Institut für Seefischerei

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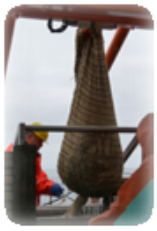
FRV "SOLEA"
Cruise 643
REPORT

23 July – 12 Aug 2011





Personnel

Name	Role	Affiliation
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Julia Friese	Planktology	IHF-Uni HH

Objectives

1. To participate in the German Small-scale Bottom Trawl Survey (GSBTS) monitoring the fish fauna in six of the 12 small areas (boxes) in total.
2. To investigate the hydrographical conditions within the boxes (vertical distribution of temperature and salinity).
3. To monitor the zooplankton within the boxes.
4. To sample fish for investigations on stomach contents.

Narrative (Fig. 1)

Due to hard weather, the departure of FRV "Solea" was postponed from the 23rd to the 25th of July 2011. On 25 July, the vessel left the port of Cuxhaven and started the scientific program (normally 3 days working in each box) in Box N (German Bight) on the following day. In general, the scientific program comprised three days with seven hauls a day per box together with three CTD (Conductivity-Temperature-Depth probe) measurements and six plankton samples per day. Figure 1 shows the actual sequences of sampled boxes: Box N (German Bight; 3 days), Box K (Danish EEZ; 2 days), Box H (UK EEZ; 3 days), Box P (German EEZ; 3 days), and Box E (Dutch EEZ; 1.5 days). Box F (UK EEZ) was omitted due to hard weather. The program had to be ended on 7 August at noon due to hard weather and FRV "Solea" docked in Cuxhaven the following day. A summary of the activities within each box is given in Table 1.

Table 1: Activities (stations) during the cruise

Area	Trawl hauls	CTD	WP2	Bongo net
Box N	21	9	9	9
Box K	7	1	1	3
Box H	21	9	9	9
Box P	21	9	9	9
Box F	-	-		
Box E	10	4	4	4
Total	**80**	**32**	**32**	**34**

Results

A total of 80 valid 30-min hauls were conducted using the "cod hopper" trawl equipped with the standard ground gear (20cm rubber discs in the ground rope) to monitor changes in species composition of the six boxes. In addition to fishing, in each box a maximum of nine stations were sampled with CTD, WP2 (vertical plankton net) and Bongo net (diagonal hauls).
Fig. 1 shows the area of investigation. The mean species composition of each box and the variability within the time period are shown in Figs. 2 to 6. Example profiles of temperature (C°), salinity (psu), and turbidity (FTU) measured in Box N, P, E and H are shown in Fig. 7.

Dr. V. Stelzenmüller

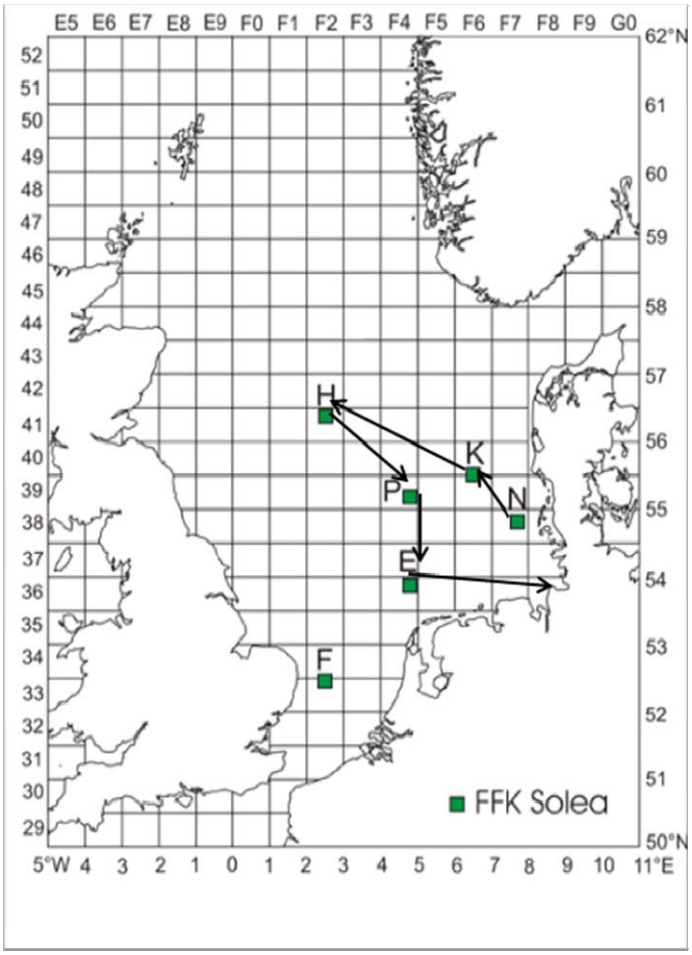

Fig. 1: FRV "Solea" cruise no. 643. Cruise track and positions of boxes.

