

Cruise Report
FRV DANA, 09/2025
07.02 to 23.02.2025
IBTS Q1 2025

Cruise Leader: Dr. Hermann Neumann

Summary

The cruise was part of the International Bottom Trawl Survey (IBTS), which is an internationally coordinated ICES program aiming to provide fish population and ecosystem data as well as biological parameters of commercial fish species for stock assessment purposes. The cruise has been moved to FRV DANA (Denmark) due to ongoing repairs on Walther Herwig III. Sampling of fish was conducted by trawl hauls in allocated ICES statistical rectangles by means of the ICES standard bottom trawl GOV. In total, 50 GOV hauls were taken during the cruise accompanied by 50 CTD profiles. Standardized total catches of the GOV hauls were on average about 599 kg/30min. Highest pre-recruit number were found for Mackerel <20cm and lowest for Cod <25cm. In addition, 92 MIK plankton samples were taken (100 planned hauls) providing abundance estimates for large herring larvae (0-ringers) of the autumn spawning stock components. Standard length (SL) of herring larvae from the night time MIK sampling varied between 12- and 34mm (German data). The herring index from the 2025 survey (corresponding to the 2024 year-class) is only 17.42, which is the lowest in the entire time series. Additional work was done on stomach sampling (446 samples), cod finclips for population genetics (149 samples) and sampling for genetic age determination of plaice (300 finclips; 45 liver- and muscle tissue samples). On 60 MIK stations jellyfish was recorded and 15 eDNA samples were taken to test this method as alternative for fish diversity assessment.

Schiffsführung FFS „Solea“ „Walther Herwig III“
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BM für Ernährung und Landwirtschaft (BMEL), Ref. 614
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Deutsche Fischfang-Union, Cuxhaven
Deutscher Fischereiverband Hamburg
Doggerbank Seefischerei GmbH, Bremerhaven
Erzeugergemeinschaft der Deutschen Krabbenfischer GmbH
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LA für Landwirtschaft, Lebensmittels. und Fischerei (LALLF)
LFA für Landwirtschaft und Fischerei MV (LFA)
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Thünen-Institut - Pressestelle
Thünen-Institut - Präsidialbüro
Thünen-Institut - Reiseplanung Forschungsschiffe, Dr. Rohlf
Fahrtteilnehmer*innen

1. Objectives and methods

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.

Sampling of fish was conducted by trawl hauls in allocated ICES statistical rectangles by means of the ICES standard bottom trawl GOV during daytime. One GOV haul per rectangle was applied with 30 minutes towing duration at 4 knots. Fish sampling was accompanied by physical measurements (e.g. temperature, salinity and conductivity) via a CTD mounted directly onto the CTD-rosette system in every rectangle. Additionally, water bottle samples in selected rectangles were taken for microzooplankton sampling. During nighttime, two plankton hauls per each rectangle were conducted with a standardized 2 m midwater ring trawl (MIK) to a maximum depth of 100 m.

2. Cruise schedule

FRV “DANA” was embarked and prepared for the cruise on Wednesday, 07/02/25 in Hirtshals. Trawling started on Saturday morning, 08/02/25, at rectangle 44F6 (Fig. 1) and continued until Saturday, 22/02/25 (rectangle 40F7). We finished the survey at Sunday, 23/02/25 in Hirtshals and managed a total of **50 GOV hauls, 50 CTD profiles and 92 MIK plankton samples (Table 1)**.

3. Preliminary results

In total, 77 Species (57 pisces, 10 cephalopods, 7 sharks/rays, 2 crustacean, 1 Myxiniiformes) were found on IBTS Q1 2025. Standardized total catches of the GOV hauls varied between 14 kg (38F8) and 4245 kg (42F4) per 30 min trawling time, on average about 599 kg. Total number (ind./30min) and distribution of important species (pre-recruits) caught during the survey were given in Figure 2. Table 2 shows the number of biological samples taken during the IBTS Q1 2025.

The herring larvae from the MIK sampling measured between 12- and 34 mm standard length (SL). The index from the 2025 survey (corresponding to the 2024 year-class) is 17.42, which is the lowest in the entire time series. Three Sardine and two European eel larvae were found in the MIK samples in 2025.

Additional work:

- 446 stomach samples following the proposed sampling scheme
- 149 cod finclips for genetic investigations
- 390 samples for genetic age determination of plaice (300 finclips; 45 liver- and muscle tissue samples)
- 60 MIK stations with recorded jellyfish
- 15 eDNA samples for diversity assessment

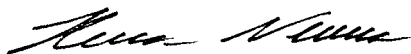
For further details and results of the complete survey with participations from France, the Netherlands, Denmark, Scotland, Sweden, Norway, and Germany, please refer to the respective chapter of this year's IBTSWG report.

