

FRV Walther Herwig III
Cruise 351: IBTS Q1 2012
23.01. – 24.02.2012
Report

Scientist in charge: Dr. M. H. F. Kloppmann

Objectives:

The International Bottom Trawl Survey (IBTS) is an internationally coordinated ICES program. The survey aims to provide ICES assessment and science groups with consistent and standardized data for examining spatial and temporal changes in (a) the distribution and relative abundance of fish and fish assemblages; and (b) of the biological parameters of commercial fish species for stock assessment purposes.

The main objectives are to:

- To determine the distribution and relative abundance of pre-recruits of the main commercial species with a view of deriving recruitment indices;
- To monitor changes in the stocks of commercial fish species independently of commercial fisheries data;
- To monitor the distribution and relative abundance of all fish species and selected invertebrates;
- To collect data for the determination of biological parameters for selected species;
- To collect hydrographical and environmental information;
- To determine the abundance and distribution of late herring larvae.

Methods:

- Trawl hauls in allocated ICES statistical rectangles by means of the ICES standard bottom trawl GOV during daytime, one haul per rectangle
- Plankton hauls with a standardized 2 m midwater ring trawl (MIK) to a maximum depth of 100 m during nighttime, two hauls per rectangle.
- One CTD cast per each rectangle with a Seabird SBE 911 for hydrographical data
- Water bottle samples per each rectangle for nutrient concentration

Itinerary:

23.01.2012 (14:00) Depart Bremerhaven,
24.01. – 08.02. Sampling / fishing in central and north-eastern North Sea)
08.02. - 10.02. Dock Bergen for mid-term break and embarkation of additional scientist
10.02. Depart Bergen
11.02. – 21.02 Sampling / fishing (northern and central North Sea)
23.02.2012 (17:00) Dock Bremerhaven
24.02.2012 Disembarkation of cruise participants, end of cruise.

Results:

Due to rough weather conditions during the entire duration of the cruise, WALTHER HERWIG III was able to fish only 67 of the assigned 77 rectangles (Fig 1). 9 rectangles had to be skipped in consequence of bad weather prediction in the northeastern area; one GOV haul in rectangle 45F0 was invalid.

Total catches of the GOV hauls were between 20.6 and 3105 kg, on average about 307 kg, which is less than in the previous year. Even though more cod and whiting of the first yearclass were caught than last year, their abundance index was still less than the long term average. One year old haddock, Norway pout and herring were less abundant than last year and as well below the long term average. Only good catches of 1 year old sprat indicated at a good 2011 year class in this species (Table 1).

Also the MIK herring larvae index of 68.0 indicated at rather low recruitment. Herring larvae showed an even further southerly distribution than last year with largest concentrations observed west of Scotland.

Salinity anomalies up to 0.1 in the northern survey areas indicated at a strong inflow of Atlantic water into the North Sea. This was corroborated by numerous juveniles of the mesopelagic *Maurolicus muelleri* that were found in the MIK net in those areas. Water temperature were between 5.7 and 8.4 °C in there extremes but chiefly between 6.9 and 7.9 °C. The water column was always thermally well mixed.

Tab.1: IBT-Survey: Comparison of abundance indices (n/h) of 2010 (final), 2011 (preliminary) with the long term mean, 1980 - 2011 (catches of all participating nations):

	final 2011	prelim. 2012	1980- 2011
cod	1.4	3.1	8
haddock	17	12	584
whiting	185	393	489
Norway pout	1282	1084	2893
herring	3015	1636	2002
sprat	1501	4091	1125
mackerel	92	108	103

source: IBTSWG, Ralf van Hal, 19.03.12

Participants

Annika Elsheimer	vTI, Institute of sea fisheries, Hamburg (SF)
Gudrun Gentschow	vTI, SF
Gitta Hemken	vTI, SF
Dr. Matthias Schaber	vTI, SF
Sakis Kroupis	vTI, SF
Fabian Schäfer	vTI, SF
Lars Christiansen	vTI, SF
Maik Tiedemann	vTI, SF
Sergej Schachray	vTI, SF
Kristina Kumm	University of Hamburg
Dr. Thomas Knebelsberger	DZMB, Wilhemshaven
Dr. Matthias Kloppmann	vTI, SF (Fahrtleitung)

