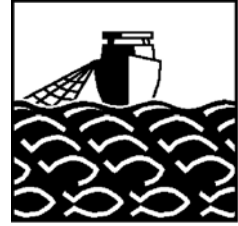


**Federal Research Centre for Fisheries
Institute for Fishing Technology and Fishery Economics**



Cruise Report

International Acoustic Survey for Pelagic Fish Stocks in the North Sea

**R/V "SOLEA"
28.06. – 17.07.2007**

Cruise No. 576

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International Acoustic Survey for Pelagic Fish Stocks in the North Sea

Cruise 576 R/V "SOLEA"

Date: 28.06. – 17.07.2007

Participants:

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Objective

The main objective was to assess clupeoid resources in the North Sea. The 576. survey of the R/V Solea was conducted in the framework of the international hydroacoustic survey on pelagic fish in the North Sea, which is co-ordinated by the ICES Planning Group for Herring Surveys (PGHERS).

The reported acoustic survey is conducted every year to supply to ICES the most important fishery independent data (i.e. biomass estimate) for the assessment of herring and sprat stocks in the area.

Narrative

RV "SOLEA" left the port of Cuxhaven on 28th June 2007. The acoustic survey covered southern part of the North Sea from 52°N to 56°N. The acoustic investigations were performed during day time. The main pelagic species of interest were herring and sprat. The acoustic equipment was an echosounder EK60 working on 38 and 120 kHz. The hull mounted transducer ES38B and ES120-7 were calibrated in the open sea on the eastern tail of the Dogger Bank in a water depth of 26 m. The echo integration, i.e. the allocation of the area backscattering strength s_A to the species was done by the post-processing system EchoView 3.10. The specific settings of the hydroacoustic equipment were used as described in the 'Manual for Herring Acoustic Surveys in ICES Divisions III, IV and VI' (ICES CM 2005/G:04, Annex 4). Pelagic trawl hauls were carried out to identify the targets. From each haul sub-samples were taken to determine length and weight of fish. Further sub-samples of herring and sprat were examined for sex, maturity, age. The hydrographic condition was investigated by a CTD probe. The survey ended on 17th July 2007 in Cuxhaven.

Results

The cruise track (Figure 1) reached in total a length of 1922 nautical miles. 39 trawl hauls were carried out and the hydrographic parameters were measured on 66 stations.

The results of the catch composition are presented in Table 1. Abundance estimates of the pelagic fish species can be presented after further analysis of the data in combining s_A values and species and size distribution of the fish on rectangle basis.

Eberhard Götze

Tab. 1. Catch composition cruise 576 r/v SOLEA

RECTANGLE	STATION	kg total	AMMODYTES MARINUS	BELONE BELONE	CLUPEA HARENGUS	ECHIICHTHYS VIPERA	ENGRAULIS ENCRASICOLUS	ENTELURUS AEQUOREUS	EUTRIGLA GURNARDUS	HYPEROPLUS LANCEOLATUS	LIMANDA LIMANDA	MELANOGRAMMUS AEGLEFINUS	MERLANGIUS MERLANGUS	MICROSTOMUS KITT	SARDINA PILCHARDUS	SCOMBER SCOMBRUS	SPRATTUS SPRATTUS	SYNGNATHUS ROSTELLATUS	TRACHURUS TRACHURUS	TRIGLA LUCERNA	TRISOPTERUS ESMARKI	Number of Species
40F6	406	3.6			0.0	0.0			2.5	0.0			0.1		0.0	0.9	0.0					4
40F6	410	4.5			0.0	0.0			3.4	0.1	0.1					1.0						4
40F5	412	8.8			7.0	0.0			1.8				0.0				0.0					4
40F5	414	3.6			0.0	0.0	0.0	3.1					0.0			0.5						4
39F3	418	2.0			0.0	0.0	0.3	1.7					0.0									3
39F2	419	33.3			0.0	0.0	0.1	0.7								32.5						3
39F2	421	1.2			0.0	0.0	0.1	0.1					0.0			1.0						4
39F0	425	0.4			0.0	0.0	0.1	0.2														2
39E9	428	5.4			3.4	0.0	0.1	0.1			0.0	1.7				0.1						6
39E8	429	278.2			5.9	0.0	0.0	0.0				1.2				271.0					0.0	6
39F1	433	0.8			0.0	0.0	0.1	0.5					0.0			0.1						4
38F1	435	1.4			0.0	1.0	0.0	0.1	0.3				0.0									4
38F1	436	0.2			0.0	0.0	0.2						0.0									2
38F9	440	0.4			0.0	0.0	0.1	0.3					0.0									3
38E9	443	65.1			0.0	1.8	0.0	0.2	0.1				0.0			63.1						5
37F2	447	0.5			0.0	0.0	0.1						0.0			0.3						3
37F4	451	57.0			1.0	0.0		0.2					0.0			0.1	55.7					5
36F4	452	77.9			31.9	0.0	0.0	0.1		0.1							45.8					5
36F4	454	124.6			4.0	0.3		0.0					0.0			0.6	119.6					6
34F3	458	86.9			0.1	0.5	0.0	0.1	0.0				0.0			0.7	85.0			0.5		8
34F2	462	315.3			2.0	0.8	0.1						0.5			3.9	307.1		0.7	0.2	0.0	9
34F2	467	2845.1			482.3	8.8	0.0			0.3			0.0				2353.7					5
34F2	468	242.0			105.0		0.0	0.0									137.0					3
33F2	470	340.3			2.2	2.1	0.1	0.0								0.2	335.6					6
33F4	475	23.6			0.0	0.0				0.6					0.2	22.7			0.1			4
34F4	476	8.7	0.0		0.0	0.0	0.0								1.2	4.1			3.4			5
36F4	480	553.3			0.3	2.5											550.5					3
37F4	482	49.2			29.0	0.0	0.0									0.2	20.0					4
37F4	483	52.2			46.4	0.0		0.0					0.0			0.1	5.6					6
37F5	486	75.2			15.0	0.0	0.0						0.2			0.3	59.7					5
36F5	488	684.8			0.0	0.0										6.8	678.0					2
36F5	490	2400.5	0.2		1539.9	19.2				1.1			0.1			2.0	838.1					7
37F6	494	592.7			26.3	0.0		0.1								0.5	565.7					4
36F6	497	127.2			0.0	0.0	0.0			0.5			0.5			52.7		0.0	73.5			6
37F6	501	264.4			123.4	1.2		0.1								3.1	136.6					5
37F7	502	622.6			260.0	75.7							0.2	0.1		13.4	273.2					6
37F7	505	897.4	0.2		573.0	2.3				0.2				9.4		0.4	311.0	0.8	311.0			9
37F7	507	698.0			406.5	0.6		0.1						1.1			288.5		1.2	288.5		7
37F8	508	238.1	0.6		152.1	0.4								0.0		0.0	80.1	0.0	4.8	80.1		9
total		11786.2	0.0	0.9	3816.6	15.0	102.4	1.6	15.4	2.9	0.2	0.0	4.8	10.7	1.4	482.5	7246.7	0.8	394.6	369.3	0.1	19
proportion (%)			0.0	0.0	32.4	0.1	0.9	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	4.1	61.5	0.0	3.3	3.1	0.0	
number of catches			1	3	22	7	11	20	21	8	2	1	23	4	2	28	21	3	7	4	2	
presence (%)			2.6	7.7	56.4	17.9	28.2	51.3	53.8	20.5	5.1	2.6	59.0	10.3	5.1	71.8	53.8	7.7	17.9	10.3	5.1	

