

Cruise 665. ‚SOLEA‘
Report
30.11. – 20.12.2012

1. 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 bottom trawl.

A total of 48 fish species and 36 invertebrate species were detected in the 66 carried out hauls with the "cod hopper" trawl. The fish were dominated by species dab, herring, sprat and plaice. The catch of invertebrates consisted mainly of swimming crabs, starfish and whelks.

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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)

The port of Cuxhaven was left on 30.11. around 14:00 clock. The research began the next day in the middle section of the German EEZ. The following days the stations were fished around Helgoland and North Friesian coast line in variable winds before a storm forced two days stay in Helgoland. The following storm gap allowed the sampling north of the traffic route Terschelling - German Bay. Then the next storm was waiting for two days on the roadstead of Eemshaven. After returning to the study area could be fished for two days before another day on the roadstead of Wilhelmshafen the journey interrupted again. The subsequent favorable weather forecast allowed continuing with the northwestern stations in the so-called "Entenschnabel". The trip ended on the evening of 19.12. in Cuxhaven.

Results (Fig. 2 – 10)

A total of 66 half an hour and valid hauls were made using the "cod hopper" demersal trawl. At 66 stations salinity and temperature were measured.

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

Participants:

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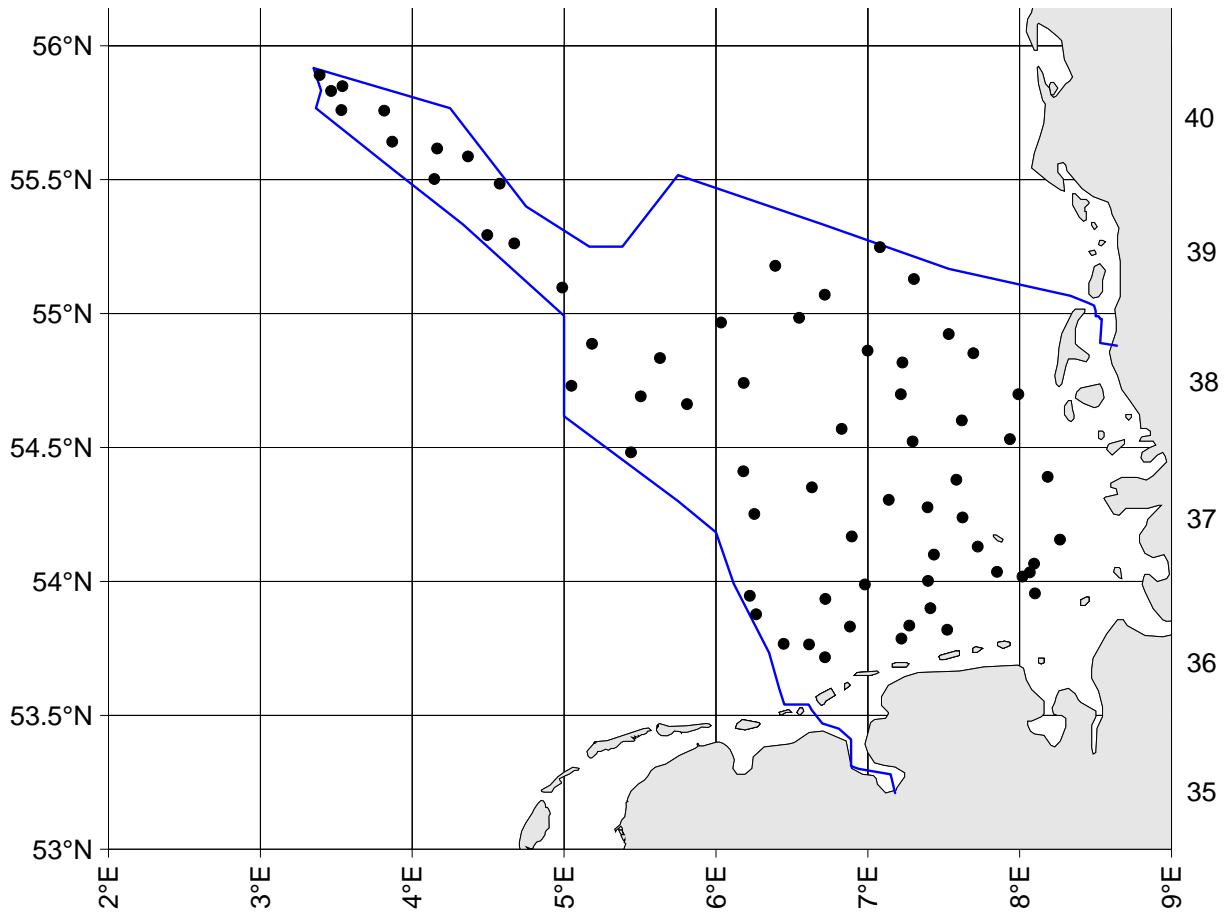