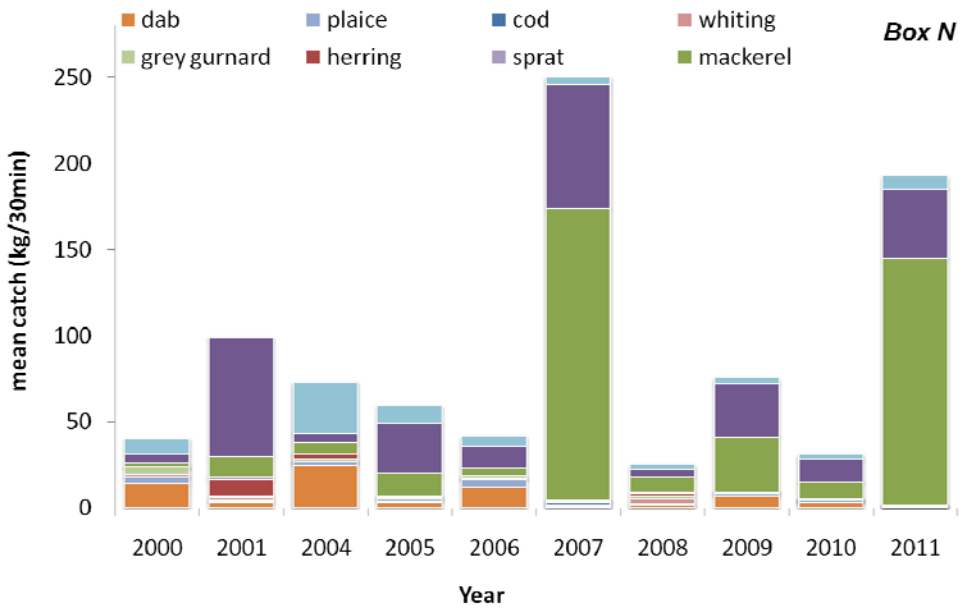

Fig. 2: Box N: German Bight: Main species composition (kg/30min) from 2000 to 2011 (summer).

