	1	180	
Mer d'Irlande (11)	Janvier-mars	juvéniles	1	34	
	Juillet-septemb.	adultes	1	46	
		adultes	1	95	
	octobre-décemb.	juvéniles	1	377	
Mer du Nord (12)	Octobre-décemb.	adultes	1	81	
		adultes	4	950	
Sud Irlande (13)	Avril-juin	juvéniles	1	52	
	Juillet-septemb.	adultes	2	241	
		juvéniles	1	66	
Canal de Bristol (14)	Janvier-mars	adultes	3	340	
		adultes	1	202	
	octobre-décemb.	adultes	2	674	200*
Manche ouest (15)	Janvier-mars	juvéniles	1	91	
		adultes	1	116	

\* otolithes prélevés non encore exploités

Pas de recherches spécifiques faites en mer à bord des navires océanographiques ou des chalutiers commerciaux.

HARENG DU GOLFE DE GASCOGNE (Clupea harengus)

Région (CIEM)	Saison (par trimestre)	Nombre d'échantillons prélevés		Nombre de poissons		
		par scientifiques embarqués	au débarquement et halle de marée	Mesurés	Ecaillés et otolithes prélevés	Numérations vertébrales (recherches de race)
VIII a (Nord 46°)	3ème	1	1	241	241	241

SPRAT DU GOLFE DE GASCOGNE (Sprattus sprattus)

Région (CIEM)	Saison (par trimestre)	Nombre d'échantillons prélevés		Nombre de poissons		
		par scientifiques embarqués	au débarquement et halle à marée	Mesurés	Ecaillés et otolithes prélevés	Numérations vertébrales (recherche de races)
VII a (Nord 46°)	1er	-	1	102	102	102
	2ème	1	-	111	111	111
	4ème	-	1	60	60	60
				273	273	273



German Democratic Republic

(H. Schultz)

Sampling Data for Herring

Area	Quarter	Type of Fish	No. of Samples		No. of Fish		
			Research Vessel	Commercial Vessel	Measured	Aged	Examined racially
Hebrides (01)	III	Adults	-	4	1 270	287	287
Central North Sea(09)	III	Immat. and Adults	-	9	2 628	699	699
Central North Sea(09)	IV	Immat. and Adults	5	-	2 124	397	397
West Channel(15)	II	Adults	1	-	210	100	100

Other investigations: stomach content, intestinal fat, nematodes, weight.

Sampling data for Sprat

Central North Sea (09)	I	Immat. and Adults	6	-	3 773	400	-
Central North Sea (09)	III	Immat. and Adults	14	-	3 897	1 200	-
Central North Sea (09)	IV	Immat. and Adults	49	-	16 386	2 400	-
Southern North Sea (12)	I	Immat. and Adults	1	-	613	100	-
Celtic Sea (14)	II	Immat. and Adults	2	-	1 784	200	-
West Channel(15)	II	Immat. and Adults	5	-	461	200	-

Other investigations: Stomach content, weight, fat of muscles, intestinal fat.

Sampling data for Mackerel

North Sea (04)	III	Adults	1	-	485	-	-
Hebrides (01)	III	Adults	-	1	343	81	-
West Channel(15)	II	Adults and Immat.	2	-	537	-	-
Celtic Sea (14)	II	Adults and Immat.	4	-	1 038	337	-

Other investigations: 450 fish were examined for intestinal fat & stomach contents.

Sampling data for M. poutassou

Area	Quarter	Type of Fish	No. of Samples		No. of Fish		
			Research Vessel	Commercial Vessel	Measured	Aged	Examined racially
IIb	IV	-	1	-	262	-	-

Tagging

No tagging was carried out.

Research Vessel Surveys

Area	Date	Objectives
Hebrides (01) Northwest of Ireland(06)	25 - 27 March	Herring Echo Survey
Hebrides (01)	27.11. - 2.12.	Herring Echo Survey
Central North Sea(09)	22.7. - 4.8	Bløden Ground Herring Hydrography
Northwestern North Sea (03) and West of Shetland(02)	14-27 September	Herring Larvae Hydrography
Central North Sea (09)	29.9. - 7.10. 20.10.-28.11.	Sprat Hydrography

Germany, Federal Republic of

Herring:

(D. Sahrhage)

Sampling:

Area	Season (quarters)	Type of Fish *)	No. of Samples		No. of Fish		
			Research Vessel	Market	Measured	Aged	Examined racially
NW-North Sea 03	IV	1, <u>2</u> ,3,4, <u>8</u>	9	-	790	246	246
South Buchan 08	I	<u>1</u> , <u>2</u> ,3,5,7,8	4	-	168	157	157
Central North Sea 09	I	<u>1</u> ,2,3,5	11	4	5289	463	463
	II	<u>1</u>	-	59	635	-	-
	III	<u>1</u>	3	77	10962	-	-
	IV	<u>1</u>	-	49	767	-	-
Southern North Sea 12	I	-	1	-	241	-	-
	IV	-	1	-	21	-	-
W of Shetland 02	I	2,4, <u>7</u> , <u>8</u>	6	-	292	100	100
Hebrides 01	IV	3,4, <u>8</u>	5	-	542	200	200
NW of Ireland 06	IV	2,3,4, <u>5</u> , <u>6</u> ,7, <u>8</u>	4	1	249	194	194

\*) Stages of maturity

Research Vessel Surveys:

Area	Season	Objectives
W of Shetland (02) NW-North Sea (03) NE-North Sea (04) Skagerrak (05) South Buchan (08) Central North Sea (09)	14-28 Feb 1974	Young herring
NE-North Sea (04) NW-North Sea (03) W of Shetland (02) Hebrides (01) NW of Ireland (06)	4-15 Nov. 1974	Adult herring
Central North Sea (09)	20 Aug - 6 Sep 74 28 - 30 Sep 1974	Groundfish surveys (herring by-catches)
Southern North Sea (12)	29 Jan - 10 Feb 74 3 - 15 Oct 1974	Groundfish surveys Eel investigations (herring by-catches)

Sprat:

Sampling:

Area	Season (quarters)	No. of Samples		No. of Fish		
		Research Vessel	Market	Measured	Aged	Examined racially
IVa	I	5	-	509	-	-
IVb	I	17	88	15441	-	-
	II	1	72	2261	-	-
	III	2	36	3586	-	-
	IV	4	10	1741	-	-
IVc	I	1	-	320	-	-

Blue Whiting

Sampling:

Area	Season (quarters)	No. of Samples		No. of Fish		
		Research Vessel	Market	Measured	Aged	Examined racially
Vb <sub>1</sub>	II	4	-	358	-	-
Vb <sub>2</sub>	II	2	-	346	-	-
VIa	II	1	-	5	-	-
VIIb	II	4	-	245	-	-
VIIb,c	II	3	-	766	-	-
IVa	III	2	-	393	-	-
IVa	IV	4	-	313	62	-
Vb <sub>1</sub>	IV	16	-	1405	345	200
VIa	IV	10	-	697	426	100
VIIb	IV	3	-	198	141	100
VIIb,c	IV	2	-	325	188	100
VIIg,h,i,k	IV	3	-	245	100	32

Research Vessel Surveys:

Area	Date	Objectives
NW-North Sea, Faroe Bank, Bill Baileys Bank, Rockall Bank  Porcupine Bank SW of Ireland	4 May - 6 June 1974  and  4 Nov - 16 Dec 1974	Survey for unconventional fish species along continental slope
Northern North Sea	13-25 July 1974	Groundfish survey

Mackerel

There were no special investigations on mackerel;  
however, a total of 9 samples (6 from research vessels  
and 3 from markets) were taken with 251 length measurements  
in the North Sea (IV a-c).

Iceland  
(J. Jakobsson)

Blue Whiting

Sampling

Area	Season	No. of Samples (Research vessels)	No. of fish	
			Measured	aged
Irminger Sea	First Quarter	2	169	169
	Second "			
	Third "	2	200	200
	Fourth "			
Norwegian Sea and North Icel	First Quarter	1	100	100
	Second "	5	499	499
	Third "	1	100	100
	Fourth "	2	138	138
South Iceland	First Quarter			
	Second "	4	215	147
	Third "	5	360	100
	Fourth "	3	242	200

Research Vessel Surveys:

Area	Season	Objectives
Norwegian Sea and East Iceland	20/5 - 13/6	General blue Whiting survey and fishing experiments.

Capelin.