Fig. 1: "Solea", Cruise no. 665 , Haul positions and area of investigation

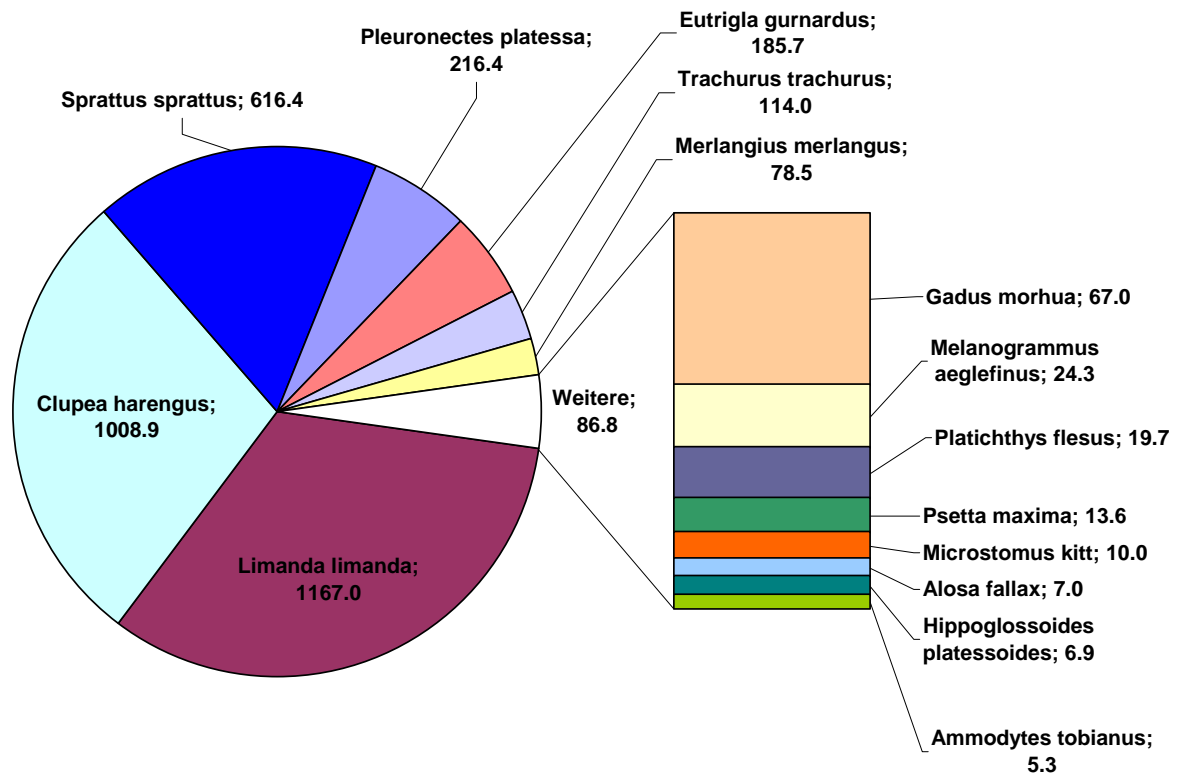


Fig. 2: Catch composition with the 15 most fish species caught in kg

