**Bundesforschungsanstalt
für Fischerei**

Institut für Seefischerei

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„WALTHER HERWIG III"

Cruise 302

REPORT

19.07. – 17.08.2007

Personnel

Name	Institution
1. Dr. Siegfried Ehrich	ISH-BFA
2. Herr Ingo Wilhelms	ISH-BFA
3. Herr Jens Edinger	ISH-BFA
4. Frau Petra Jantschik	ISH-BFA
5. Herr Sascha Bednarz	ISH-BFA
6. Dr. Ingrid Kröncke	Forsch. Senckenberg
7. Frau Sabine Schückel	Forsch. Senckenberg
8. Frau Ulrike Schückel	Forsch. Senckenberg
9. Herr Hermann Neumann	Forsch. Senckenberg
10. Herr Paul Kotterba	IFH-Uni Hamburg
11. Frau Verena Peschko	FTZ Westküste (first leg)
12. Frau Henriette Dries	FTZ Westküste (first leg)
13. Herr Daniel Bode	FTZ Westküste (second leg)
14. Herr Moritz Mercker	FTZ Westküste (second leg)
15. Dr. Ursula Monnerjahn	BLE (guest, only last week)

Objectives

1. To participate in the ICES co-ordinated 'International Bottom Trawl Survey' in the North Sea, quarter 3
2. Biological monitoring of the fish fauna in 6 small areas (boxes)
3. Distribution of temperature, salinity and nutrients in the area of investigation
4. Monitoring of the benthic epifauna in the boxes and in the German Bight
5. Monitoring of seabirds

Narrative (Fig. 1)

W. Herwig III left Bremerhaven the 19th of July 2007. The scientific programme started next morning at ICES-rectangle 38F7. During this and the following day another 7 rectangles were monitored by taking samples of fish, water (nutrients, temperature, salinity) and benthic epi-fauna (Tab. 1). The vessel than worked in the boxes C, L and M (only 2 days in Box M instead of 3 days). After a 3 days break in Bergen (Norway) the standard programme was continued in boxes D and B (3 days each). After one day fishing in 4

ICES-rectangles of the German Bight, 3 days in Box A and another 11 rectangles the scientific program ended the 15th of August. The 'W. Herwig III' docked at Bremerhaven the 16th of August 2007.

Tab. 1: Activities (stations) during the cruise

area	GOV-hauls	CTD	nutrients	2m-beamtrawl	v.Veen grab
Box A	21	15	9	9	18
Box B	20	15	6	9	9
Box C	21	15	9	9	9
Box D	21	15	6	9	18
Box L	17	15	10	10	20
Box M	11	8	3	5	10
ICES-rectangles	23	23	23	23	23
total	**134**	**106**	**66**	**74**	**107**

Results (Tab. 1 and Figs. 2-7)

A total of 134 half an hour and valid hauls were made using the GOV trawl equipped with the standard ground gear, of which 111 hauls were carried out in the boxes to monitor changes in species compositions and 23 hauls in different ICES-rectangles as part of the IBTS Q3 survey, mainly within the German Bight. At 106 stations salinity, temperature and at 66 stations nutrients were measured. Epibenthos was sampled by a 2m beam-trawl at 74 stations and 107 grab samples were taken to investigate the benthic infauna and the sediment.
The preliminary number at age data for the recruiting year-classes of the commercial important species and the catch data were submitted to the co-ordinator of the IBTS-Q3 survey and ICES resp. to make these data available to the ICES assessment working groups within due time.
Fig. 1 shows the area of investigation. The mean species compositions in the 6 boxes and the variability within the time periods are shown in Figs.2 to 7.

