

**„SOLEA“**  
**Cruise 800**  
**REPORT**  
**29.11. – 13.12.2021**

**Summary**

The purpose of this trip was again the qualitative and quantitative recording of the demersal fish fauna in the German Exclusive Economic Zone (EEZ) of the North Sea. In conjunction with the results of investigations of the benthic invertebrate fauna of other research institutes possible changes due to increasing industrialization (wind farms, sand and gravel extraction) are to be detected. The entire EEZ was divided into different ecological zones and covered with a fixed station network. Since the investigation began in 2004, an annual exchange between the beam trawl and bottom trawl maintained. This year the investigations were therefore carried out again with the beam trawl.

A total of 38 fish species and 45 invertebrate species were detected in the 22 carried out hauls with the beam trawl. The fish were dominated by species dab, whiting, plaice, hooknose and scaldfish. The catch of invertebrates consisted mainly of starfish, swimming crabs and hermit crabs.

**Objectives**

1. Monitoring of the demersal fish fauna in the German EEZ
2. Distribution of temperature and salinity in the area of investigation

### **Narrative (Fig. 1)**

Due to the test of the scientific crew and the crew on COVID-19 on the day of departure and the waiting time for the results, the scientific crew did not board the ship until the early morning of 29<sup>th</sup> December. A persistent storm front delayed the departure for another four days. FFS Solea left Cuxhaven on December 4<sup>th</sup> at around 6:00 o'clock am. In the following three days, stations west and north of Helgoland as well as off North and East Frisia were worked before Cuxhaven was sought out as a port of refuge from a storm. During the time in port, technical problems of the ship were to be fixed. After two days it turned out that the repair was no longer possible within the time available. Thus, the voyage was ended prematurely on 9 December. Dismantling and the return journey to Bremerhaven took place on 13 December.

### **Results (Fig. 2 – 10)**

A total of 22 15 minutes and valid hauls were made using the beam trawl. At all 22 stations salinity and temperature were measured.

The species composition distribution showed the usual geographic pattern with dab and whiting as the most frequent fish, followed by plaice, hooknose and scaldfish. Cod was present only in very small amounts and quantities. More southern species such as anchovy were not represented. The catch of invertebrates consisted mainly of starfish, swimming crabs and whelks.

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#### **Participants:**

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Karolin Adorf	TI-SF
Jana Bäger	TI-SF
Philipp Schweizer	TI-SF
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Dipl.-Biol. K. Panten