Sampling:

Area	Season	No. of Samples		No. of Fish		
		Res. Vessel	Fish. Vessel	measured	aged	Examined racially
N- and E- Iceland	1st quart.	8	4	1200	1170	500
S- and W- Iceland	2nd "	6	1	700	685	
	1st quart.	12	46	5725	5700	1635
	2nd "	1	0	100	98	

Research Vessel Surveys:

Area	Date	Objective
E- and SE- Iceland	3 - 24/1	Surveys of prespawning and spawning capelin
S- and SE- Iceland	28/1 - 14/2	
SE and E- Iceland	19/2 - 16/3	
SW-, E- and SE- Iceland	21/3 - 9/4	Abundance estimates of recruit capelin
Icelandic and Greenland Waters	August	Larval survey
NE- and N- Iceland	3 - 17/12	Prespawning capelin



Herring (S-SW Iceland)

Sampling

Area	Season	No. of Samples		No. of Fish		
		Research Vessels	Fish Vessels	Measured	Aged	Racial Invest.
Iceland	Jan - May	4	4	527	522	522
South Coast	June-Sept.	3	7	903	898	898
"	Oct. - Dec.	6	7	1219	1216	1216

Research Vessel Surveys

Area	Season	Objectives
S- Iceland	10-21 July	Herring larval survey
S- Iceland	14 Nov. - 2 Dec.	Herring survey and absolute abundance estimates.

Herring N-Sea.

Sampling

Area	Season	No. of Samples		No of Fish		
		Research Vessels	Fish Vessels	Measured	Aged	Racial Invest.
02 West of	July	3	2	490	486	
02 Shetl.			1	100	100	
09 Centr. N.S.			1	86	86	
04 NE North Sea	"					
03 East of	Oct-Nov	1	4	223	223	
03 Shetl.						

Research Vessel Surveys

Area	Season	Objectives
Shetl. Orkney Hebrides	23 June - 29 July	Herring survey
"	24 Sept - 30 Oct.	Herring survey

Ireland

(J. Molloy)

Herring

Sampling

Biological sampling was continued along all coasts of Ireland during 1974, along the same lines as in previous years. Details are given in the table below:

Area	Season	Type	No. of Samples	Numbers		
			(market)	Measured	Aged	
NW Ireland	I - XII	adult	27	12318	1194	1194
W+SW Ireland (10)	I - X	adult	15	2676	857	857
S Ireland (13)	X, XI, XII, I, II,	adult	22	3946	1711	1711
Irish Sea (11)	III - XII	adult and immature	24	4128	2286	1000

Research Vessel Survey

The young herring survey was continued in the Irish Sea during July.

Sprat

Some samples of sprat were measured from the east coast.

Netherlands 1974

(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	2	adults	-	1	247	50	50
(01) Hebrides	3	adults	-	11	1363	550	300
(01) Hebrides	4	adults	-	3	480	150	100
(02) W of Shetland	3	adults	-	1	129	50	-
(03) NW North Sea	1	adults	-	1	172	50	-
(C3) NW North Sea	2	adults	-	1	216	50	-
(C3) NW North Sea	3	adults	-	1	201	50	-
(C6) NW Ireland	3	adults	-	2	213	100	50
(06) NW Ireland	4	adults	-	4	579	200	100
(08) South Buchan	2	adults	-	3	548	150	-
(08) South Buchan	3	adults	-	1	123	50	-
(09) Central N Sea	1	adults	-	3	727	150	-
(09) Central N Sea	2	adults	-	6	856	300	-
(C9) Central N Sea	3	adults +	-	32	4813	1600	1100
		spawners					
(09) Central N Sea	4	adults +	-	2	215	100	100
		spawners					
(11) Irish Sea	3	adults	-	1	158	50	-
(12) S North Sea	1	adults	-	5	1019	250	-
(12) S North Sea	4	adults +	-	9	1371	450	350
		spawners					
(13) S of Ireland	1	adults	-	1	196	50	50
(13) S of Ireland	2	adults	-	1	185	50	-
(13) S of Ireland	4	adults	-	4	519	200	50
Young Herring Survey } North Sea	Feb	immat.	15	-	3463	750	750
Young Herring Survey } Irish Sea	June	immat.	8	-	1352	400	400
Total			23	93	19145	5750	3400

Research Vessel Surveys:

Area	Date	Objectives
Southern North Sea and English Channel	7 Jan.- 2 Feb.	ICES herring larval survey
North Sea	4 Feb.- 2 March	ICES young herring survey
Dutch coastal zone and Waddensea	11 - 16 March	O-group herring survey
" "	15 - 20 April	O-group herring survey
" "	13 - 18 May	O-group herring survey
Irish Sea	13 May - 1 June	Young herring survey
Hebrides	9 Sept. - 28 Sept.	ICES herring larval survey
Southern North Sea and English Channel	9 - 21 Dec.	ICES herring larval survey

Netherlands 1974.