Dr. S. Ehrich

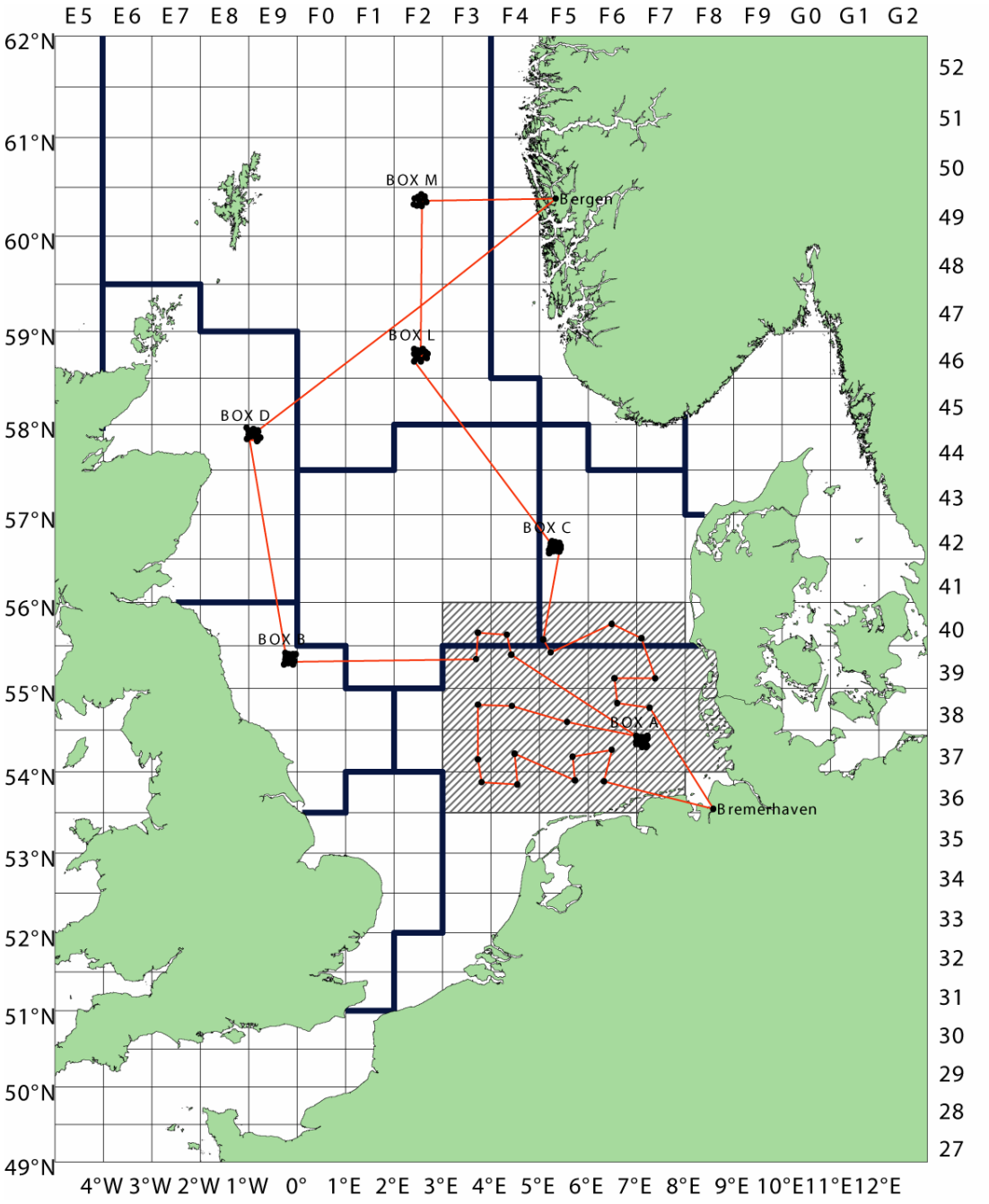

Fig. 1: „Walther Herwig III“. Cruise no. 302. Cruise track, area of investigation and boxes