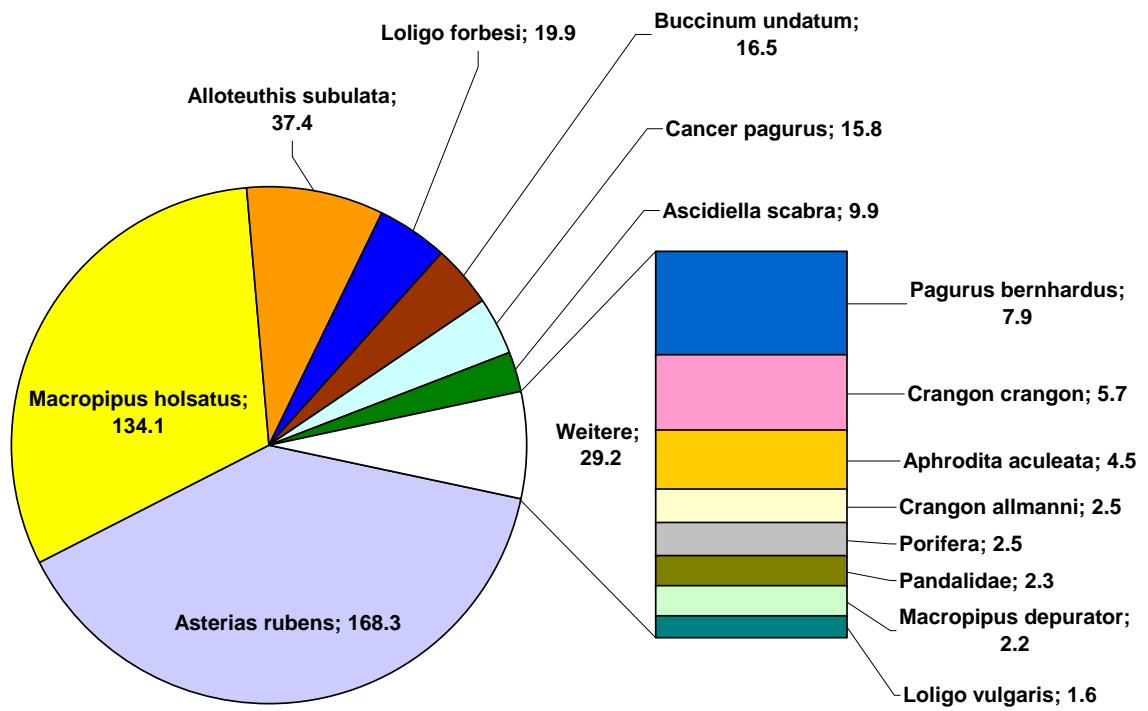


Fig. 3: Catch composition with the 15 most invertebrates caught in kg

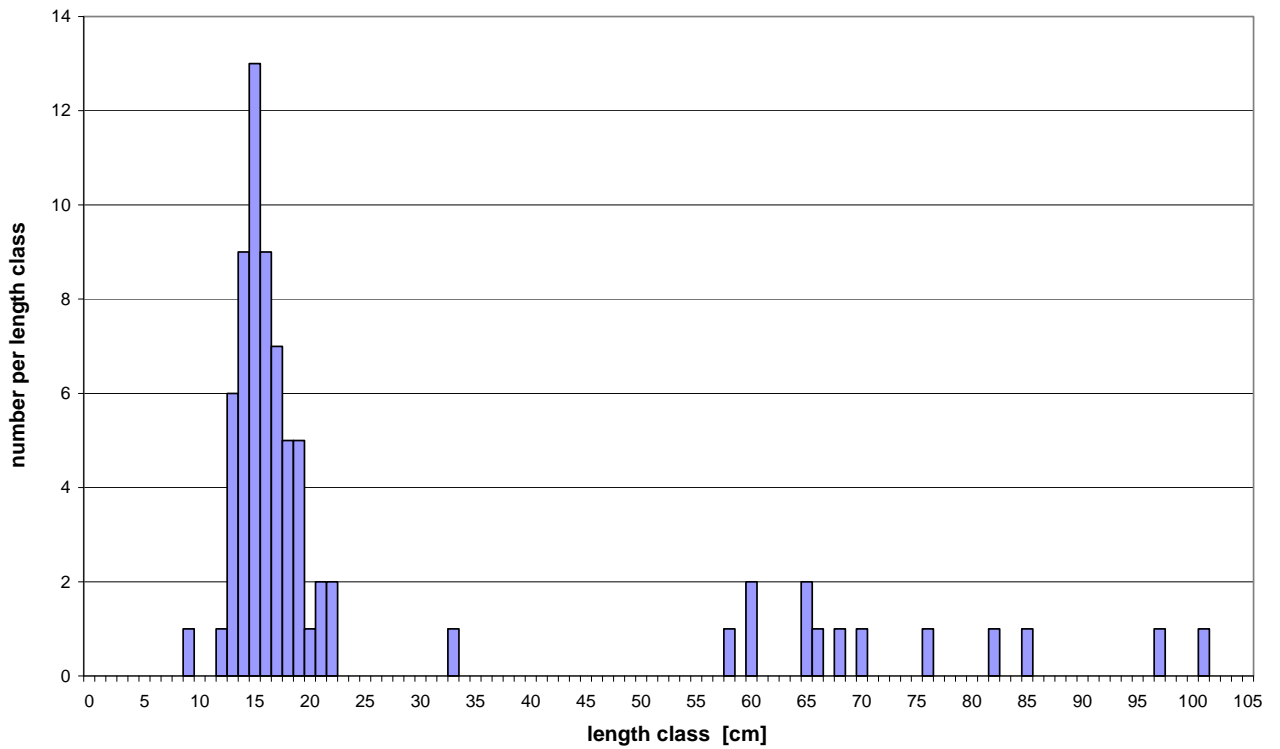