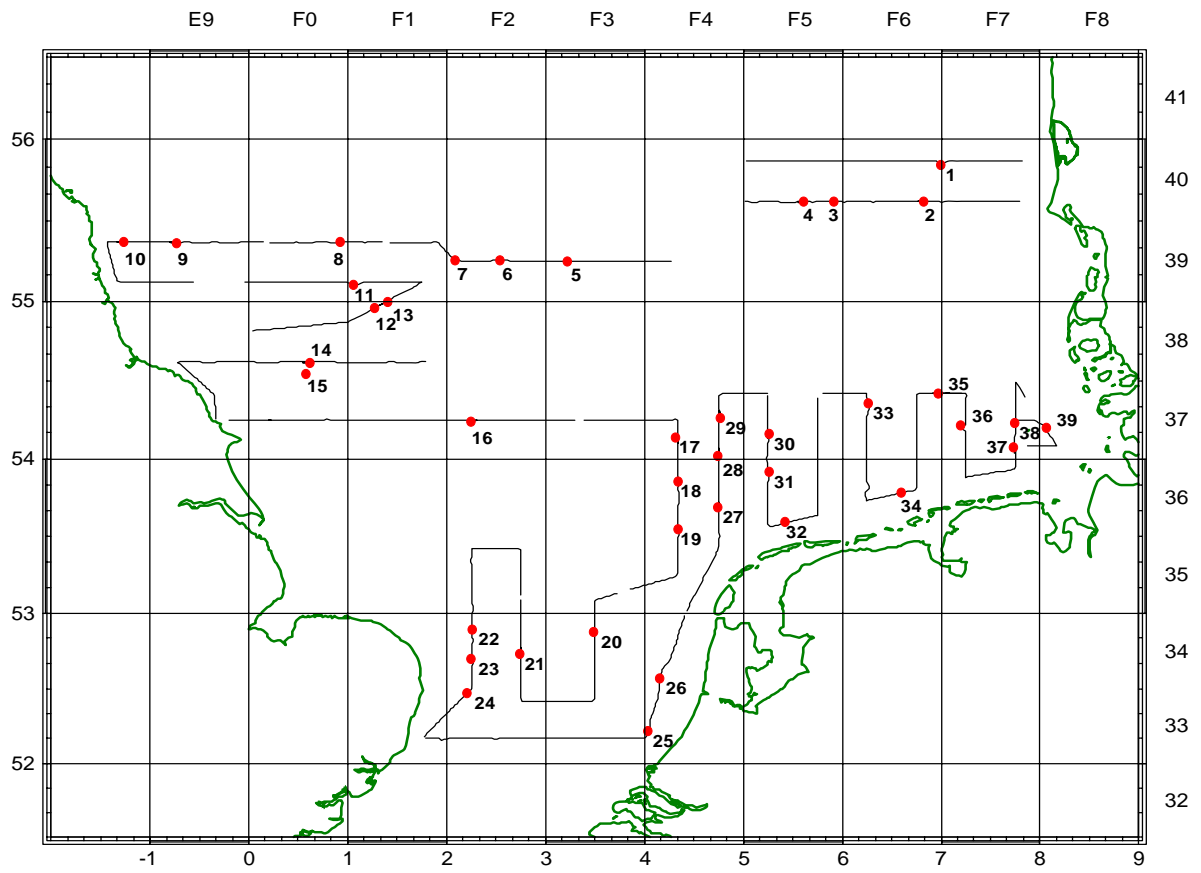


Fig. 1. Cruise track and haul positions cruise 576 r/v SOLEA