4. Participants

Name	Institution	Function
1. Dr. Hermann Neumann	TI-SF	Cruise leader
2. Annika Elsheimer	TI-SF	Technician/Fish+Data
3. Andrij Martynenko	TI-SF	Technician/CTD
4. Sakis Kroupis	TI-SF	Technician/MIK
5. Sergej Schachray	TI-SF	Technician/MIK
6. Alexandra Poell	TI-SF	Technician/Fish
7. Felix Bügler	TI-SF	Technician/Fish
8. Svea Winning	TI-SF	Technician/Fish
9. Simon Köhler	TI-SF	Technician/Fish
10. Verena Vollmer	TI-SF	HiWi/Fish
11. Tim Taege	TI-SF	HiWi/Fish
12. Finn Krauss	TI-SF	HiWi/Fish

5. Acknowledgement

Thanks to captain and crew of FRV "DANA" for their great support and hospitality and to all participants for their reliable and responsible teamwork.



(Dr. H. Neumann)

6. Tables and Figures

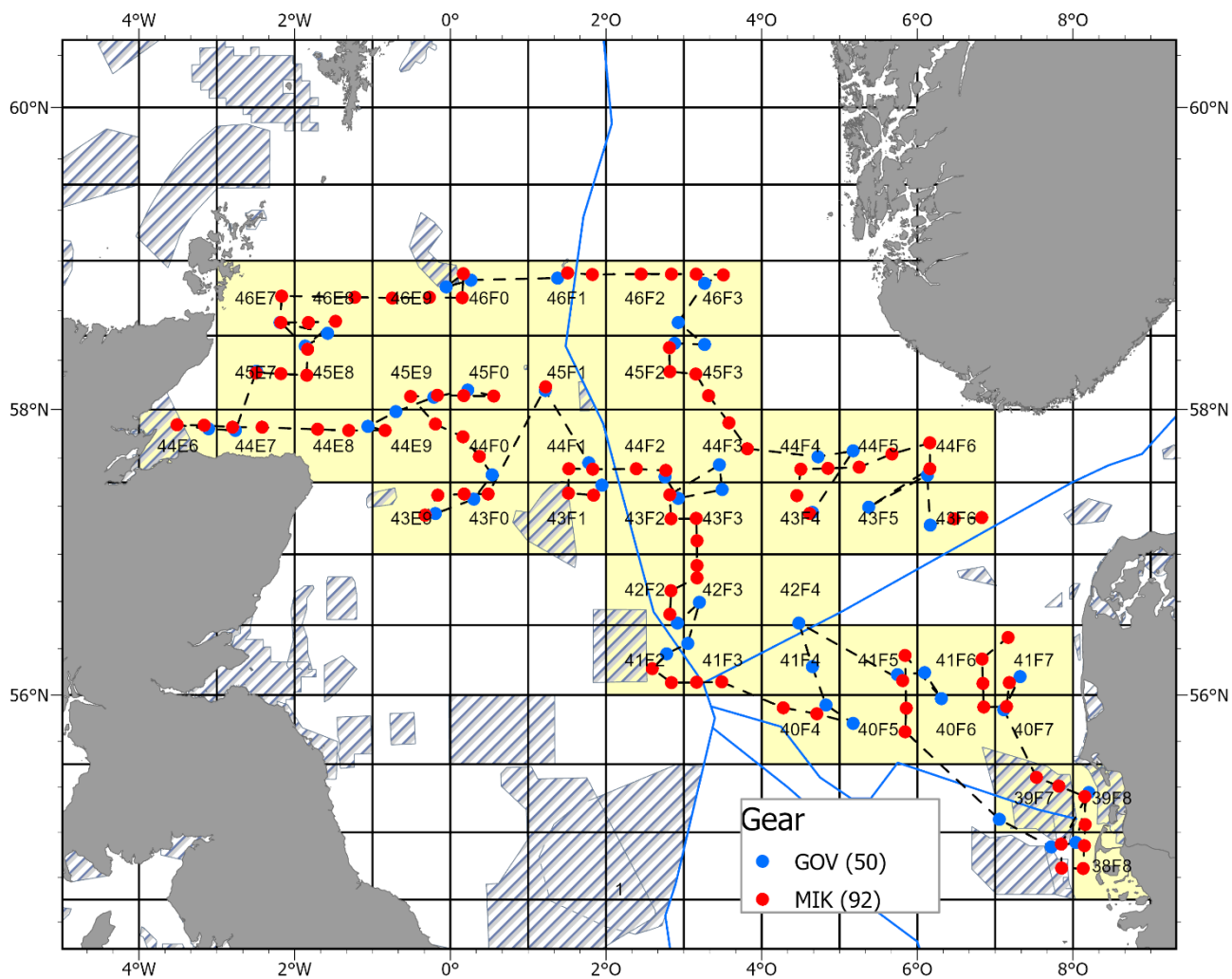


Fig. 1: DANA 09/2025 sampling stations. Blue dots: combined CTD and GOV-trawl stations, red dots: MIK stations. (dashed line = cruise track; dashed areas = MPAs; blue line = national EEZs)

Table 1 Stations fished (aim: to complete 50 valid GOV and 100 MIK tows in 2025 based on a support plan for Germany due to reduced cruise time on DANA)