Fig. 4: Length distribution of cod (*Gadus morhua*)

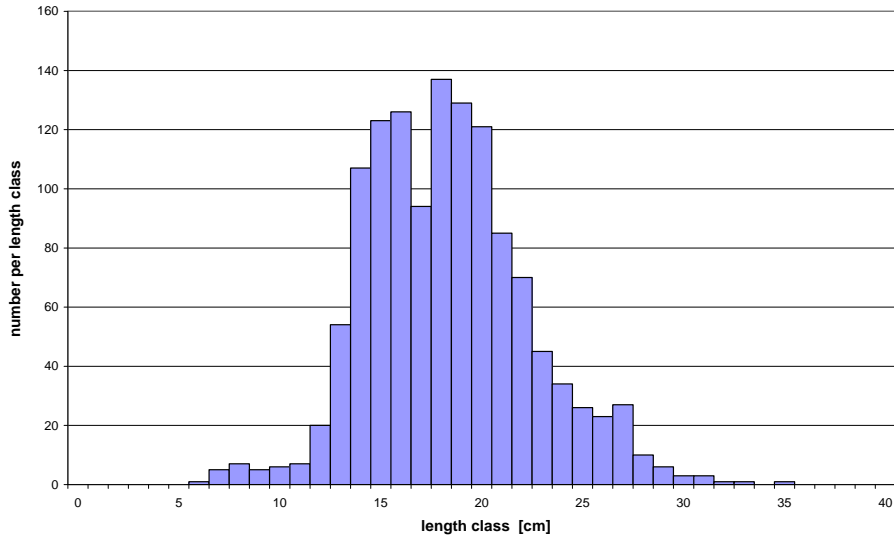


Fig. 5: Length distribution of whiting (*Merlangius merlangus*)