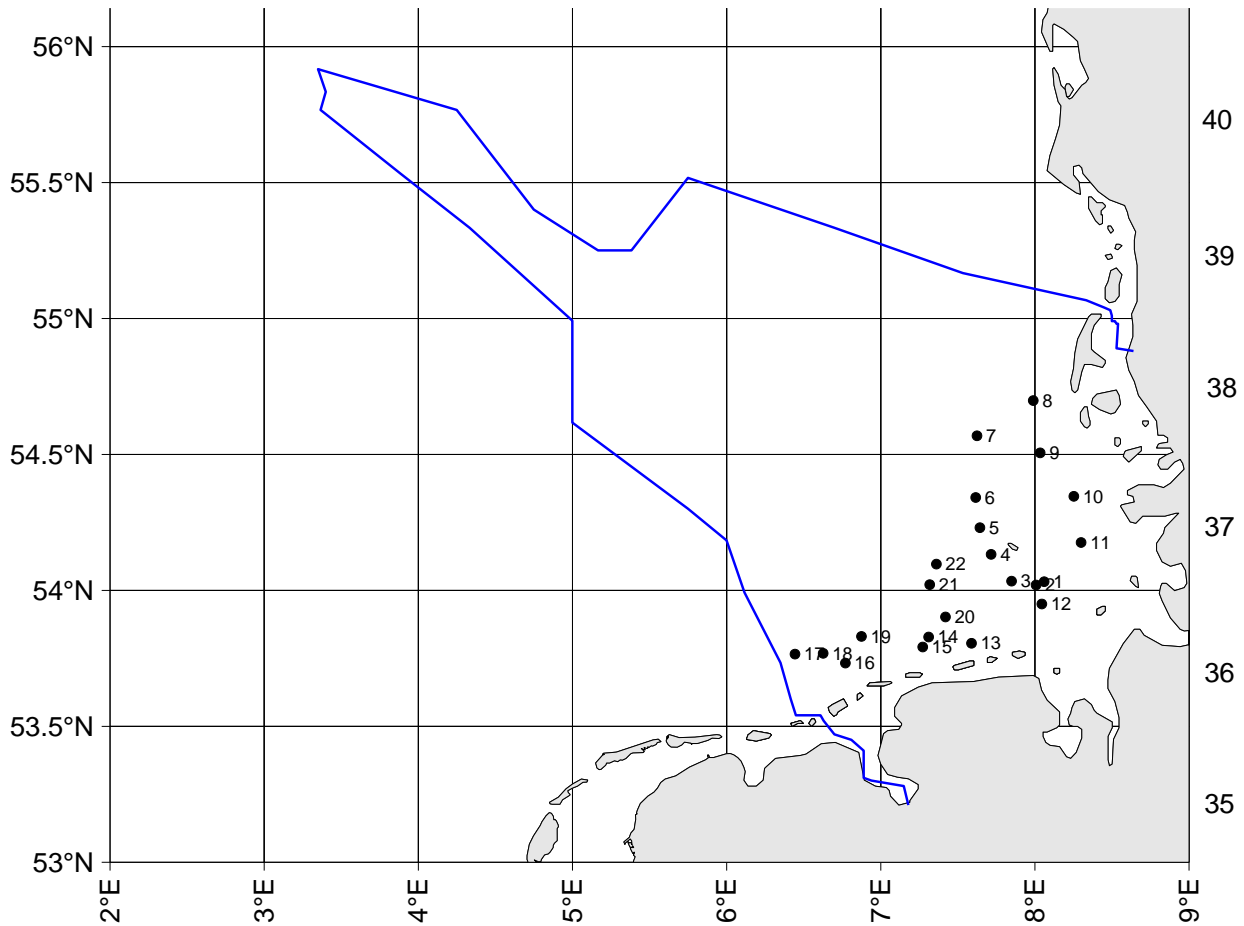


Fig. 1: "Solea", Cruise no. 800, Haul positions and area of investigation