ICES DIVISIONS	STRAT.	GEAR	TOWSPANNED	VALID	ADD.	INV.	% STATIONS FISHED	COMMENTS
27.4	N/A	GOV	50	50	0	0	100 %	
27.4	N/A	MIK	100	92	0	0	92 %	

Table 2 Number of biological samples (maturity and age material)

SPECIES	AGE	SPECIES	AGE
<i>Clupea harengus</i>	528	* <i>Microstomus kitt</i>	161
<i>Engraulis encrasicolus</i>	1	* <i>Molva molva</i>	4
* <i>Dicentrarchus labrax</i>	1	<i>Pleuronectes platessa</i>	445
<i>Gadus morhua</i>	153	* <i>Pollachius pollachius</i>	1
* <i>Lophius piscatorius</i>	14	<i>Pollachius virens</i>	48
* <i>Lophius budegassa</i>	1	* <i>Scophthalmus maximus</i>	7
* <i>Merluccius merluccius</i>	55	<i>Sardina pilchardus</i>	13
<i>Melanogrammus</i>	889	<i>Scomber scombrus</i>	76
<i>Merlangius merlangus</i>	597	* <i>Scophthalmus rhombus</i>	3
* <i>Micromesistius</i>	3	<i>Sprattus sprattus</i>	130
		<i>Trisopterus esmarkii</i>	121

* Maturity only.

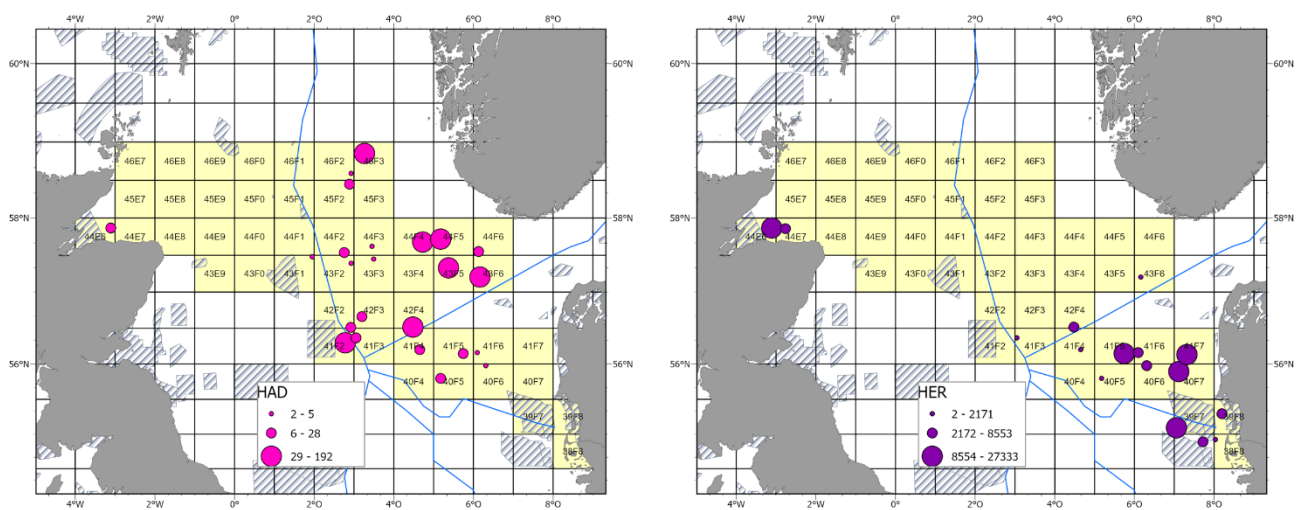


Fig. 2: Number [ind. / 30min] and distribution of pre-recruit Haddock (< 20 cm; had), Herring (< 20 cm; herr), Mackerel (< 25 cm; mack), Norway pout (< 15 cm; Npout), Sprat (< 10 cm; sprat), Whiting (< 20 cm; whi) and Cod (<25 cm; cod) caught at IBTS Q1 2025.

