

**R/V Dana**  
**Cruise 05/2011**  
**"IBTS 3Q 2011"**



Vessel: R/V DANA  
Cruise number: 05/11

Cruise dates (planned): 9/8 – 26/8 2011  
Cruise name: IBTS 3Q 2011

<b>Port of departure:</b>	Hirtshals	<b>Date:</b>	10 Aug
<b>Port of return:</b>	Hirtshals	<b>Date:</b>	26 Aug
<b>Other ports:</b>	Esbjerg	<b>Date and justification:</b>	18 Aug Scheduled exchange of scientific staff and crew

## Participants

<b>Leg 1: Hirtshals - Esbjerg</b>		
<b>Name</b>	<b>Institute</b>	<b>Function and main tasks</b>
Helle Rasmussen	DTU Aqua, Monitoring Hirtshals	Cruise leader, Fish lab
Tom Svoldgaard	DTU Aqua, Monitoring Hirtshals	Technician, Fish lab
Reinhardt Jensen	DTU Aqua, Monitoring Hirtshals	Technician, Fish lab
Flemming Thaarup	DTU Aqua, Monitoring Hirtshals	Technician, Fish lab
Thyge Dyrnesli	DTU Aqua, Marin Services Hirtshals	Technician, CTD, Maintenance
Ronny Sørensen	DTU Aqua, Monitoring Hirtshals	Technician, CTD, Maintenance
Martin Nielsen	Zoological Museum Copenhagen	Student, Fish Lab
<b>Leg 2: Esbjerg - Hirtshals</b>		
<b>Name</b>	<b>Institute</b>	<b>Function and main tasks</b>
Kai Wieland	DTU Aqua, Monitoring Hirtshals	Cruise leader, Fish lab
Stina Hansen	DTU Aqua, Monitoring Charlottenlund	Technician, Fish lab
Tom Svoldgaard	DTU Aqua, Monitoring Hirtshals	Technician, Fish Lab
Jette Sandsted	DTU Aqua, Monitoring Charlottenlund	Technician, Fish lab
Per Christensen	DTU Aqua, Monitoring Charlottenlund	Technician, Fish lab
Ronny Sørensen	DTU Aqua, Monitoring Hirtshals	Technician, CTD, Maintenance

## Objectives

The survey is part of the 3<sup>rd</sup> quarter International Bottom Trawl Survey (IBTS) in the North Sea, which is coordinated by the ICES International Bottom Trawl Survey Working Group and has been conducted with standard fishing gear in the 3<sup>rd</sup> quarter since 1991.

The IBTS aims to provide ICES assessment and science groups with consistent and standardised 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 in the 3<sup>rd</sup> quarter IBTS are to:

- To determine the distribution and relative abundance of pre-recruits of the main commercial species (cod, haddock, whiting, Norway pout, saithe, herring, sprat, and mackerel) 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;

The area to be covered by Denmark with RV Dana in the 3<sup>rd</sup> quarter 2011 was allocated during the most recent IBTS Working Group meeting. Technical details are described in the current version of the survey manual (ICES 2010: Addendum 1, IBTS Manual – Revision VIII. <http://datras.ices.dk/Documents/Manuals/>).

## Itinerary

Departure was delayed by one day due to technical reasons. R/V Dana left Hirtshals on Wednesday 10 August at 18:00 local time and began with the scientific work the next morning. The scientific program was interrupted on Thursday 18 August for the scheduled exchange of scientific staff and crew in Esbjerg. The vessel stayed in the port of Esbjerg that day from 11:15 to 18:00. Good weather conditions prevailed also during the second leg of the survey. R/V Dana returned to Hirtshals on Friday 26 August at 7:00 local time after all the planned work had been accomplished.