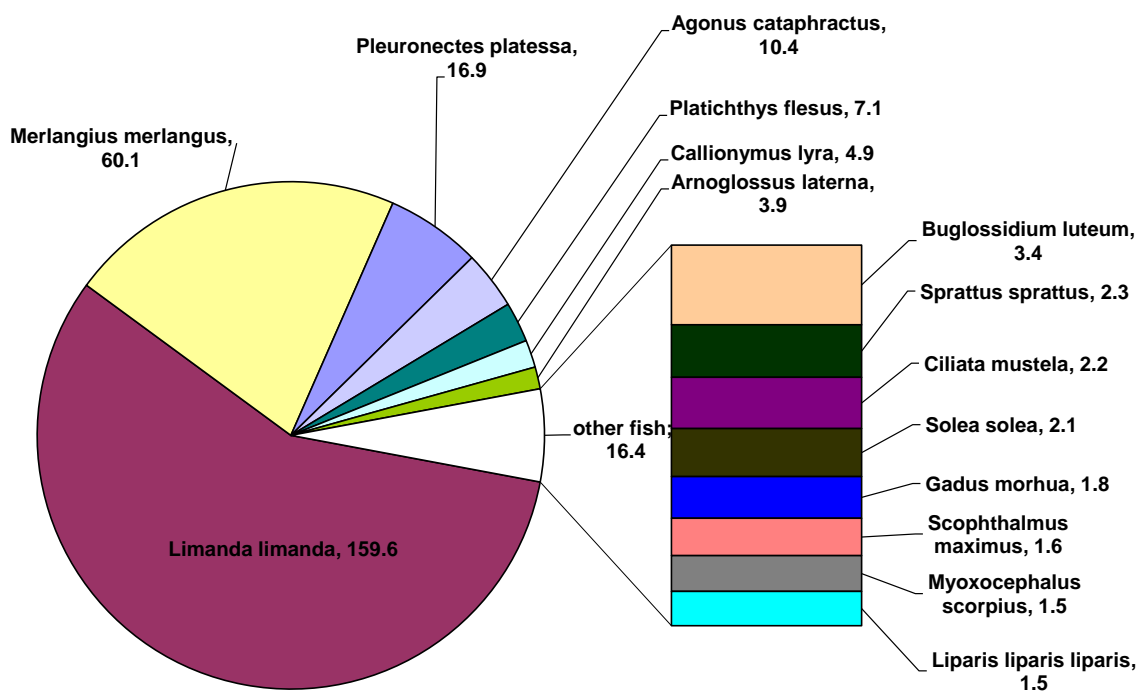
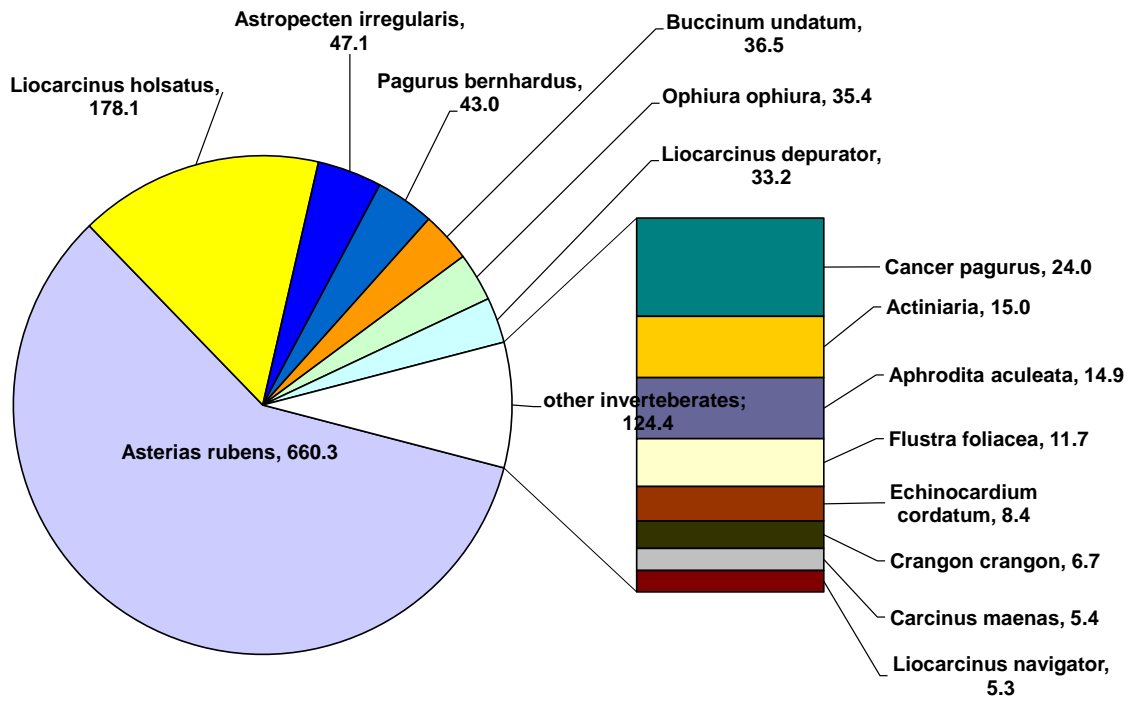
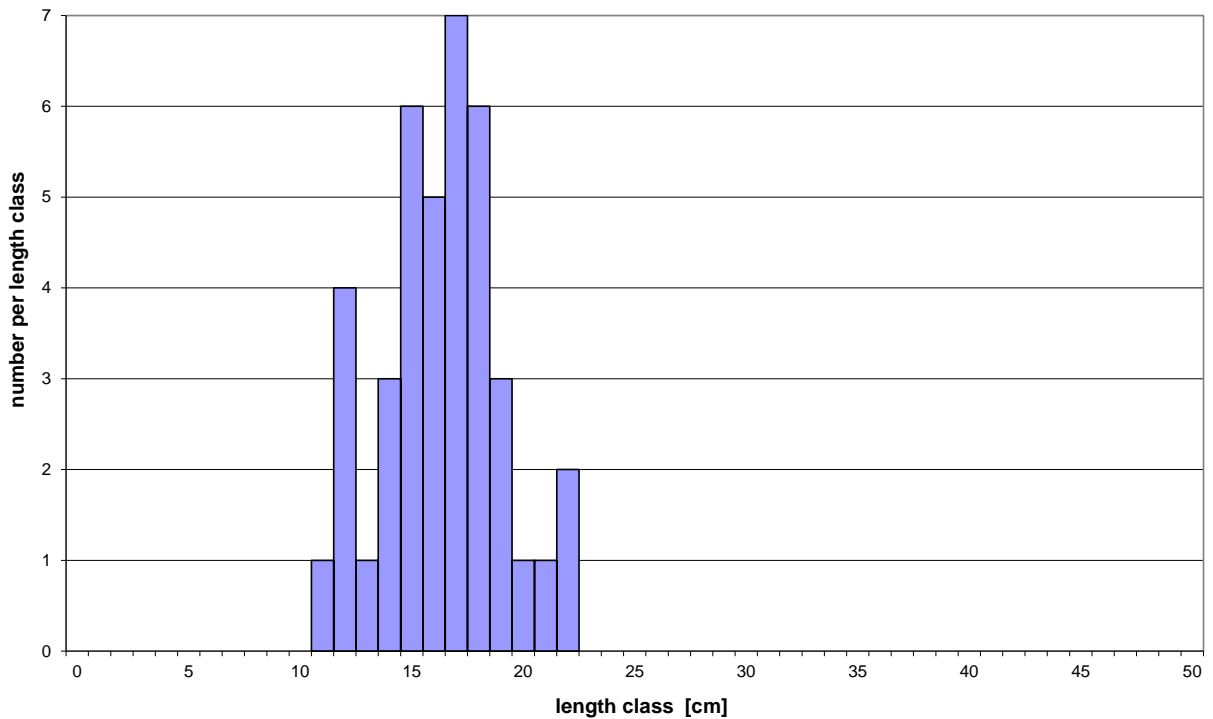


