

## Report

### FRV Walther Herwig III - Cruise 403. IBTS Q1 2017

23.01. – 21.02.2017

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:

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

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#### Verteiler:

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#### per E-Mail:

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## 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 microzooplankton sampling, as well as conductivity and oxygen sensor calibration

## Itinerary:

23.01.2017 (07:30) Embarkation of cruise participants  
23.01.2017 (10:00) Depart Bremerhaven  
24.01.2017 (00:00) Start sampling in southeastern and central North Sea  
01.02. – 05.02.17 Sheltering in Kirkwall/Orkneys  
05.02. – 19.02.17 Sampling / fishing in northern and central North Sea  
21.02.2017 (08:00) Dock Bremerhaven  
21.02.2017 (10:00) Disembarkation of cruise participants, end of cruise.

## Results:

During almost the entire cruise, weather conditions were very favorable allowing for an almost complete coverage of the entire work program. Only during a short period, between 1 and 5 February, the program had to be interrupted for 3 days during a passage of 2 storms. Finally, WALTHER HERWIG III was able to complete 73 of the desired 75 fishing stations and 146 of the 150 desired MIK stations (Fig 1). In 3 rectangles, only 1 of the assigned 2 fishing stations could be completed due to legal fishing restrictions: A large oil and gas development area as well as sea cables and pipelines didn't permit fishing in those areas.

Standardized total catches of the GOV hauls were between 11 and 1435 kg per 30 min trawling time, on average about 247 kg. Except for haddock, the recruitment situation of the gadoids cod, whiting and Norway pout (the 2016 year classes) was above the long term average. Also for all 3 pelagic species of interest, herring (the 2015 year class), sprat and mackerel (2016 year classes), the indices for the 1-ringer age groups were all above the long term average (Table 1).

The MIK herring larvae (0-ringer) index of 22.8 indicated at a low recruitment in herring for the 2016 yearclass. This is the second lowest MIK index (after the 2015 MIK index) on record. Herring larvae were only found in two spots in the southern and eastern North Sea, close to the Dutch, German and Danish coasts. Everywhere else, herring larvae were not very abundant.

After another warm winter, water temperatures were between 6.2 and 7.9 °C and in most cases > 7°C. The water column was always thermally well mixed.

For further details and results of the complete survey with participations from France, the Netherlands, Denmark, Scotland, Sweden, Norway, and Germany, please refer to the CSR (cruise summary report) site of BSH [http://seadata.bsh.de/csr/retrieve/sdn2\\_index.html](http://seadata.bsh.de/csr/retrieve/sdn2_index.html) as well as to the respective chapter 5.1 of this year's IBTSWG report.

**Tab.1: IBT-Survey: Comparison of abundance indices (n/h) of 2016 (final), 2017 (preliminary) with the long term mean, 1980 - 2016 (catches of all participating nations):**

	<b>final 2016</b>	<b>prelim. 2017</b>	<b>1980- 2016</b>
<b>cod</b>	1.4	<b>9.4</b>	7
<b>haddock</b>	111	<b>218</b>	521
<b>whiting</b>	301	<b>602</b>	456
<b>Norway pout</b>	2416	<b>4351</b>	2925
<b>herring</b>	782	<b>2394</b>	2010
<b>sprat</b>	1388	<b>3588</b>	1199
<b>mackerel</b>	1	<b>602</b>	95

source: IBTSWG, DATRAS March/April 2017

### **Participants**

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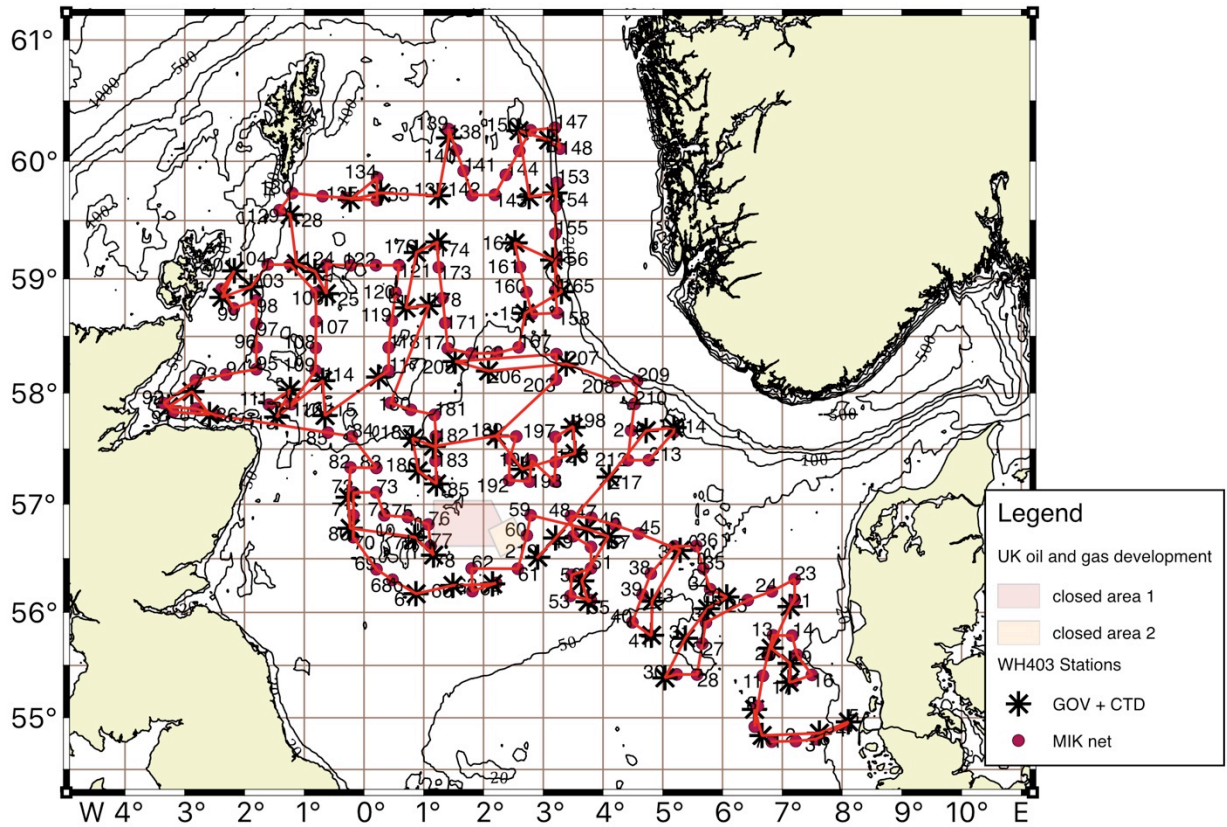


Fig. 1: GOV-hauls, CTD- and MIK-Stations of FFS WALTHER HERWIG III cruise 403. Asterisks: combined CTD and GOV-trawl stations, red spots: MIK stations. The red line indicates the traveled routes between stations.