## Achievements

The working area consisted of 47 ICES statistical rectangles located in IBTS roundfish areas 2, 3, 4, 5, 6 and 7. The following activities were carried out (Fig. 1):

49 valid trawl hauls with GOV 36/47 (chalut á Grande Overture Verticale), 42 hauls with standard groundgear A and 5 hauls with rockhopper groundgear B (see IBTS Manual for specifications)

50 CTD profiles (with oxygen, fluorescence and turbidity)

Continuous recording of surface temperature, salinity and fluorescence along cruise track

Continuous recording of standard meteorological data

## **Results**

The trawl parameters (Net opening and door spread) as monitoring with a Scanmar system were well in the range specified by the IBTS manual (Fig. 2). Sorting and analyses of the trawl catches were conducted as specified according to the IBTS manual. About 65 different species of fish and selected invertebrates were recorded in detail (Tab. 1). Length measurements were made for all of the listed species. Sharks, skates and rays and the listed shellfish species were measured separately by gender (length composition and weight). Single fish data (length, weight, gender) and otoliths were collected for the main commercial species (cod, haddock, whiting, herring, sprat and mackerel) as well as for plaice and monkfish (ICES roundfish area 7) whereas the two IBTS standard species Norway pout and saithe were not present in the catches this time (Tab. 2). The preliminary abundance indices for the main commercial species (Tab. 3) were reported to the coordinator of the 3<sup>rd</sup> quarter IBTS.

## **Others**

A cruise summary report has been delivered online to

[http://seadata.bsh.de/csr/online/V1\\_index.html](http://seadata.bsh.de/csr/online/V1_index.html).

Date: 29/8-2011

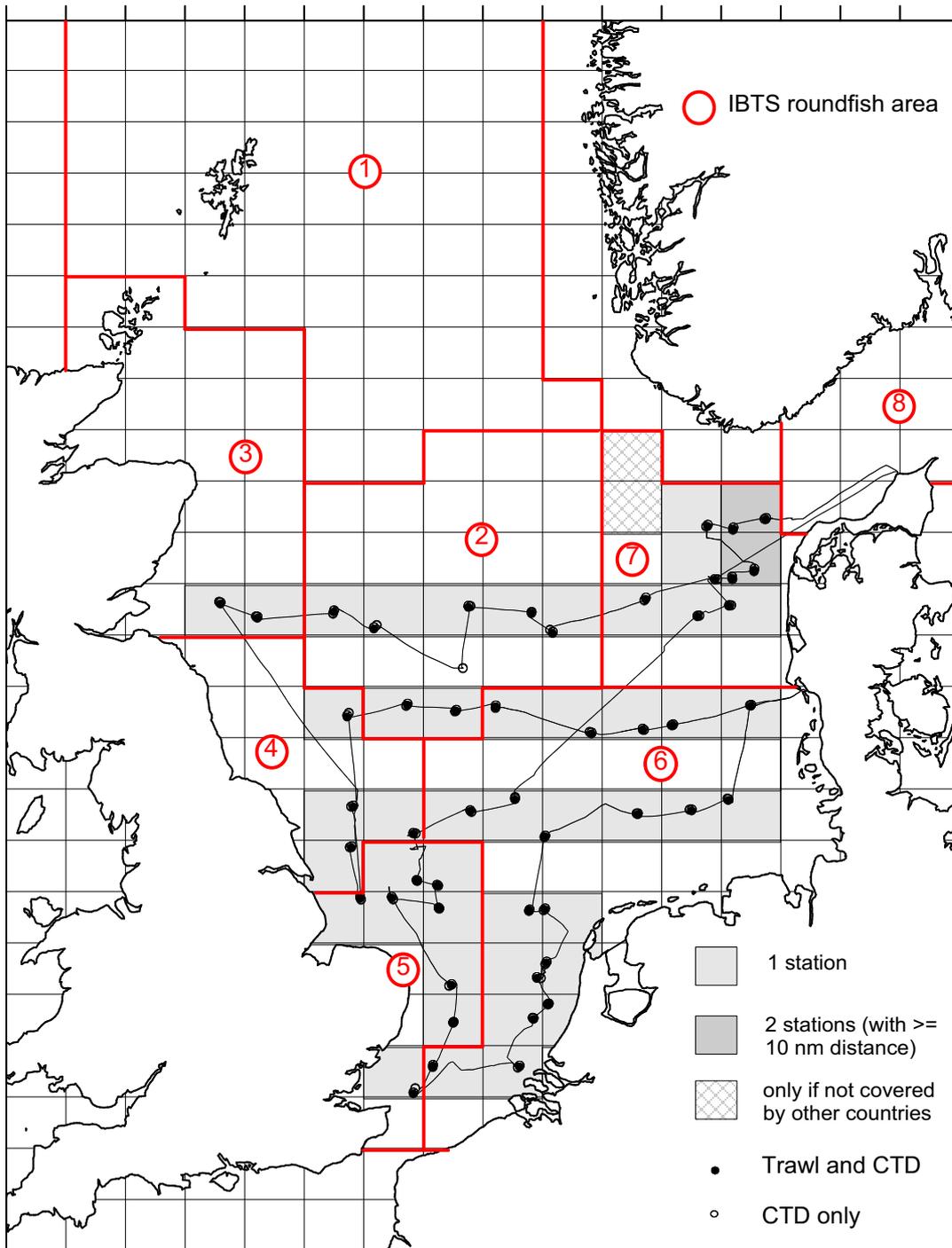


Fig. 1: Survey map with cruise track and sampling locations, Dana 3Q IBTS 2011.