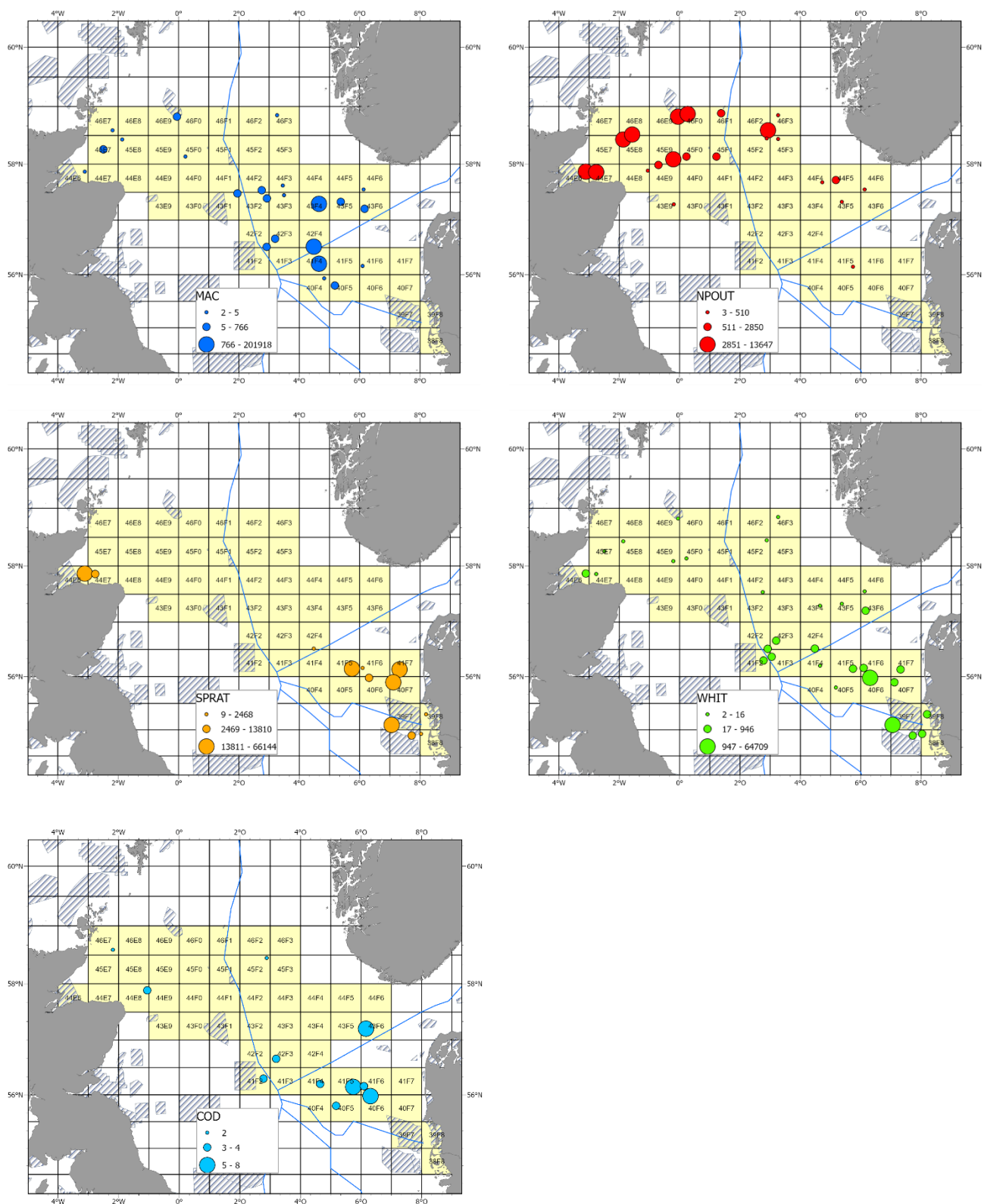


Fig. 2 (continued): Number [ind. / 30min] and distribution of pre-recruit Mackerel (< 25 cm; mack), Norway pout (< 15 cm; Npout), Sprat (< 10 cm; sprat), Whiting (< 20 cm; whi), Haddock (< 20 cm; had), Herring (< 20 cm; herr) and Cod (<25 cm; cod) caught at IBTS Q1 2025.