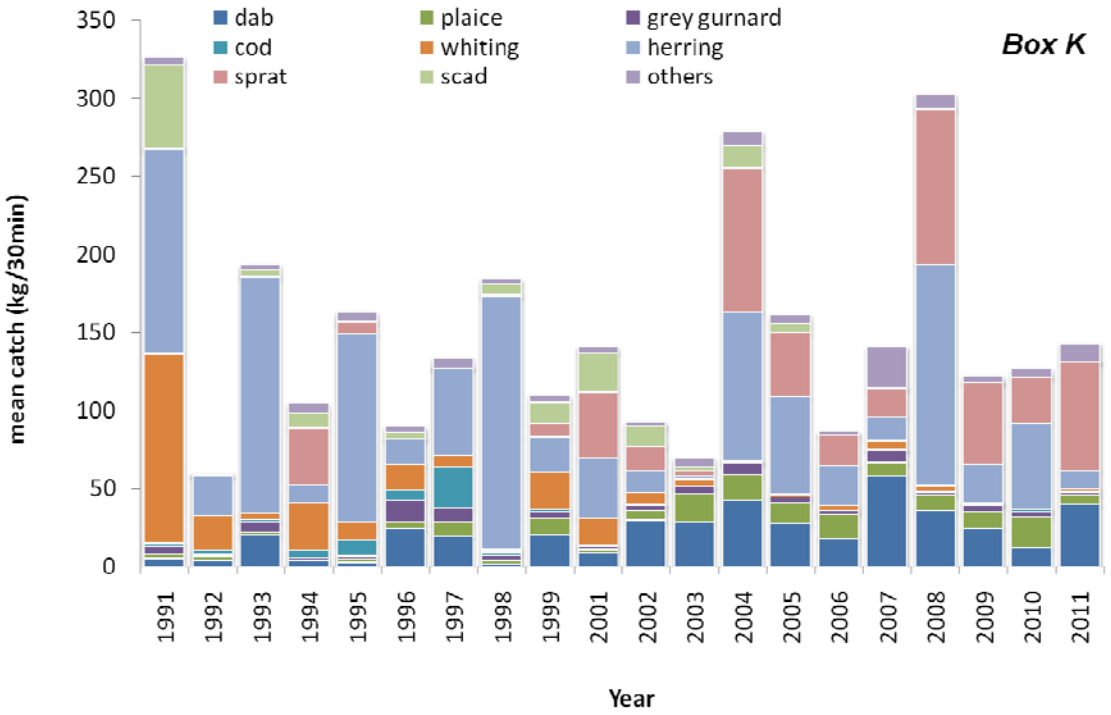

Fig. 3: Box K: Danish EEZ: Main species composition (kg/30min) from 1991 to 2011 (summer).

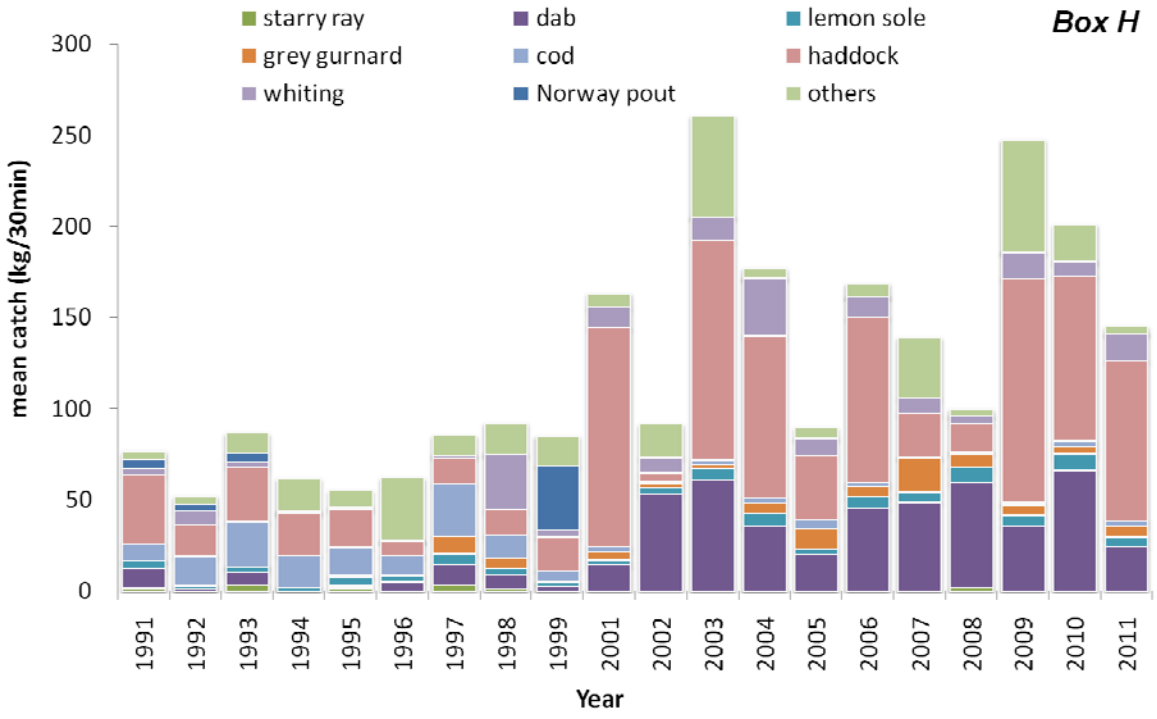

Fig. 4: Box H: UK EEZ: Main species composition (kg/30min) from 1991 to 2011 (summer).