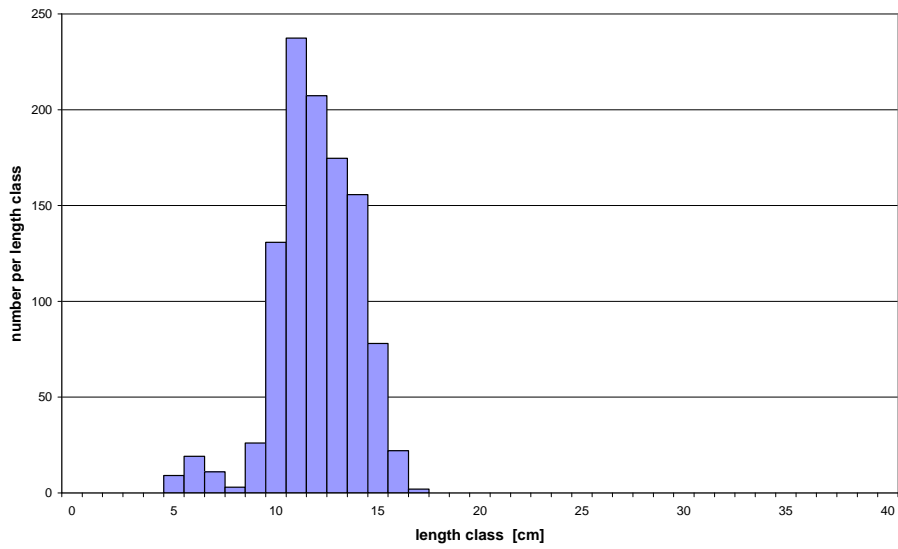


Fig. 6: Length distribution of grey gurnad (*Eutrigla gurnadus*)

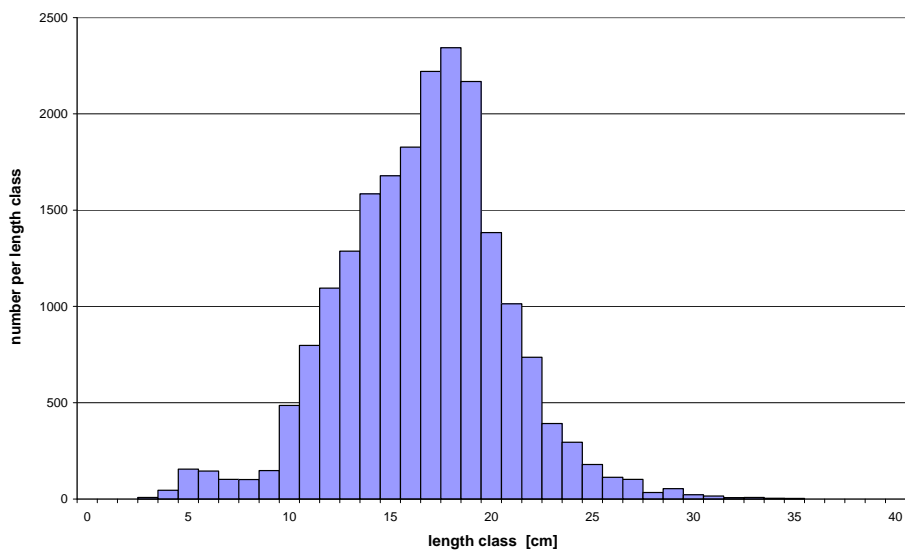


Fig. 7: Length distribution of dab (*Limanda limanda*)

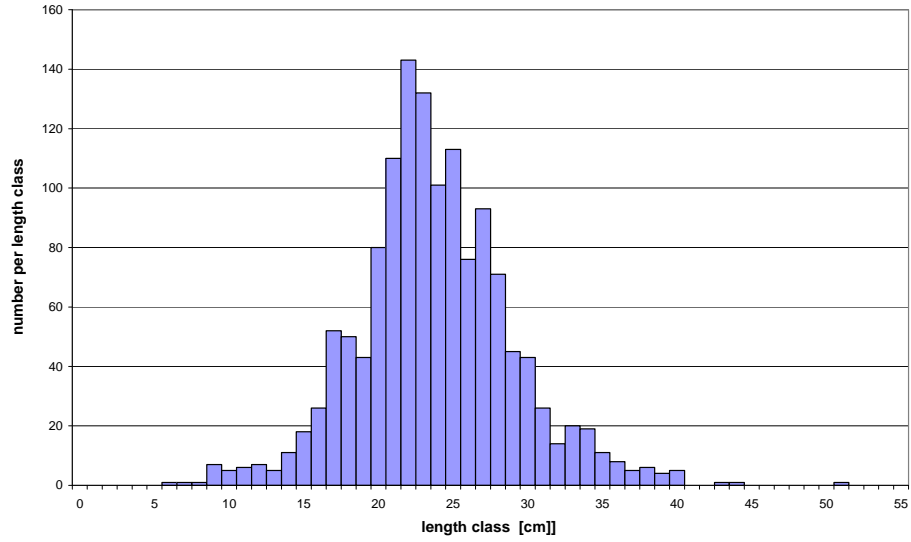


Fig. 8: Length distribution of dab (*Pleuronectes platessa*)