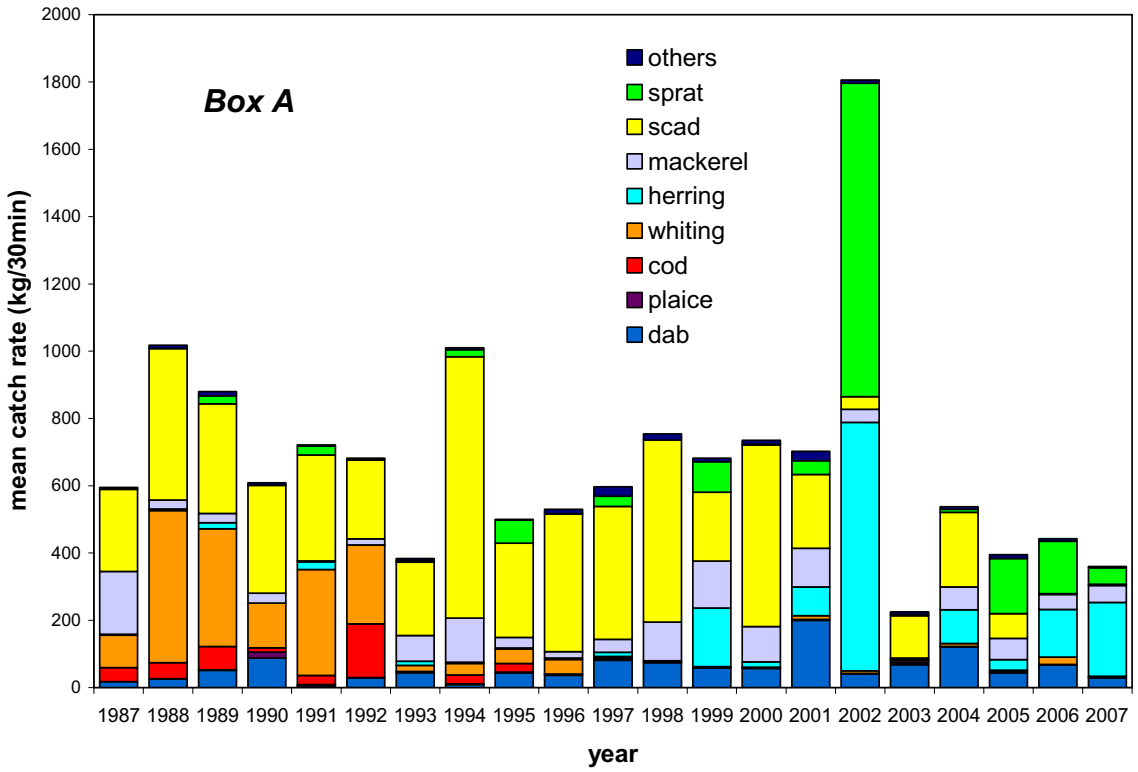

Fig. 2: Box A: German Bight: Main species composition (kg/30min) from 1987 to 2007 (summer)