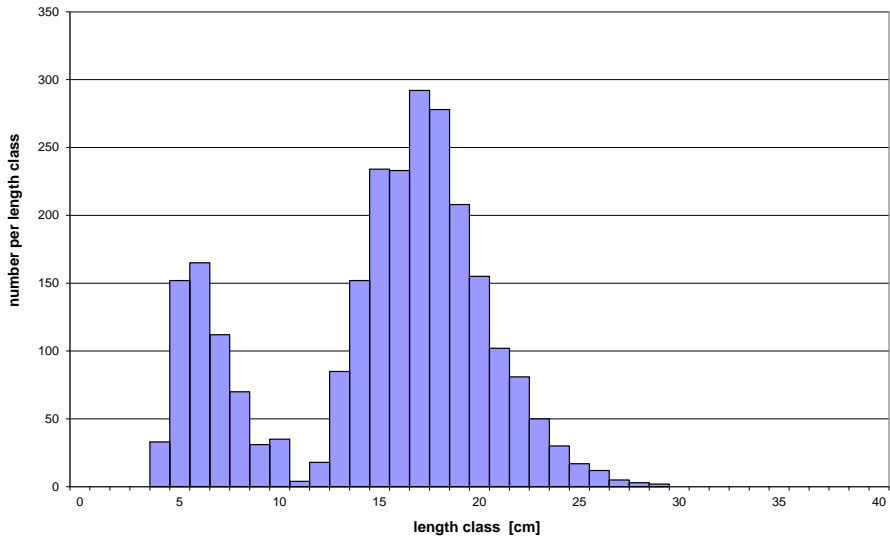
Fig. 2: Catch composition with the 15 most fish species caught in kg



