Institute of Sea Fisheries (TI-SF)

Herwigstraße 31, 27572 Bremerhaven Tel. 0471 94460-249 Date: 22.09.2025 Az: Bern/Ku/4839

Survey report
FRV Dana 10/2025
05 to 21 August 2025
International Bottom Trawl Survey (IBTS) Q3 2025

Chief scientist: Dr. Matthias Bernreuther

Summary

This survey 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 and non-commercial fish species for stock assessment purposes. The survey was conducted with FRV ´DANA´ (Denmark).
Sampling of fish was performed by trawl hauls in allocated ICES statistical rectangles by means of the ICES standard GOV otter board trawl (´chalut à Grande Ouverture Verticale´). In total, 33 GOV hauls were conducted during the survey, accompanied by 34 CTD profiles and investigations of benthic epifauna, infauna and sediments. A total of 45 different fish species were caught during this survey (39 bony fish species and 6 cartilaginous fish species), of which sprat *Sprattus sprattus*, herring *Clupea harengus*, horse mackerel *Trachurus trachurus*, whiting *Merlangius merlangus*, dab *Limanda limanda* and haddock *Melanogrammus aeglefinus* were the species with the highest abundance. Standardized total catch of the GOV hauls was on average 739 kg per 30 min.

Number of stations samples during Dana 10/25

	Hauls GOV	CTD casts	Hauls 2-m beam trawl	Van Veen sediment grab*
IBTS	33	34	33	90*
*) Sediment samples from all stations in this column, infauna for selected areas.				

Verteiler:

Schiffsführung FFS „Solea" „Walther Herwig III"
BA für Landwirtschaft und Ernährung (BLE) Fischereiforschung
BM für Ernährung und Landwirtschaft (BMEL),
BA für Seeschifffahrt und Hydrographie (BSH), Hamburg
Deutscher Angelfischerverband e.V.
Deutsche Fischfang-Union, Cuxhaven
Deutscher Fischereiverband Hamburg
Doggerbank Seefischerei GmbH, Bremerhaven
Erzeugergemeinschaft der Deutschen Krabbenfischer GmbH
Euro-Baltic Mukran
GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel
Kutter- und Küstenfisch Sassnitz
LA für Landwirtschaft, Lebensmittels. und Fischerei (LALLF)
LFA für Landwirtschaft und Fischerei MV (LFA)
Landesverband der Kutter- u. Küstenfischer MV e.V.
Leibniz-Institut für Ostseeforschung Warnemünde
Thünen-Institut - Institut für Fischereiökologie
Thünen-Institut - Institut für Seefischerei
Thünen-Institut - Institut für Ostseefischerei
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.

Bottom Trawl Survey (Thünen Institute of Sea Fisheries, TI-SF)

The qualitative and quantitative composition of the fish fauna caught in demersal hauls was analyzed from a total of 33 GOV hauls for the IBTS (Fig. 1). Larger invertebrates of commercial interest were quantified as specified in the IBTS manual. In addition, other benthic macro-invertebrates from the by-catch of the GOV otter board trawl were analyzed on every IBTS station. During all hauls, the GOV was equipped with Scanmar sensors to monitor net geometry as required for the IBTS survey. Data from the IBTS hauls taken in the wider German Bight are to be combined with international data covering the entire North Sea for the assessment of commercially important fish stocks and for analyses on the non-commercial fish species. The IBTS data will be uploaded to the ICES DATRAS database.

Hydrography (TI-SF)

A total of 34 hydrographic casts were conducted with a Seabird CTD to record vertical profiles of temperature, salinity and oxygen concentration at the fishing stations. For a subset of stations (one station per day), water samples for calibration of the oxygen probe were processed aboard through Winkler titration, and another subset of samples was taken to the laboratory in Bremerhaven for calibration of the salinity probe.

Epibenthos, sediments and benthic infauna (Senckenberg Research Institute, Wilhelmshaven)

Epibenthos was sampled within ICES rectangles of the wider German Bight (29 rectangles of the regular German IBTS), applying a 2 m-beam trawl (Fig. 2). Samples were sieved over 5-mm and 2-mm mesh. The 5-mm fraction was analyzed aboard, the 2-mm fraction was preserved in 4-% formaldehyde for analysis in the laboratory ashore. Investigations of epibenthos were accompanied by sampling of sediments using a 0.1-m^2 Van Veen grab. Additional grabs were taken to sample benthic infauna in the ICES rectangles.

Marine litter (TI-SF)

Marine litter bycatch from the GOV hauls was reported according to the ICES standards on all fishing stations. Data have been prepared for uploading to the ICES database.