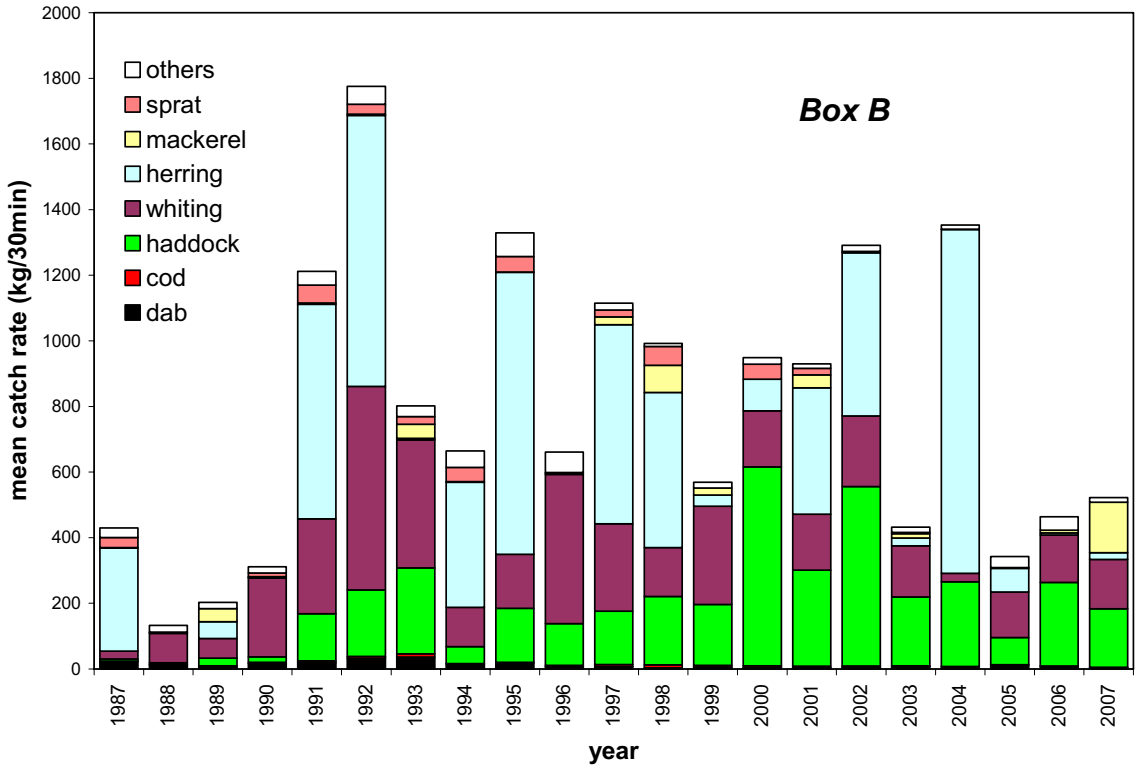

Fig. 3: Box B. English coast. Main species composition (kg/30min) from 1987 to 2007 (summer)

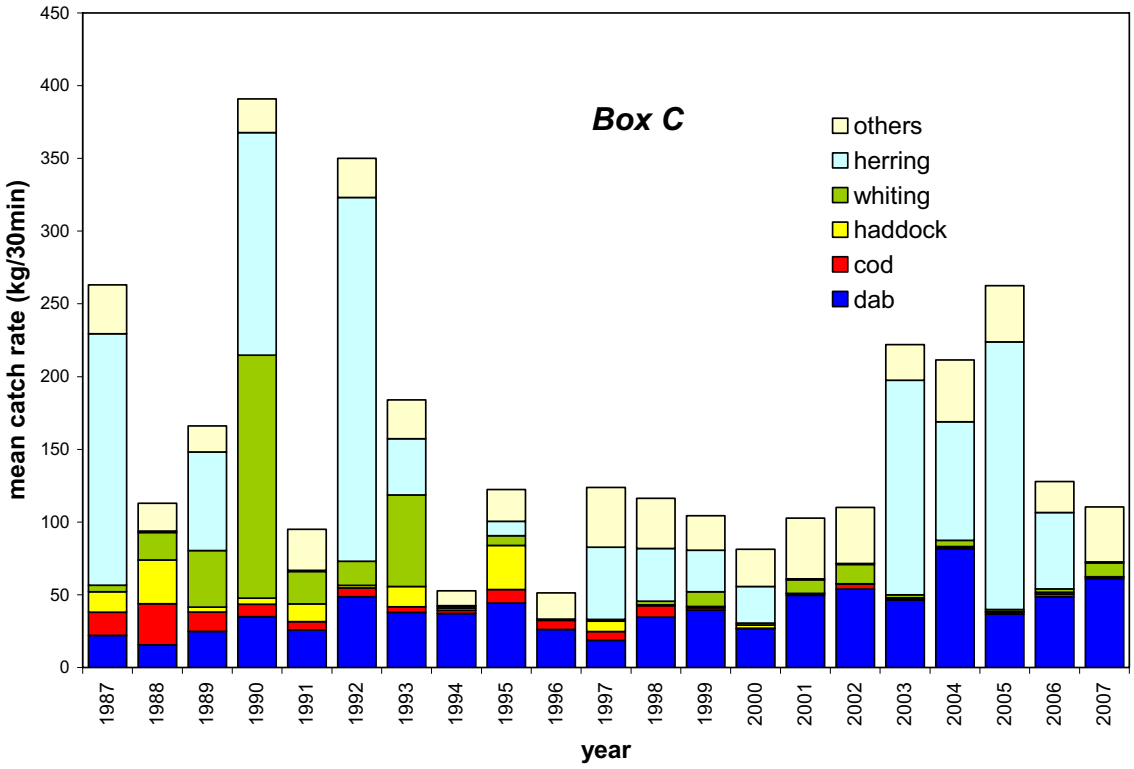

Fig. 4: Box C. Danish coast. Main species composition (kg/30min) from 1986 to 2007 (summer)