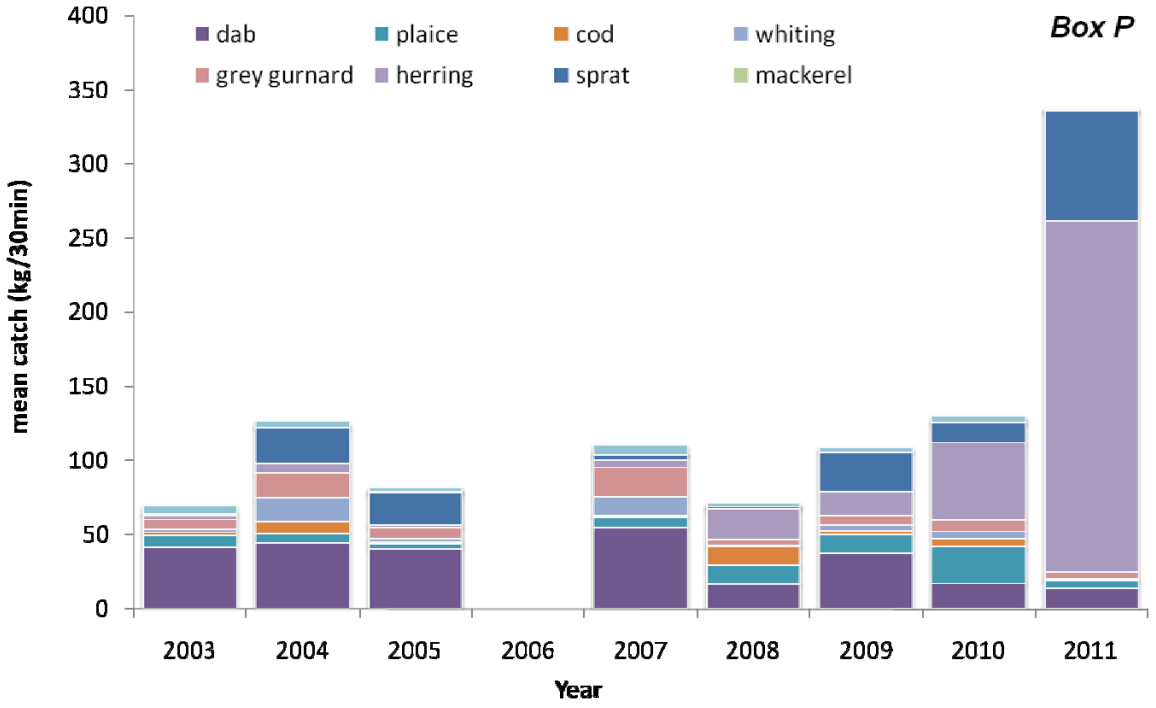

Fig. 5: Box P: German EEZ: Main species composition (kg/30min) from 2003 to 2011 (summer).

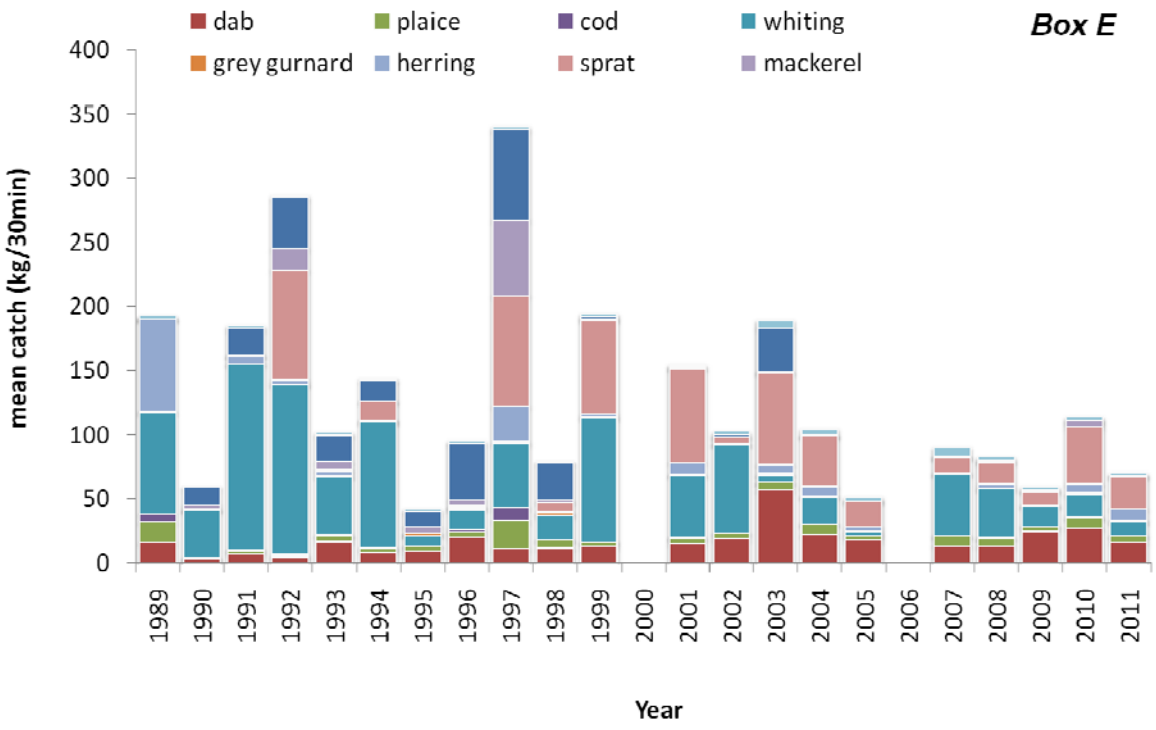

Fig. 6: Box E: Dutch EEZ: Main species composition (kg/30min) from 1989 to 2011 (summer).