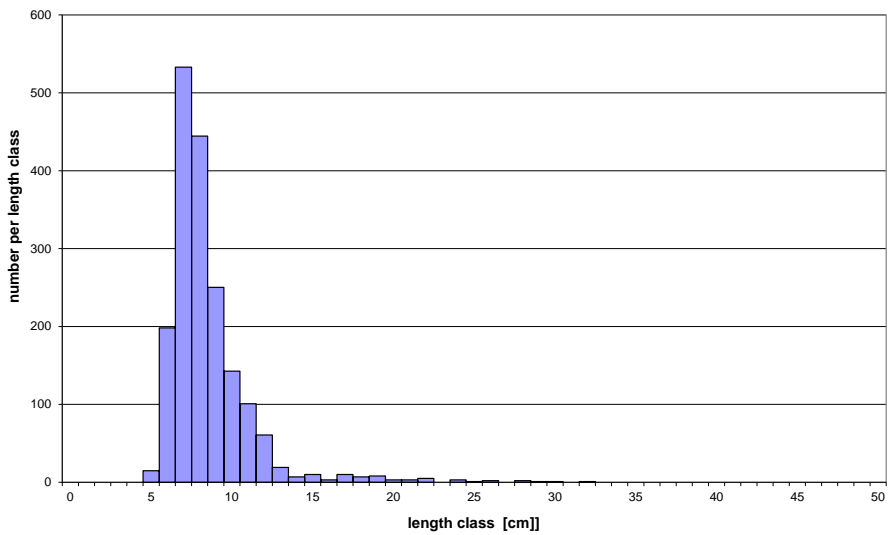
**Fig. 3: Catch composition with the 15 most invertebrates caught in kg**



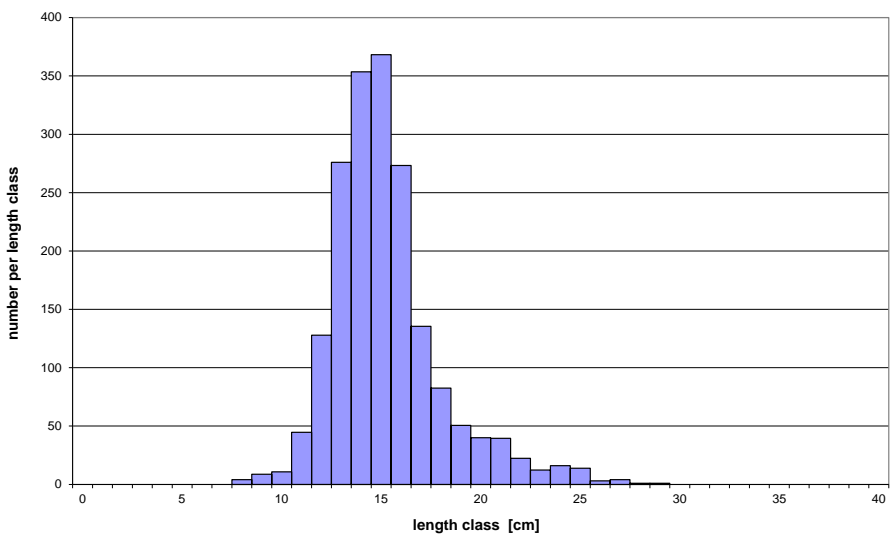
**Fig. 4: Length distribution of cod (*Gadus morhua*)**



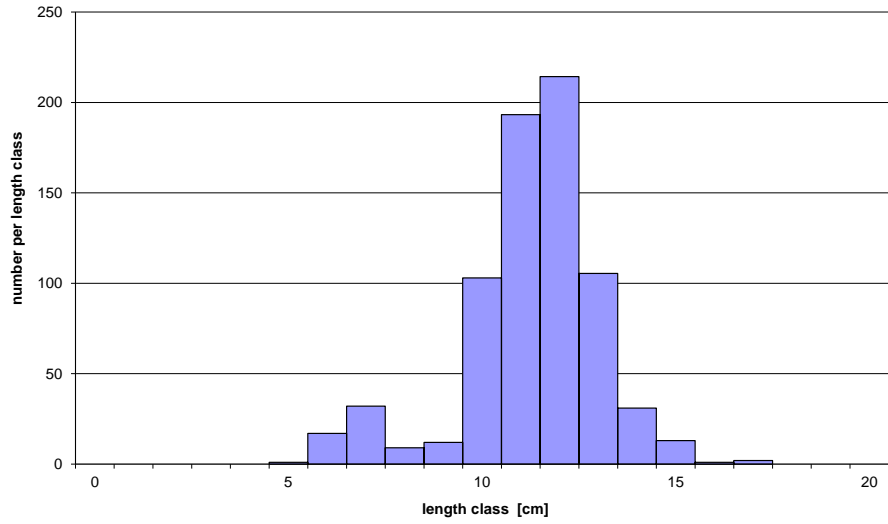
**Fig. 5: Length distribution of dab (*Limanda limanda*)**