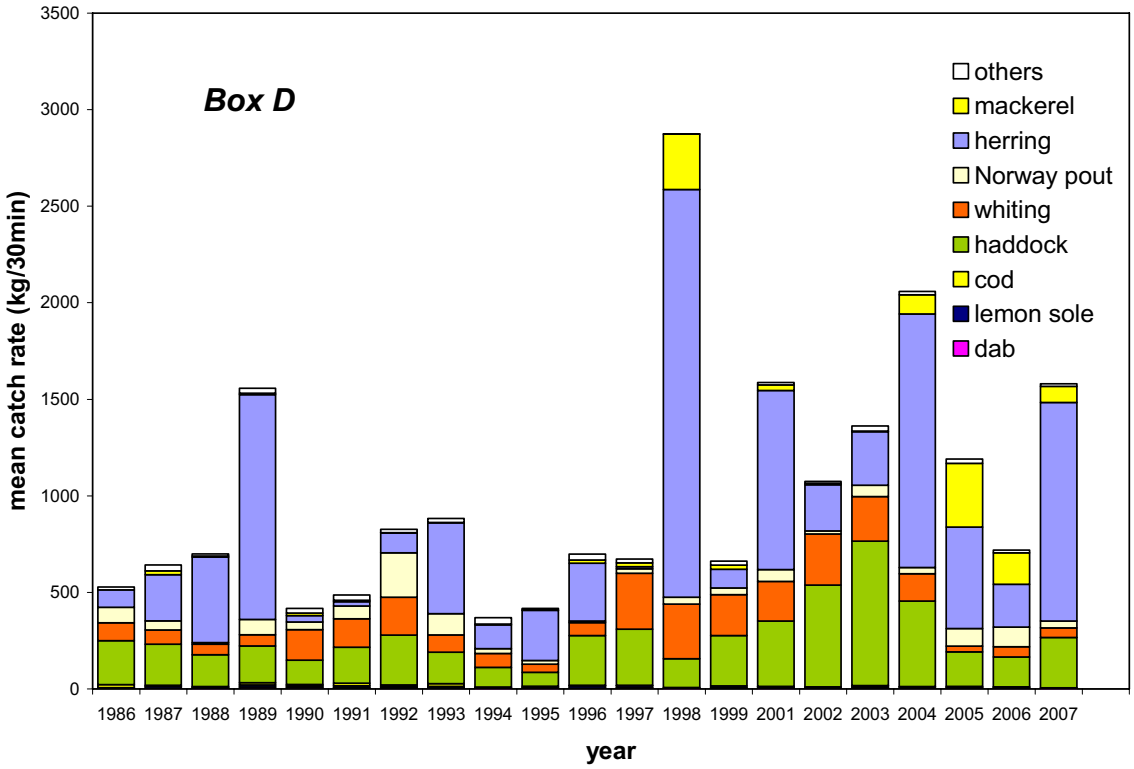

Fig. 5: Box D. Scottish coast. Main species composition (kg/30min) from 1986 to 2007 (summer)

