

Report

FRV Walther Herwig III - Cruise 453. IBTS Q1 2022

04. – 16.02.2022

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

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.

Verteiler:

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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:

04.02.2022 (10:30) Embarkation of cruise participants
04.02.2022 (14:00) Depart Bremerhaven
05.-07.02.2022 Shelter in the vicinity of Helgoland from a passing storm
08.02.2022 (15:00) Start sampling in southeastern and central North Sea
10.-14.02.2022 Shelter in the vicinity of Helgoland from passing storms
15.02.2022 (06:00) Continue sampling in southeastern North Sea
15.02.2022 (10:00) Curtail sampling, start journey to home port
16.02.2022 (13:00) Dock Bremerhaven
16.02.2022 (15:00) Disembarkation of cruise participants, end of cruise.

Results:

The original schedule for the German participation was 20/01 – 21/02/2022. The entire cruise, however, was severely impacted by SARS-Cov2 infections, which affected both, Walther Herwig III crew members and scientific participants, resulting in a 15-days-delay of the start of the survey and a reduction of the scientific staff on board. During the cruise, passing storms resulted in loss of survey stations and resulted in an early termination of the cruise on 16/02/2022. In total, only 10 of the desired 67 GOV and 17 of the desired 134 MIK hauls were taken during the cruise. Fish sampling was accompanied by taking 10 CTD profiles.

Standardized total catches of the GOV hauls were between 10.1 kg (39F8) and 59.3 kg (45E8) per 30 min trawling time, on average about 25.3 kg, which is very low compared to catches from previous surveys but also not surprising when considering the low number of hauls and their origin.

Due to the unfavorable weather and vessel break downs, apart from Germany, other participants were also impacted in their survey activities. This resulted in an incomplete survey coverage, particularly in the northwestern part of the survey area. Consequently, preliminary recruitment indices were not calculated as usual for the 2022 survey. However, coverage in the southern North Sea and in Kattegat and Skagerrak was sufficient to calculate a preliminary abundance index for 1-ringer herrings. The index is 806, one of the lowest in the entire time series and much lower than in 2021 (3133).

The MIK herring larvae (0-ringer) index of 47.8 was fairly low, less than half of the long-term average, and indicated at a weak recruitment situation in herring for the 2021 yearclass. Herring larvae appeared in moderate quantities in both the central, western and southern parts of the North Sea. Highest abundances were observed in the Southern Bight. In the southeastern and eastern part of the North Sea, the potential nurseries, abundance of large herring larvae was lower than last year.

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 as well as to the respective chapter 2 of this year's IBTSWG report.

Participants

Dr. Matthias Kloppmann (scientist in charge)	Thuenen Insitute of Sea Fisheries (TI-SF)
Dr. Hermann Neumann	TI-SF
Andrij Martynenko	TI-SF
Annika Elsheimer	TI-SF
Valeska Borges	TI-SF
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Sergej Schachray	TI-SF
Bianca Bobowski	TI-OF

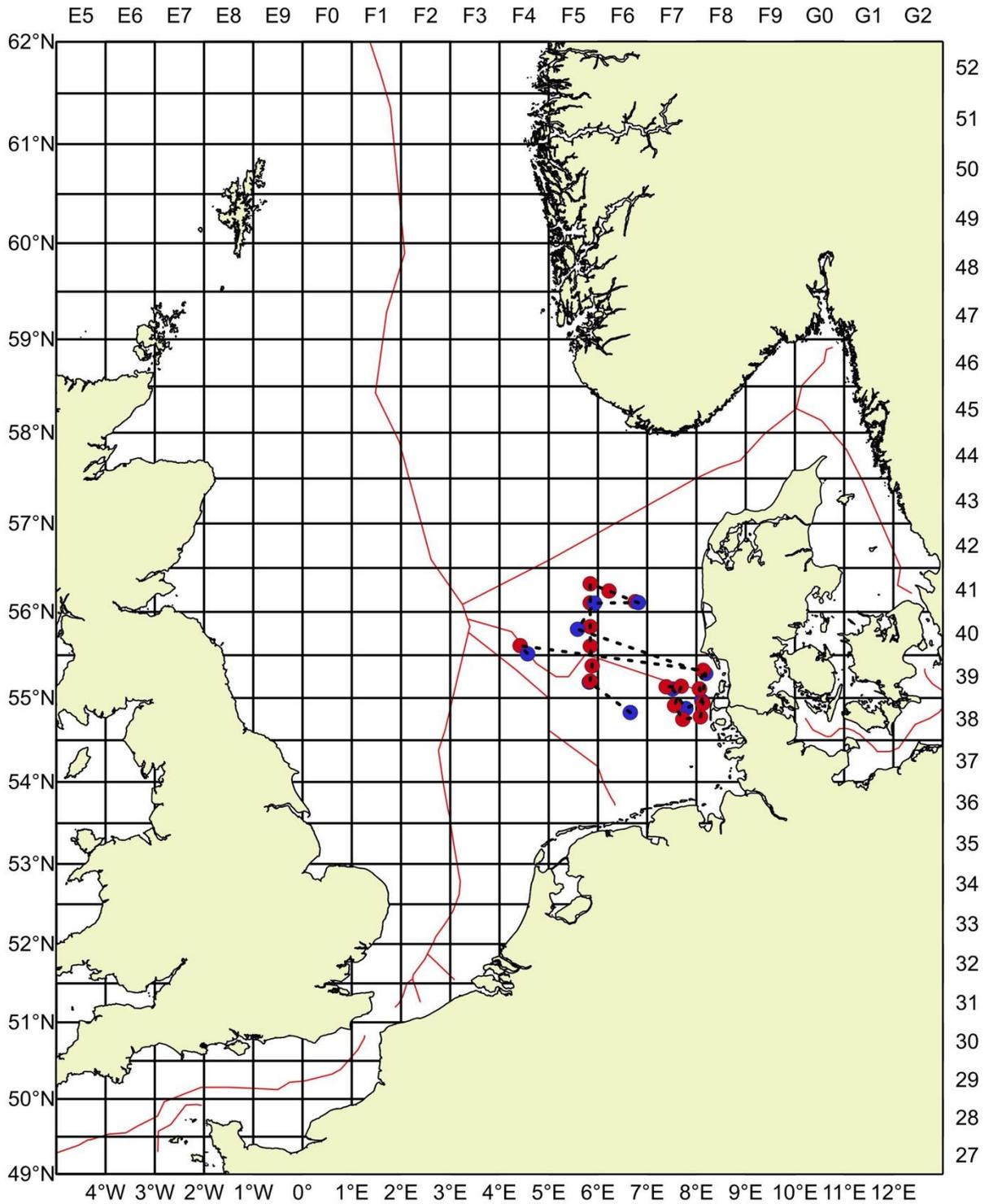


Fig. 1: GOV-hauls, CTD- and MIK-Stations of FFS WALTHER HERWIG III cruise 453. Red dots: combined CTD and GOV-trawl stations, blue dots: MIK stations. The dashed black line indicates the traveled routes between stations.