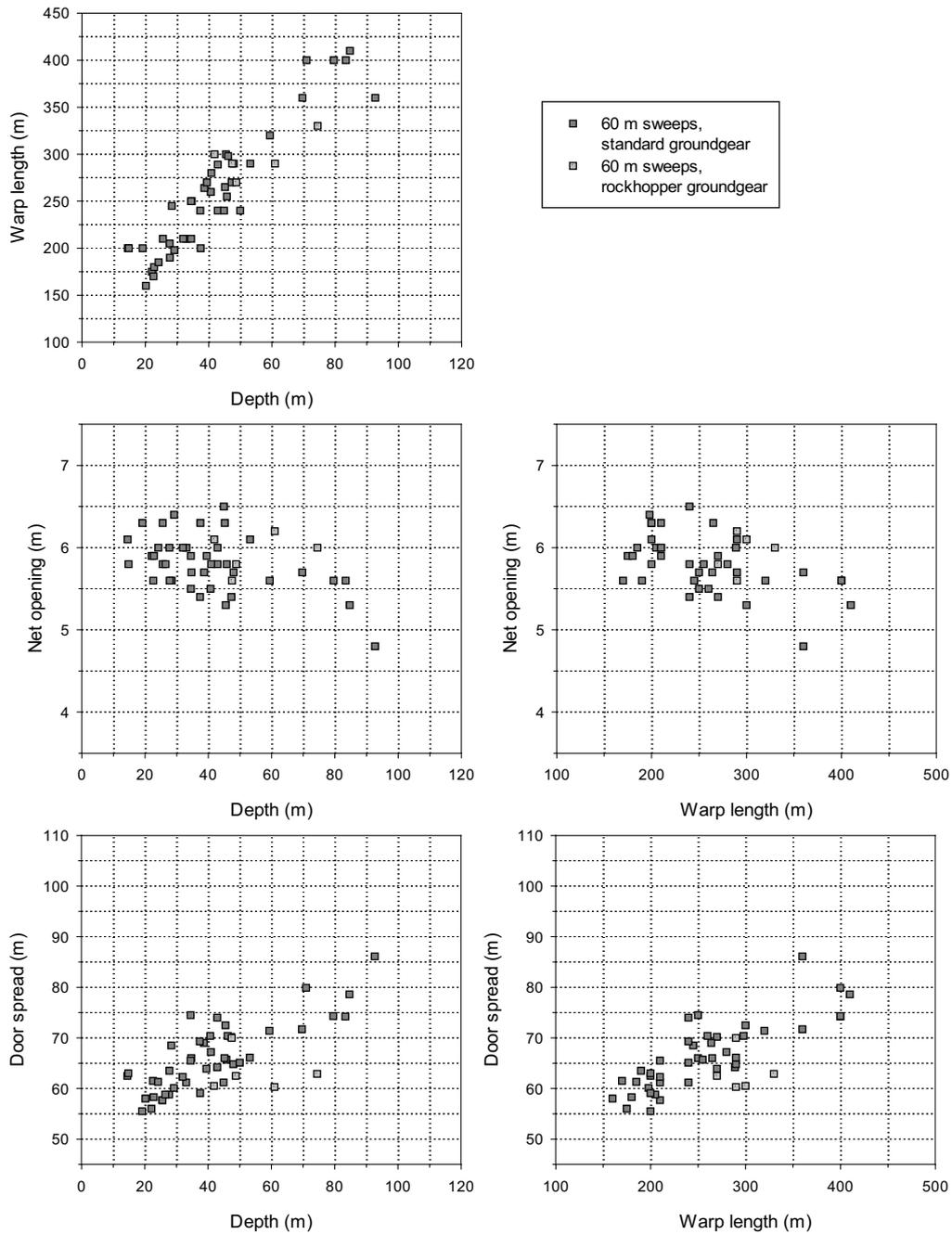


Fig. 2: Net opening and door spread in relation to depth and warp length, Dana 3Q IBTS 2011.