2. Survey schedule

The scientific crew embarked FRV Dana in the evening of 05 August 2025 in Hirtshals (Denmark). Dana departed on 06 August, half a day later than planned, due to unfortunate weather conditions. On 07 August, the scientific program started with sampling for the IBTS in the northernmost rectangle 42F5 (Fig. 1). The IBTS program continued until 12 August. A crew exchange was carried out in Esbjerg (Denmark) on 13 August and the IBTS program continued on 14 August. The rectangles assigned to Germany were completed on 19 August, after which two rectangles assigned to Denmark were sampled (39F6 and 39F7). FRV Dana arrived in Hirtshals on 20 August 2025 and the scientific crew disembarked on 21 August 2025.

3. Preliminary results

Fish fauna in bottom trawls (TI-SF)

A total of 45 different fish species were caught during this survey (39 bony fish species and 6 cartilaginous fish species), of which sprat *Sprattus sprattus*, herring *Clupea harengus*, horse mackerel *Trachurus trachurus*, whiting *Merlangius merlangus*, dab *Limanda limanda* and haddock *Melanogrammus aeglefinus* were the species with the highest abundance. Standardized total catches of the GOV hauls varied from 58 kg (rectangle 39F7) to 3814 kg (rectangle 40F5) per 30 min trawling time, with an average of 739 kg per 30 min (Fig. 1).
The IBTS data set is currently being quality checked, supplemented with age readings and will be uploaded to the ICES database DATRAS.

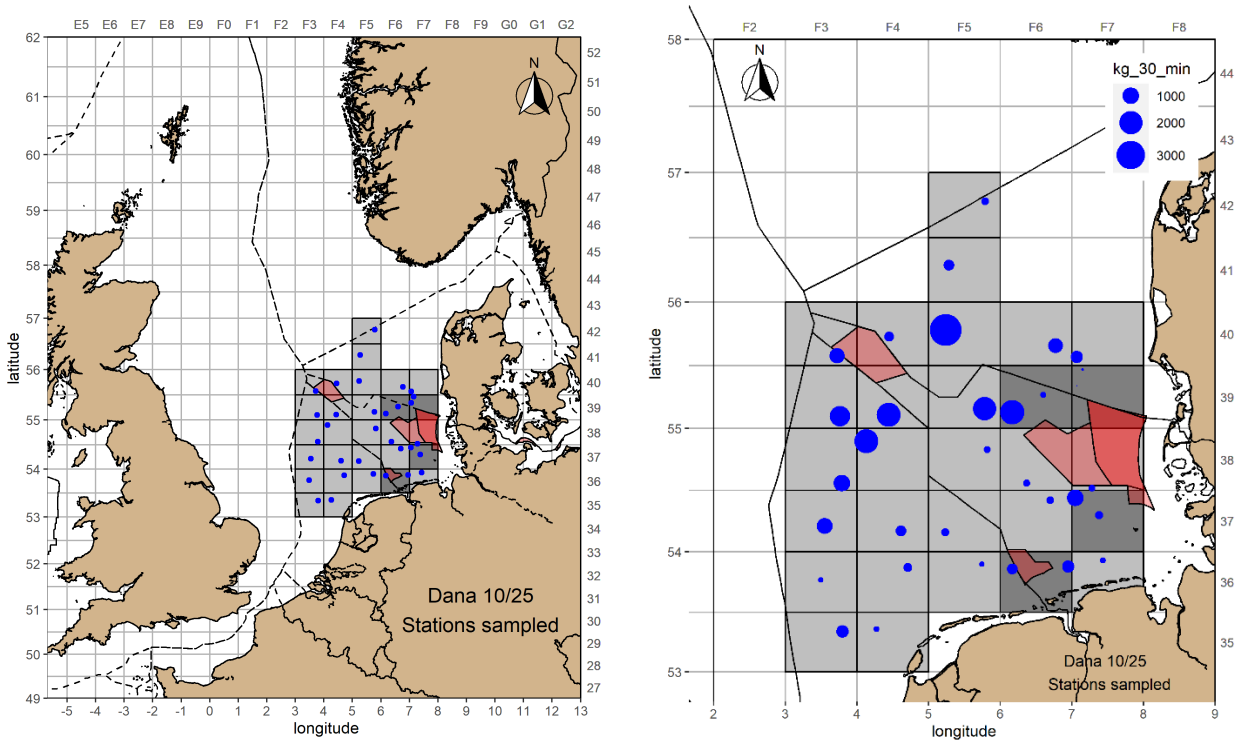

Figure 1. Dana 10/25 – Stations sampled (blue dots in the left graphic) and resulting standardized catches in kg per 30 min GOV haul in the right graphic. Grey areas: ICES rectangles that were sampled with one IBTS station. Darker grey area: ICES rectangles that were sampled with two IBTS stations.