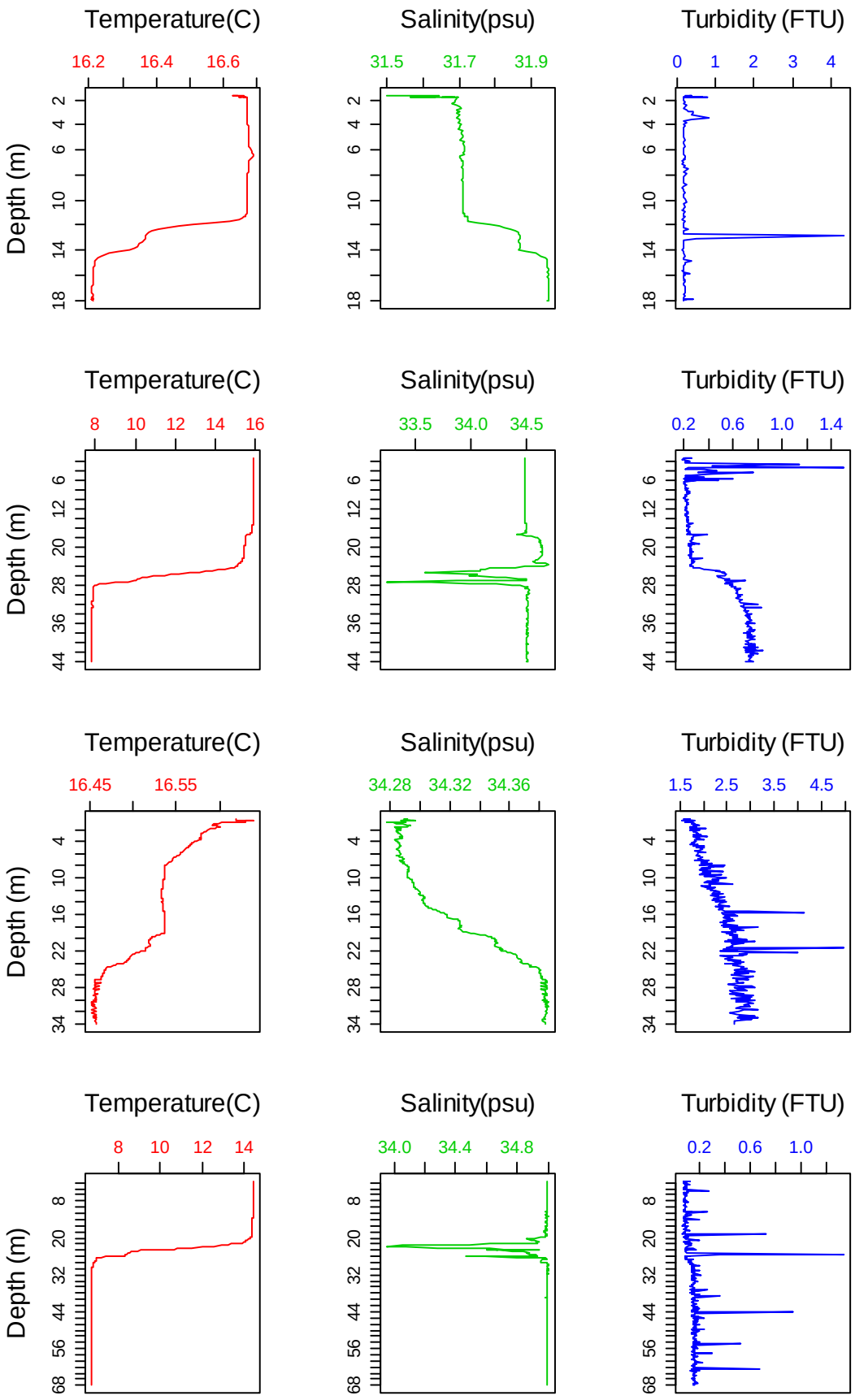

Fig. 7: Example profiles of temperature, salinity and turbidity measured within Box N (top), Box P (middle top), Box E (middle bottom) and Box H (bottom).