(A. Corten).

Mackerel  
Sampling:

Area (Bull. Stat. subdivision)	Quarter of Year	Type of Fish	No. of Samples		No. of Fish		
			Research Vessel	Market	Measured	Aged	Examined racially
IVa N North Sea	1	adults	-	-	64	-	-
IVa N North Sea	2	adults	-	2	381	100	-
IVa N North Sea	3	adults	-	2	624	100	-
IVa N North Sea	4	adults	-	1	211	50	-
IVb Central N Sea	1	adults	-	-	-	-	-
IVb Central N Sea	2	adults	-	2	391	100	-
IVb Central N Sea	3	adults	-	2	775	100	-
IVb Central N Sea	4	adults	-	-	187	-	-
IVc S North Sea	2	adults	-	3	740	150	-
IVc S North Sea	3	adults	-	2	259	100	-
IVc S North Sea	4	adults	-	3	424	150	-
VIIg, South Ireland h,j,k	1	adults	-	1	67	50	-
VIIg, South Ireland h,j,k,	2	adults	-	3	577	150	-
VIIg, South Ireland h,j,k	4	adults	-	3	284	150	-
VIa NW of Ireland	2	adults	-	2	123	100	-
VIa NW of Ireland	3	adults	-	3	560	150	-
VIa NW of Ireland	4	adults	-	3	209	145	-
Total			-	32	5876	1595	-

Tagging:

Area	Season	Type of tags	No. tagged	Type of fish	Recoveries
Dutch coastal zone	5-31 Aug.	Floy	2898	adults	1

Norway  
(O.J. Østvedt)

Herring

Sampling

Area	Season quarters	Type of fish	No. of samples Market	No of fish		
				Mea- sured	Aged	Race
W of Shetland (02)	1	Adult	2	165	65	-
NW North Sea (03)	1	adult	10	733	733	327
Central North Sea (09)	1	Immature	3	300	200	94
Hebrides (01)	2	Adult	76	6891	898	210
W of Shetland (02)	2	Spawners	1	50	50	50
W of Shetland/ NW North Sea (02/03)	2	-	6	603	-	-
NE North Sea (04)	2	Immature	1	100	100	-
Central North Sea (09)	2	Immature	4	421	200	70
Hebrides (01)	3	Adult	27	2441	-	-
W of Shetland	3	Adult	11	699	699	
W. of Shetland/ NW North Sea 02/03	3	-	50	5095	-	-
NW North Sea (03)	3	Adult	2	108	108	-
Central North Sea (09)	3	-	173	17403	300	50

Area	Season quarters	Type of fish	No. of samples Market	No of fish		
				Mea- sured	Aged	Race
Hebrides (01)	4	-	1	134	-	-
W of Shetland/ NW North Sea (02/03)	4	-	2	172	-	-
Central North Sea (09)	4	-	6	571	-	-

Research vessels surveys

Area	Season	Objectives
North Sea	Jan./Febr.	Fish survey
North Sea/ Skagerak	May/June	" "
North Sea	Nov./Dec.	" "

Mackerel (Scomber scombrus)

Sampling

Area	season	Type of fish	No. of Res. vessel	samples market*	No. of fish measured	aged	examined racially
Shetland/ North Sea	July/ November	adult		1758	92905		
Shetland**	March/ April	"		2	145	145	
Shetland	July/ August	"		11	1099	1099	
Shetland** Rona	Sept./ November	"		6	574	574	
North Sea	May./ Oct.	"		11	1084	1084	
North Sea	May./ Oct.	"	3		194	194	
S SW of Ireland	May	"	6		470	470	

\*) Samples obtained from Fish co-operative and meal and oil factories.