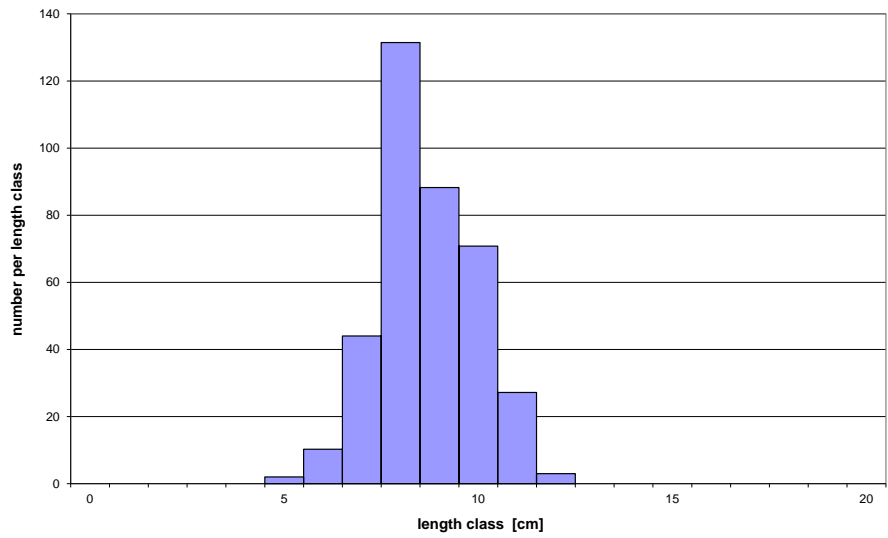
**Fig. 6: Length distribution of plaice (*Pleuronectes platessa*)**



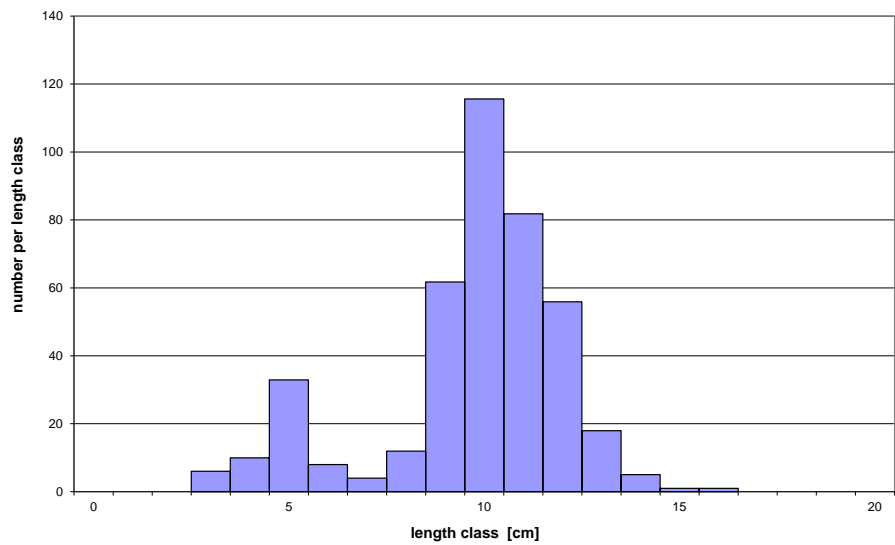
**Fig. 7: Length distribution of whiting (*Merlangius merlangus*)**



**Fig. 8: Length distribution of hooknose (*Agonus cataphactus*)**



**Fig. 9: Length distribution of solenet (*Buglossidium luteum*)**



**Fig. 10: Length distribution of scaldfish (*Arnoglossus laterna*)**