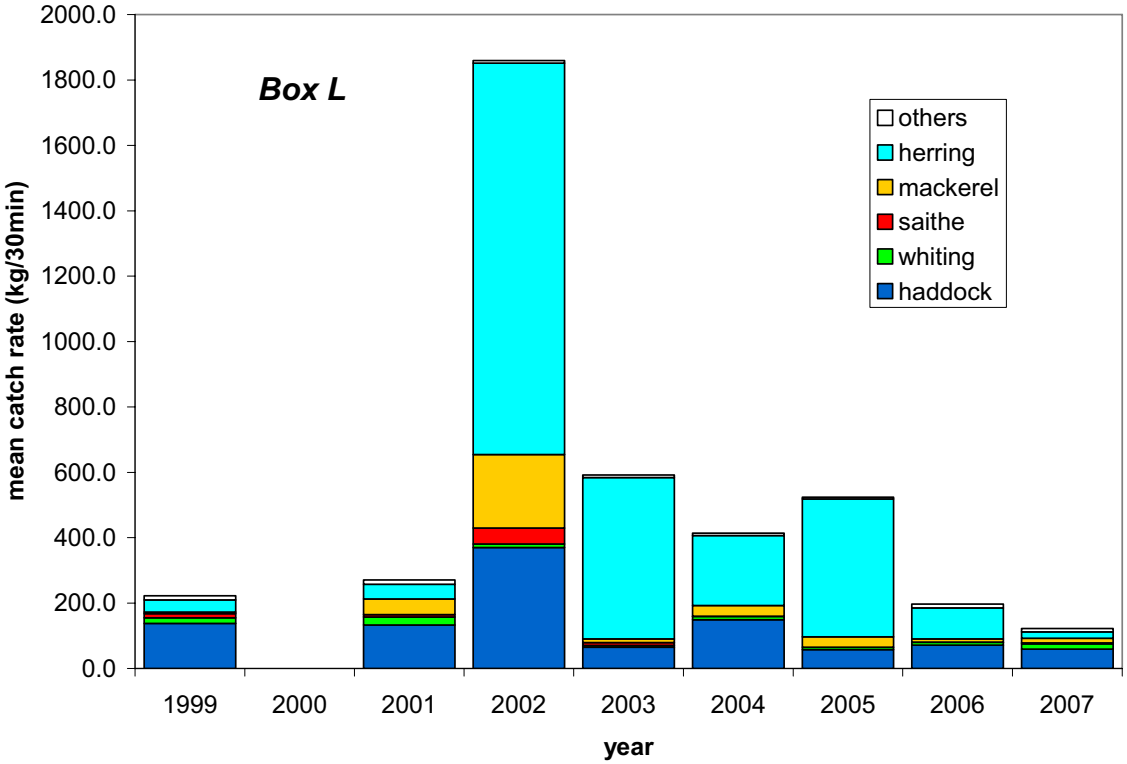

Fig. 6: Box L. Norwegian coast. Main species composition (kg/30min) in 1999 and from 2001 to 2007 (summer)