Epibenthos (Senckenberg am Meer)

The abundance of epibenthic species demonstrated higher values in the south-eastern coastal rectangles (Fig. 2 A). The biomass and diversity values followed this gradient, although some stations taken in the central North Sea showed equally high values (Fig. 2 B, C).
The most common benthic species were the starfishes *Asterias rubens* and *Astropecten irregularis*, the swimming crabs *Polybius holsatus* and the hermit crabs *Pagurus bernhardus*. The fish species met in most of the samples were the gobies *Pomatoschistus minutus*, flatfishes *Limanda limanda*, *Buglossidium luteum* and *Arnoglossus laterna*.
No exceptional changes compared to recent years have been noted for these dominant species, though further analyses are required.

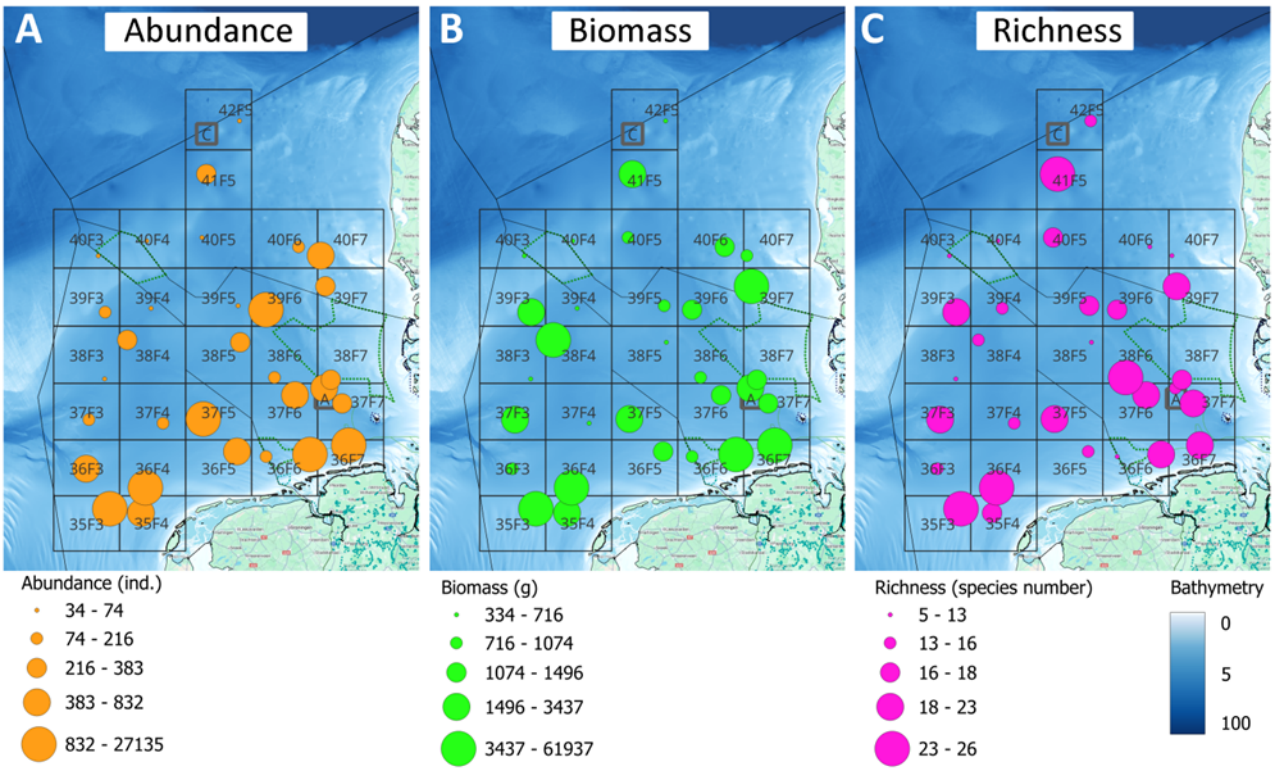

Figure 2. Dana 10/25 **-** Preliminary results of the epibenthos analyses.

4. Participants

	Name	Function/Area	Institution
1.	Dr. Matthias Bernreuther	Chief scientist	TI-SF
2.	Samira Peter	Fisheries biology (Fi)	TI-SF
3.	Simon Wieser	Fi	TI-SF
4.	Svea Winning	Data	TI-SF – 1st leg
5.	Andriy Martynenko	Oceanography	TI-SF
6.	Marsha Dechant	Fi	TI-SF
7.	Helena Kolb	Fi	TI-SF
8.	Sofia Wilhelm	Fi	TI-SF
9.	Friedrich Nitzschner	Fi	TI-SF – 1st leg
10.	Verena Vollmer	Fi	TI-SF
11.	Kira Kremer	Fi	TI-SF
12.	Dr. Andrey Vedenin	Benthos	Senckenberg am Meer
13.	Vanessa Fromme	Benthos	Senckenberg am Meer

5. Acknowledgement

Many thanks to captain Jakob Krogh Vangsgaard and captain Ulrich Berggren Jensen and the crew of FRV "Dana" for their great support and hospitality and to all participants for their reliable and responsible teamwork.

_____

Dr. Matthias Bernreuther, Chief scientist