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

Tagging

Area	season	Type of tag	No. tagged	Type of fish	Recoveries
S SW of Ireland	May	internal	10033	adult	195
North Sea/W. Skagerak	July/September	"	4493	"	380

Research vessel surveys

Area	Season	Objectives
North Sea	January-February	Echo survey of mackerel, herring and other species. Hydrography.
Viking Bk., Tampen, Moere-Lofoten	March-April	Echo survey of mackerel and other species. Hydrography.
Shetland's banks, North Sea between 61°N and 56°N, Skagerak.	May-July	Plankton, egg-larvae survey. Hydrography.
S SW of Ireland	May	Mackerel tagging.
North Sea and western Skagerak	July-September	Mackerel tagging.
Northern and central areas of the North Sea, Skagerak	November-December	Echo survey of mackerel, herring and other species. Hydrography.

Bluefin Tuna (Thynnus thynnus L.)

The total catch of bluefin tuna in Norwegian waters in 1974 was 2585 fish. Individual weight (gutted) measurements have been taken.



Horse mackerel (Trachurus trachurus L.)

In connection with the Norwegian purse seine fishery for mackerel about 21 050 tons of horse mackerel were caught, as by-catches, in the areas where these purse seiners were operating. The horse mackerel was landed for fish meal and oil production and from the reduction plants length measurement samples were obtained for the season 1974.

A total of 322 length measurement samples were obtained, comprising 16 916 individuals.

The main part of this catches, about 95%, was taken in the northern North Sea.

Area	Season	Type of Fish	No. of samples	No of fish measured
			Market x)	
N. North Sea W and E of Shetland	Jul-Oct	Adult	322	16 916

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

Poland  
(J. Popiel)

Herring  
Sampling

Area	Season Months	No. of Samples		No. of Fish		
		Research vessels	Market samples	Measured	Aged	Racial Invest.
01	June	-	-	168	-	-
02	August	-	-	315	-	-
03	May	-	-	1 501	-	-
	June	-	-	3 113	-	-
	July	-	-	2 595	-	-
	August	-	-	355	-	-
04	May	-	-	100	-	-
06	June	-	-	3 033	-	-
08	May	-	-	1 434	-	-
	June	-	-	3 165	-	-
	July	-	-	1 857	-	-
09 W 09 E	May	-	-	2 689	-	-
	June	-	-	1 488	-	-
	August	-	-	2 861	-	-
10	April	-	-	401	-	-
	June	-	-	340	-	-
13	April	-	-	1 391	-	-
	May	-	-	433	-	-
	June	-	-	1 654	-	-
Total		no data	no data	28 893	5 350	-

1/ All samples were taken on board of commercial trawlers.

2/ Age composition was calculated by use of "age-length Key" method on the basis of 5 350 fish aged.

Mackerel

Sampling

Area	Season Months	No. of Samples		No. of Fish		
		Research vessels	Market <sup>1/</sup> samples	Measured	Aged	Racial Invest.
IVa	April, May	-	5	1 316	-	-
		-	2	-	200	-
	August	-	1	302	100	-
	October, November	-	2	390	198	-
IVb	May, June	-	10	2 453	-	-
		-	6	-	601	-
VIa	June	-	13	2 736	-	-
		-	4	-	400	-
VIIg-k	April, June	-	8	2 390	-	-
		-	3	-	301	-

1/ from commercial fishing vessels

Portugal

(M. Lima Dias)

No research was done in 1974 in the area, and on the species, of interest to the Pelagic (Northern) Committee.

Spain

(O. Cendrero)

No research was done in 1974 in the area of the Pelagic (Northern) Committee.

Sweden

(H. Ackefors)

Herring

Sampling

Area	Season	Type of Fish	No of Samples		No of Fish measured	No of Fish aged	No of Fish examined racially <sup>x</sup> )
			Research Vessel	Market			
Kattegat	I-II	Ad Imm	15	-	1 331	1 413	1 413
"	I-II	Ad Imm Spawners		3	294	670	670
"	III			1	44	200	200
"	IV	Spawners		2	172	201	201
"	VIII	Imm	3		697	171	171
"	IX	Ad Imm	7		1 142	327	327
"	X	Ad Imm		4	528	401	401
"	XI	Ad Imm	1	2	621	200	200
Skagerrak	VII	Ad Spawners		1	124	126	126
"	VIII	Ad Imm	2	1	700	226	226
Inner Skagerrak	I	Ad Imm	1	4	1 543	480	480
"	III	Ad Spawners		2	99	200	200
"	IV	Spawners	4		480	263	263
"	IX	Ad Imm	1	1	373	179	179
North Sea	I	Ad Spawners		1	22	85	85
Kattegat	X,XI,XII		3	9	2 199		
Skagerrak	XII		1		144		
Inner Skagerrak	XII		3		562		