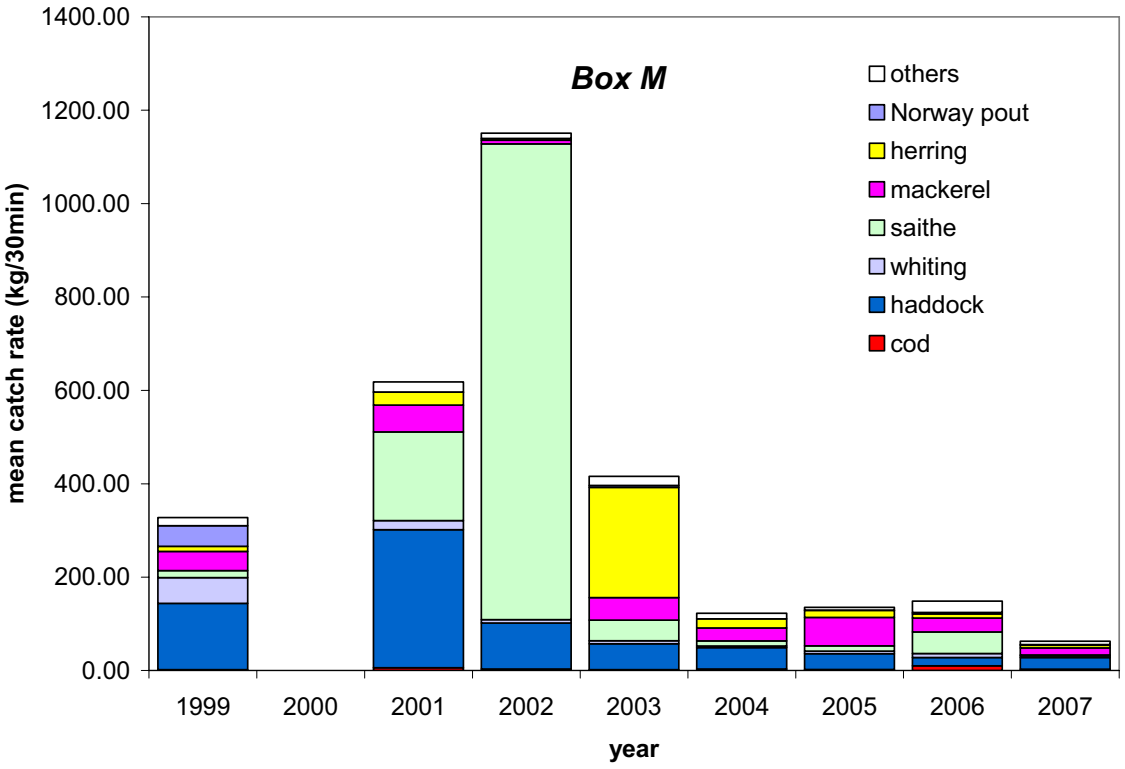

Fig. 7: Box M. Norwegian coast. Main species composition (kg/30min) in 1999 and from 2001 to 2007 (summer)

CRUISE SUMMARY REPORT

FOR COLLATIMG CENTRE USE

Centre: **Ref. No.:**

Is data exchange restricted ☐ Yes ☐ In part ☐ No

SHIP enter the full name and international radio call sign of the ship from which the data were collected, and indicate the type of ship, for example, research ship; ship of opportunity, naval survey vessel; etc.

Name: "WALTHER HERWIG III" **Call Sign:** DBFR

Type of ship: Research Vessel

CRUISE NO. / NAME WH 302

enter the unique number, name or acronym assigned to the cruise (or cruise leg, if appropriate).

CRUISE PERIOD start (set sail) 19/07/2007 day/ month/ year to 17/08/2007 day/ month/ year end (return to port)

PORT OF DEPARTURE (enter name and country) Bremerhaven, Germany

PORT OF RETURN (enter name and country) Bremerhaven, Germany

RESPONSIBLE LABORATORY enter name and address of the laboratory responsible for co-ordinating the scientific planning of the cruise

Name: Bundesforschungsanstalt für Fischerei, Institut für Seefischerei

Address: Palmaille 9, 22767 Hamburg

Country: Germany

CHIEF SCIENTIST(S) enter name and laboratory of the person(s) in charge of the scientific work (chief of mission) during the cruise.

Dr. Siegfried Ehrich, Bundesforschungsanstalt für Fischerei, Institut für Seefischerei
e-mail: siegfried.ehrich@ish.bfa-fisch.de

OBJECTIVES AND BRIEF NARRATIVE OF CRUISE enter sufficient information about the purpose and nature of the cruise so as to provide the context in which the report data were collected.

A) International Bottom Trawl Survey (IBTS, 3. Quarter) for fish stocks estimates
German Small-scale Bottom Trawl Survey (GSBTS) to monitor the fish fauna
B) Biological monitoring in small areas
C) Physical oceanography
D) Chemical oceanography
E) Monitoring of zoobenthos
F) Registration of seabirds at sea, food uptake experiments

PROJECT (IF APPLICABLE) if the cruise is designated as part of a larger scale co-operative project (or expedition), then enter the name of the project, and of organisation responsible for co-ordinating the project.

Project name: IBTS – 3. Quarter

Co-ordinating body: ICES

PRINCIPAL INVESTIGATORS: Enter the name and address of the Principal Investigators responsible for the data collected on the cruise and who may be contacted for further information about the data. (The letter assigned below against each Principal Investigator is used on pages 2 and 3, under the column heading 'PI', to identify the data sets for which he/she is responsible)

A. S. Ehrich, Bundesforschungsanstalt für Fischerei, Institut für Seefischerei, Hamburg

B. S. Ehrich, Bundesforschungsanstalt für Fischerei, Institut für Seefischerei, Hamburg

C. G. Wegner, Bundesforschungsanstalt für Fischerei, Institut für Seefischerei, Hamburg

D. U. Brockmann, ILB-University Hamburg

E. J. Kröncke, Senckenberg-Forschungsinstitut, Wilhelmshaven

F. S. Garthe, FTZ Büsum

MOORINGS, BOTTOM MOUNTED GEAR AND DRIFTING SYSTEMS

This section should be used for reporting moorings, bottom mounted gear and drifting systems (both surface and deep) deployed and/or recovered during the cruise. Separate entries should be made for each location (only deployment positions need be given for drifting systems). This section may also be used to report data collected at fixed locations which are returned to routinely in order to construct 'long time series'.