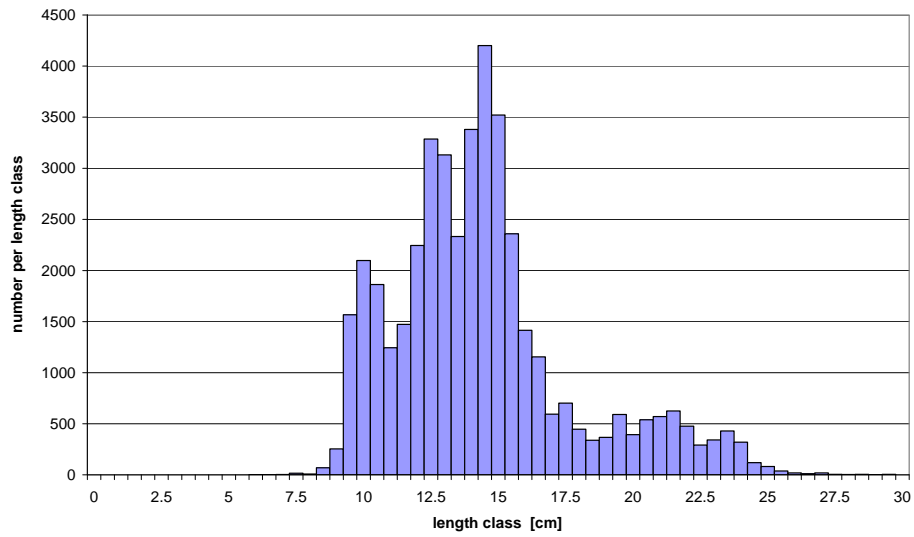


Fig. 9: Length distribution of herring (*Clupea harengus*)

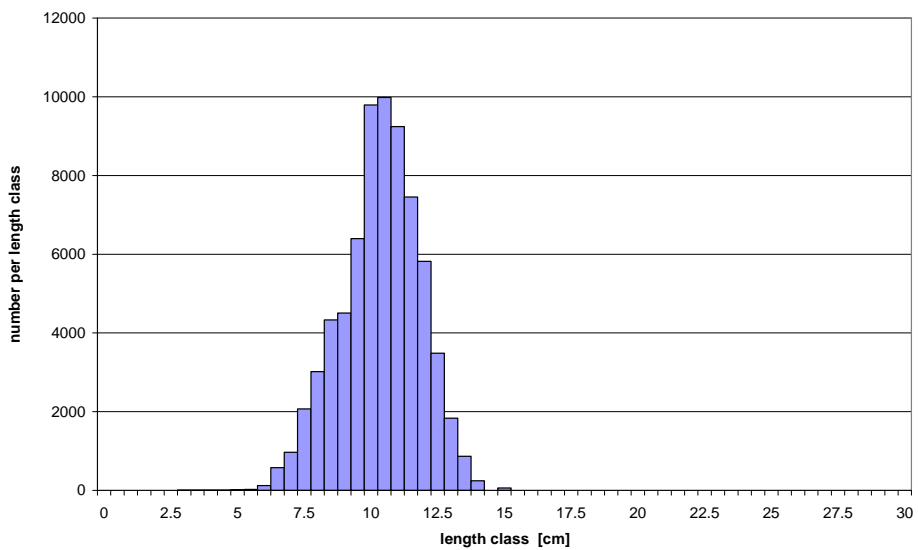


Fig. 10: Length distribution of sprat (*Sprattus sprattus*)