Research Vessel Surveys

Area	Season	Objectives
Kattegat	I-II	Investigations on young herring(Trawling)
	IX	" " " " "
	X	" " " " "
Skagerrak, Inner Skagerrak	III-IV	" (eel larvae) elvers "
" "	III-IV	" herring larvae "
" "	II	" young herring "
" "	IX	" herring + larvae "
" "	X	" " " "

Sprat

Sampling

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	-	3	1 691	450	-
"	IX-XII	"	5	4	4 056	1 310	-
Skagerrak	I-III	"	3	-	792	410	-
"	IX-XII	"	3	-	1 208	450	-
Kattegat	I-III	"	14	3	4 761	2 548	-
"	IX-XII	"	13	10	9 336	3 350	-
Baltic	I-III	"	2	20	4 862	2 129	-
"	IX-XII	"	3	6	1 621	1 160	-

Mackerel

Sampling

Area	Season	Type of Fish	No of Samples Research Vessel Market		No of Fish measured	No of Fish aged	No of Fish examined racially
	June - July	Spawners	4	3	609	605	-

United Kingdom

1. England and Wales (A. C. Burd)

Herring  
Sampling

Area	Season	Type of fish	No. of samples		No. of fish		
			Research vessel	Market	Measured	Aged	Examined racially
Irish Sea	Jan-Mar	Immature & Adult	1	4	628	437	437
	Apr-Jun	Immature & Adult		6	820	598	598
	Jul-Sep	Immature & Adult		15	1 543	1288	1 288
	Oct-Dec	Immature & Adult		5	455	455	455
West Channel	Jan-Mar	Adult	1		116	100	100
	Jul-Sep	Immature		1	134	50	50
West of Scotland	Jan-Mar	Adult		1	319	152	152
	Apr-Jun	Adult		1	98	98	98
	Jul-Sep	Adult		1	79	79	79
Central North Sea	Jan-Mar	Mainly adult		4	2 079	250	250
	Jul-Sep	Adult		12	984	919	919
Southern North Sea (River Blackwater)	Jan-Mar	Adults		2	365	200	200

Other research activities      A total of 350 fish were examined for fat and moisture content

Research vessel surveys

Area	Month	Objectives
Southern North Sea and Channel	Jan/Feb	ICES Herring Larval Survey
	Feb	ICES Young Herring Survey
East Coast England	Jul/Aug	O group Herring Survey
Northern North Sea	Sep	ICES Herring Larval Survey
Central North Sea	Oct	ICES Herring Larval Survey

Mackerel

Sampling

Area	Season	Type of fish	No. of samples		No. of fish		
			Research vessel	Market	Measured	Aged	Examined racially
West Channel	Jan-Mar	Immature & adult	3	2	575	380	380
	Apr-Jun	Immature & adult	1	6	817	639	639
	Jul-Sep	Immature & adult		9	968	833	833
	Oct-Dec	Immature & adult		1	147	100	100

Other research activities A total of 358 fish were examined for fat and moisture content

Research vessel surveys

Area	Month	Objectives
West Channel	Feb } Oct } Dec }	Acoustic survey of pelagic fish stocks

Tagging

Area	Month	Type of tag	No. tagged	Type of fish	Recoveries
West Channel	March	Bolster hydrostatic	1 856	Immatures & adults	11

Sprat

Sampling

Area	Season	Type of fish	No. of samples		No. of fish		
			Research vessel	Market	Measured	Aged	Examined racially
North Sea	Jan-Mar	Immature & adult	8	19	16 414	1 973	313
	Apr-Jun	Immature & adult	6	2	3 061	689	-
	Jul-Sep	Immature	4		2 029	326	-
West Channel	Jan-Mar	Adults	1	3	2 235	233	-
	Jul-Sep	Adults		3	1 201	236	-
East Channel	Jul-Sep	Immature & adult	1		204	91	-
Irish Sea	Apr-Jun	Immature & adult		2	213	62	-