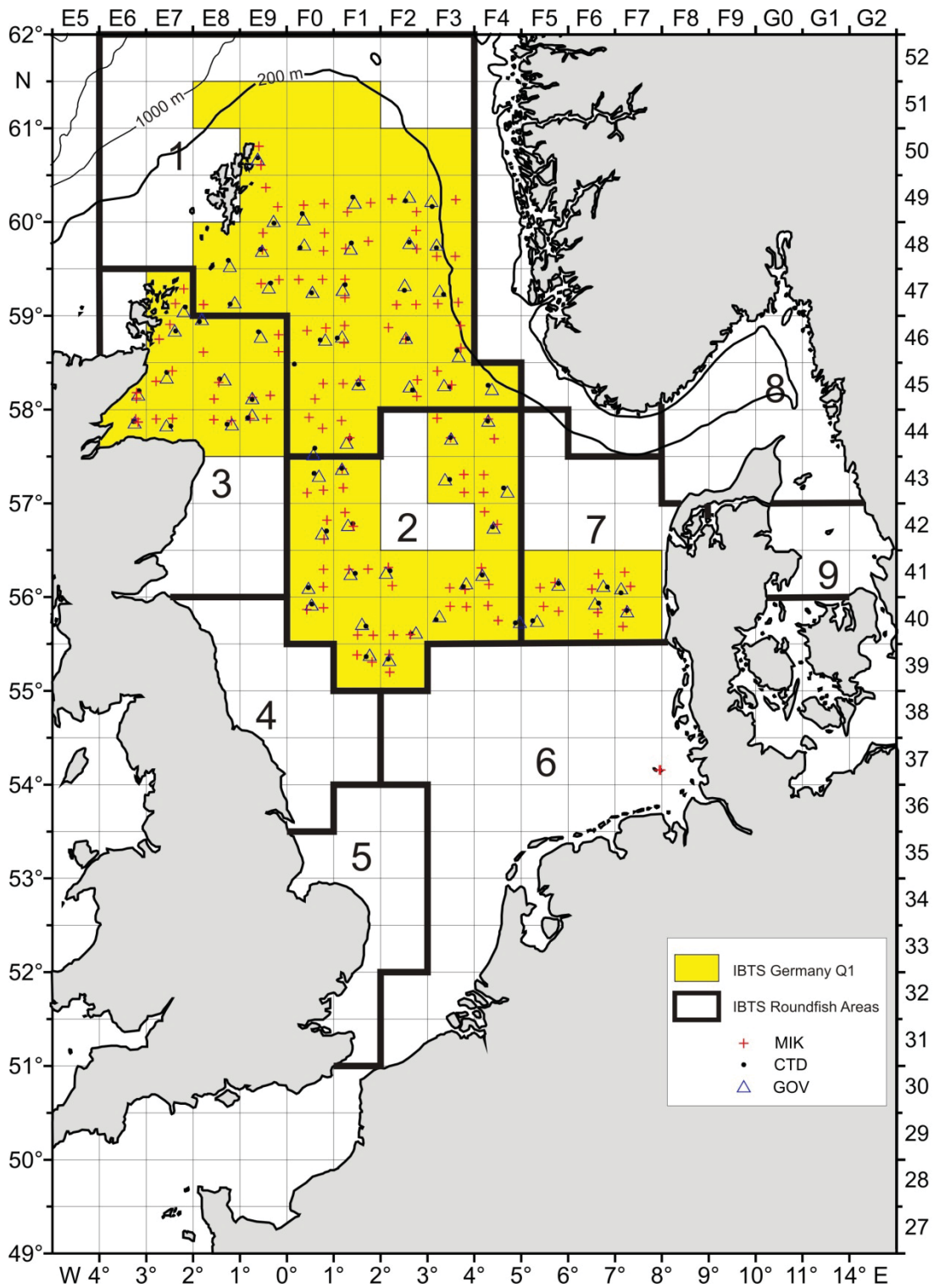


Fig. 1: GOV-haus, CTD- und MIK-Stations of FFS WALTHER HERWIG III cruise 351.

Matthias Kloppmann

Dr. M. Kloppmann