Tab. 1: Species list, Dana 3Q 2011.

Fish		Invertebrates			
Danish name	Latin name		Danish name	Latin name	
Ansjos	Engraulis encrasicolus	*	Hummer (alm.)	Homarus gammarus	**
Brisling	Sprattus sprattus	***	Jomfruummer	Nephrops norvegicus	**
Fjæsing	Trachinus draco	*	Taskekrabbe	Cancer pagurus	**
Fjæsing lille	Trachinus vipera	*	Troldkrabbe	Lithodes maja	*
Fløjfisk (pl)	Callionymus maculatus	*	Hestereje	Crangon crangon	-
Flodlampret	Lampetra fluviatilis	*	Reje konge	Pandalus montagui	-
Glastunge	Buglossidium luteum	*			
Glyse	Trisopterus minutus	*		Alloteuthis subulata	*
Håising	Hippoglossoides platessoides	*	Eledone Blæksprutte	Eledone cirrhosa	*
Havbars	Dicentrarchus labrax	*		Loligo forbesii	*
Havkvabbe (4tr)	Enchelyopus cimbrius	*		Loligo vulgaris	*
Havtaske	Lophius piscatorius	***		Todaropsis eblanae	*
Hvilling	Merlangius merlangus	***		Illex coindetii	*
Ising	Limanda limanda	*		Sepiola atlantica	-
Knurhane (grå)	Eutrigla gurnardus	*			
Knurhane (rød)	Trigla lucerna	*			
Kuller	Melanogrammus aeglefinus	***	Stor kammusling	Pecten Maximus	-
Kulmule	Merluccius merluccius	***	Jomfru øster	Aquiptecten opercularis	-
Kutling-sand	Pomatoschistus minutus	*			
Lange	Molva molva	*			
Makrel	Scomber scombrus	***			
Pighvarre	Psetta maxima	***		-: not measured	
Rødspætte	Pleuronectes platessa	***		*: Length	
Rødtunge	Microstomus kitt	***		**.: Length by sex	
Sct. peter fisk	Zeus faber	*		***.: single fish data (length, weight, sex, maturity and age samples)	
Sild	Clupea harengus	***			
Skægtorsk	Trisopterus luscus	*			
Skærising	Glyptocephalus cynoglossus	***			
Skrubbe	Platichthys flesus	*			
Slethvarre	Scophthalmus rhombus	*			
Slimål	Myxine glutinosa	*			
Snippe	Entelurus aequoreus	*			
Sperling	Trisopterus esmarkii	***			
Stavsild	Alosa fallax	*			
Stenbider	Cyclopterus lumpus	*			
Stribet Mulle	Mullus surmuletus	***			
Tobis-hav	Ammodytes marinus	*			
Tobiskonge	Hyperoplus lanceolatus	*			
Tobis-nøgen	Gymammodytes semisquana	*			
Torsk	Gadus morhua	***			
Tunge	Solea solea	***			
Tungevarre	Arnoglossus laterna	*			
Ulk	Myoxocephalus scorpius	*			
Ulk-panserulk	Agonus cataphractus	*			
Glathaj	Mustelus mustelus	**			
Rødhaj (smpl)	Scyliorhinus canicula	**			
Stjernehaj	Mustelus asterias	**			
Småplettet rokke	Raja brachyura	**			
Storplettet rokke	Raja montagui	**			
Tærbe	Amblyraja radiata	**			

Tab. 2: Number of single fish data (length, weight, and gender) and samples for ageing, Dana 3Q 2011.

Species	IBTS roundfish area						Total
	2	3	4	5	6	7	
Herring	65	69	124	15	226	158	657
Sprat	26	22	20	28	171	102	369
Cod	33	2	49	23	28	137	272
Haddock	124	79	64	0	0	6	273
Whiting	142	47	120	86	122	93	610
Norway pout	0	0	0	0	0	0	0
Saithe	0	0	0	0	0	0	0
Mackerel	45	36	36	75	116	45	353
Plaice	116	65	111	168	190	180	830
Monkfish	0	0	0	0	0	1	1
						Sum:	3365