Other research activities

A total of 34 separate sprat samples were analysed for fat and moisture content

Research vessel surveys

Area	Month	Objectives
Thames Estuary	Jan	Inshore sprat survey



United Kingdom  
2. Scotland  
(R.S. Bailey)

Herring  
Sampling

Area	Season	Type of fish	No. of samples		No. of fish		
			Research vessel	market	measured	aged	examined racially
IVa <u>Northern North Sea</u>							
02 W. of Shetland	Jan-Mar	Adult	0	7	350	350	350
	"	imm	2	0	4	4	4
	Apr-Jun	Adult	0	1	100	100	100
	Jul-Sep	Adult	0	1	50	50	50
03 N.W. North Sea	Jan-Mar	Adult	0	5	245	245	245
	"	imm	13	5	1274	298	237
	Apr-Jun	Adult	0	14	1086	898	474
	"	imm	2	0	420	0	0
	Jul-Sep	Adult	0	41	2517	1817	886
	"	imm	0	6	626	61	35
	Oct-Dec	Adult	0	5	278	278	0
	"	imm	0	21	847	321	0
IVb <u>Central North Sea</u>							
08 South Buchan	Jan-Mar	imm	7	9	786	295	136
	Jul-Sep	Adult	0	1	250	250	50
	Oct-Dec	imm	0	6	82	63	0
09 Central North Sea	Jan-Mar	imm	8	0	2036	245	245
	Jul-Sep	Adult	0	4	598	123	100
VIa <u>W. of Britain</u>							
01 Hebrides	Apr-Jun	Adult	0	3	322	266	185
	Jul-Sep	Adult	0	1	200	200	100
07 West of Scotland	Jan-Mar	Adult	0	99	4841	4645	4160
	"	imm	0	3	137	110	0
	Apr-Jun	Adult	0	58	4091	2901	887
	Jul-Sep	Adult	0	76	5996	3467	572
	Oct-Dec	Adult	0	90	6374	4267	2557
	"	imm	17	2	566	248	207

### Tagging

Area	Season	Type of tags	No. Tagged	Type of fish	Recoveries
07 N. Minch	March	Internal, Scottish combination	5731	Adult	118
			3200	"	38
07 S. Minch	March	Internal	1719	"	40
03 E. of Shetland	July	Internal Scottish combination	700	"	5
			549	"	1
02 W. of Shetland	July	Internal Scottish combination	791	"	1
			594	"	5
07 N. Minch	November	Internal Scottish combination	363	"	6
			1235	"	13

### Research Vessel Surveys

Area	Season	Objectives
North Sea	Feb-March	International Young Herring Survey
Clyde	March-April	Larval survey of spawning grounds
West coast of Scotland Shetland	Aug-Sept	Acoustic survey and larval survey
North and east coasts of Scotland	1) Sept 2) Sept-Oct	Larval surveys
West coast of Scotland	October	Larval 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.

Sprat  
Sampling

Area	Season	No. of samples		No. of fish		
		Research vessel	market	measured	aged	examined racially
IVa Northern North Sea	Jan-Mar	0	6	1111	186	0
	Apr-Jun	2	0	614	152	0
	Jul-Sep	0	6	778	74	0
	Oct-Dec	0	23	3206	511	0
IVb Central North Sea	Jan-Mar	18	11	3294	686	0
	Oct-Dec	0	6	1654	157	0
VIa Scottish west coast	Jan-Mar	0	8	1679	303	0
	Oct-Dec	0	11	2833	374	0

Research vessel surveys:

Area	Month	Objectives
Moray Firth and east coast Scotland	July	Egg and larval survey
North Coast Scotland	July	Echo-sounder and egg and larval survey.

Other Research Activities

Stomach contents of sprats were collected from the east of Scotland for comparison with those of small herring in an investigation of interspecific competition.

Gonads were collected for a histological examination of maturation in sprats.