PI	APPROXIMATE POSITION						DATA TYPE	DESCRIPTION
	LATITUDE			LONGITUDE				
See top of page.	deg	min	N/S	deg	min	E/W	enter code(s) from list on cover page.	Identify, as appropriate, the nature of the data and of the instrumentation/sampling gear and list the parameters measured. Include any supplementary information that may be appropriate, e. g. vertical or horizontal profiles, depth horizons, continuous recording or discrete samples, etc. For samples taken for later analysis on shore, an indication should be given of analysis planned, i.e. the purpose for which the samples were taken.
								Please continue on separate sheet if necessary

SUMMARY OF MEASUREMENTS AND SAMPLES TAKEN

Except for the data already described on page 2 under 'Moorings, Bottom Mounted Gear and Drifting Systems', this section should include a summary of all data collected on the cruise, whether they be measurements (e.g. temperature, salinity values) or samples (e.g. cores, net hauls).

Separate entries should be made for each distinct and coherent set of measurements or samples. Different modes of data collection (e.g. vertical profiles as opposed to underway measurements) should be clearly distinguished, as should measurements/sampling techniques that imply distinctly different accuracy's or spatial/temporal resolutions. Thus, for example, separate entries would be created for i) BT drops, ii) water bottle stations, iii) CTD casts, iv) towed CTD, v) towed undulating CTD profiler, vi) surface water intake measurements, etc.

Each data set entry should start on a new line – it's description may extend over several lines if necessary.

NO, UNITS : for each data set, enter the estimated amount of data collected expressed in terms of the number of 'stations'; miles' of track; 'days' of recording; 'cores' taken; net 'hauls'; balloon 'ascents'; or whatever unit is most appropriate to the data. The amount should be entered under 'NO' and the counting unit should be identified in plain text under 'UNITS'.

PI see page 2	NO see above	UNITS see above	DATA TYPE Enter code(s) from list on cover page	DESCRIPTION Identify, as appropriate, the nature of the data and of the instrumentation/sampling gear and list the parameters measured. Include any supplementary information that may be appropriate, e. g. vertical or horizontal profiles, depth horizons, continuous recording or discrete samples, etc. For samples taken for later analysis on shore, an indication should be given of analysis planned, i.e. the purpose for which the samples were taken.
A and B	134	hauls	B 19	Gear: GOV-bottom trawl, species composition
C	106	stations	H 10	Temperature and salinity distribution.
D	66	stations	H22-28	Distribution of nutrients
E	74 107	stations stations	B 18	Distribution of epibenthos and infauna, 2 m beam trawl; Sediment and infauna, v. Veen grab
F	10 ?	Transects stations	B25	Recording Seabirds at sea Conducting feeding experiments
				Please continue on separate sheet if necessary

TRACK CHART: You are strongly encouraged to submit, with the completed report, an annotated track chart illustrating the route followed and the points where measurements were taken.	**Insert a tick(✔) in this box if a track chart is supplied** ☐

GENERAL OCEAN AREA(S): Enter the names of the oceans and/or seas in which data were collected during the cruise – please use commonly recognised names (see, for example, International Hydrographic Bureau Special Publication No. 23, 'Limits of Oceans and Seas').

Central and Northern North Sea and 6 specific areas

SPECIFIC AREAS: If the cruise activities were concentrated in a specific area(s) of an ocean or sea, then enter a description of the area(s). Such descriptions may include references to local geographic areas, to sea floor features, or to geographic coordinates.

Boxes: A: 54° 17'N – 54° 27'N; 06° 58'E – 07° 15'E
B: 55° 16'N – 55° 26'N; 00° 18'W – 00° 00'W
C: 56° 33'N – 56° 43'N; 05° 10'E – 05° 28'E
D: 57º 48'N - 57º 58'N; 00º44'W - 01º 04'W
L: 58º 40'N - 58º 50'N; 02º 23'E - 02º 43'E
M: 60º 17'N - 60º 27'N; 02º 22'E - 02º 42'E

GEOGRAPHIC COVERAGE - INSERT 'X' IN EACH SQUARE IN WHICH DATA WERE COLLECTED