Mackerel

Sampling

Area	Season	Type of fish	No. of samples		No. of fish		
			Research vessel	Market	measured	aged	Examined racially
IVa Northern North Sea	Apr-Jun	Adults	21	15	2 903	245	0
	Jul-Sep	"	3	28	3 440	453	0
	Oct-Dec	"	0	10	1 165	117	0
IVb Central North Sea	Apr-Jun	"	0	2	128	0	0
	Jul-Sep	"	0	6	740	129	0
	Oct-Dec	"	0	5	510	55	0
IIIa Skagerak	Jul-Sep	"	0	2	213	62	0
VIa West of Scotland	Jan-Mar	"	0	3	482	134	0
	Apr-Jun	"	0	9	1 219	438	0
	Jul-Sept	"	0	25	2 560	374	0
	Oct-Dec	"	0	6	852	310	0
VIIIf Bristol Channel	Oct-Dec	"	0	1	196	147	0

Tagging

Area	Season	Type of tags	No. tagged	Type of Fish	Recoveries
IVa Shetland	Jul-Aug	External	57	Adult	Nil
		Combination	53		
		Spaghetti Internals	59		
VIa Minches	Aug-Sep	External	30	Adult	Nil
		Combination	42		
		Internal			

Blue Whiting

Sampling

Area	Season	Type of fish	No. of samples		No. of fish		
			Research vessel	Market	Measured	Aged	Examined racially
VIA West of Scotland	Mar-May	spawning	32	0	10 638	1 838	0
VIb Rockall	Mar-Apr	spawning	5	0	954	240	0

Research Vessel Surveys

Area	Month	Objectives
West of Scotland and Rockall	March-April	Midwater trawling and echo integrator survey.
West of Scotland	May	Midwater trawling

Other Research Activities

Biological sampling was carried out to investigate the fecundity and process of maturation.

U.S.A.

No report received.

U.S.S.R.

(D. Bogdanov)

In 1974 investigations were continued in the North Sea and the Subarea of the Azores to study the changes in abundance and condition of pelagic stocks.

During the autumn assessing trawl surveys of 0-group young sprat and 0-group young herring were conducted in the North Sea. Furthermore, in February and March assessing trawl surveys of I-group young herring were conducted in accordance with the International Young Herring Survey (ICES).

In the subarea of the Azores a trawl survey of fish was conducted in February and March; data on the biology and conditions of horse mackerel and mackerel were collected.

Biological data covering investigations carried out in 1974 are given in the following table.

Area	Mass fish measurements (specimens)	Age sample (specimens)	Bioanalysis (specimens)
<u>Horse mackerel</u>			
Azores Subarea	77 400	2 710	12 000
North Sea	7 500	250	2 000
Total	84 900	2 960	14 000
<u>Mackerel</u>			
Azores Subarea	65 379	1 864	5 200
North Sea	12 333	476	1 200
Total	77 712	2 340	6 400
<u>Sprat</u>			
North Sea	43 619	977	3 000
<u>Herring</u>			
North Sea	4 028	1 068	1 000

Sampling

Area	Season	Type of Fish	No. of Samples		No. of Fish		
			Research Vessel	Market	Measured	Aged	Examined racially
					<u>Herring</u>		
IIa	I	Adults	6	-	1 932	413	-
Vb	II	Adults	1	-	600	-	-
Vb	III	Adults	2	-	900	-	-
IIa	IV	Adults	9	-	278	278	-
					<u>Blue Whiting</u>		
Va	I	Spawners	-	-	598	-	-
IIa	II	Adults	7	-	1 786	409	-
IIa	III	Adults	3	-	433	230	-
IIa	IV	Adults	5	-	3 293	166	-
IIb	I	Adults	-	-	512	-	-
IIb	II	Adults	-	-	838	-	-
IIb	III	Adults	3	-	2 063	152	-
IIb	IV	Adults	4	-	10 823	129	-
					<u>Capelin</u>		
I	I	Spawners	24	-	24 638	2 277	-
I	II	Adults	7	-	3 276	671	-
IIb	III	Adults	17	-	13 740	1 623	-
IIb	IV	Immat.	6	-	4 436	398	-
					<u>Polar Cod</u>		
I	I	Adults	4	-	2 976	398	-
IIb	II	Adults	15	-	8 639	1 316	-
I	III	Adults	14	-	12 362	1 400	-
I	IV	Pre-spawners & Spawners	23	-	10 146	1 972	-

Tagging

No tagging of pelagic fish was carried out in 1974.

Research Vessel Surveys

Area	Date	Objectives
IIa and IIb	May - June	Investigations of blue whiting distribution
IIa, IIb and I	July - Sept.	Investigations of distribution and abundance of 0-group commercial fish
I	October	Stock assessments of polar cod