

**Cruise 743. ‚SOLEA‘**  
**Report**  
**01.12. – 21.12.2017**

**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 beam trawl.

A total of 46 fish species and 55 invertebrate species were detected in the 52 carried out hauls with the beam trawl. The fish were dominated by species dab, whiting, plaice, solenet and scaldfish. The catch of invertebrates consisted mainly of starfish, swimming crabs and hermit crabs.

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Thünen-Institut für Seefischerei

**per E-Mail:**

BMELV, Ref. 614

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Bundesanstalt für Landwirtschaft und Ernährung, Hamburg

Schiffsführung FFS "Solea"

Präsidialbüro (Michael Welling)

Personalreferat Braunschweig

TI - Fischereiökologie

TI - Ostseefischerei Rostock

FIZ-Fischerei

TI - PR

MRI - BFEL HH, FB Fischqualität

Dr. Rohlf/SF - Reiseplanung Forschungsschiffe  
Fahrteilnehmer

Bundesamt für Seeschifffahrt und Hydrographie, Hamburg

Mecklenburger Hochseefischerei GmbH, Rostock

Doggerbank Seefischerei GmbH, Bremerhaven

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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)**

With moderate wind FRV "Solea" left the port of Cuxhaven in the afternoon of 1<sup>st</sup> December. The night was spent in the shelter of Helgoland. The following three days the stations were fished close to Helgoland and off East and North Friesian coast line in variable winds before a storm forced six days stay in Esbjerg. After returning to the study area two days fishing were carried out in the middle part of German EEZ. Following Helgoland was called for two days as a refuge. The following weather calming enabled three more fishing days. Due to another storm front Helgoland was called again. On the last two remaining fishing days, the southwestern part of the German EEZ was fished. The survey ended in the late afternoon of 20<sup>th</sup> December in Cuxhaven. The return trip to Hamburg took place the next day.

## **Results (Fig. 2 – 10)**

A total of 52 15 minutes and valid hauls were made using the beam trawl. At 52 stations salinity and temperature were measured.

The species composition distribution showed the usual geographic pattern with dab as the most frequent fish, followed by whiting, plaice, solenet and scaldfish. Cod were present only in 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.

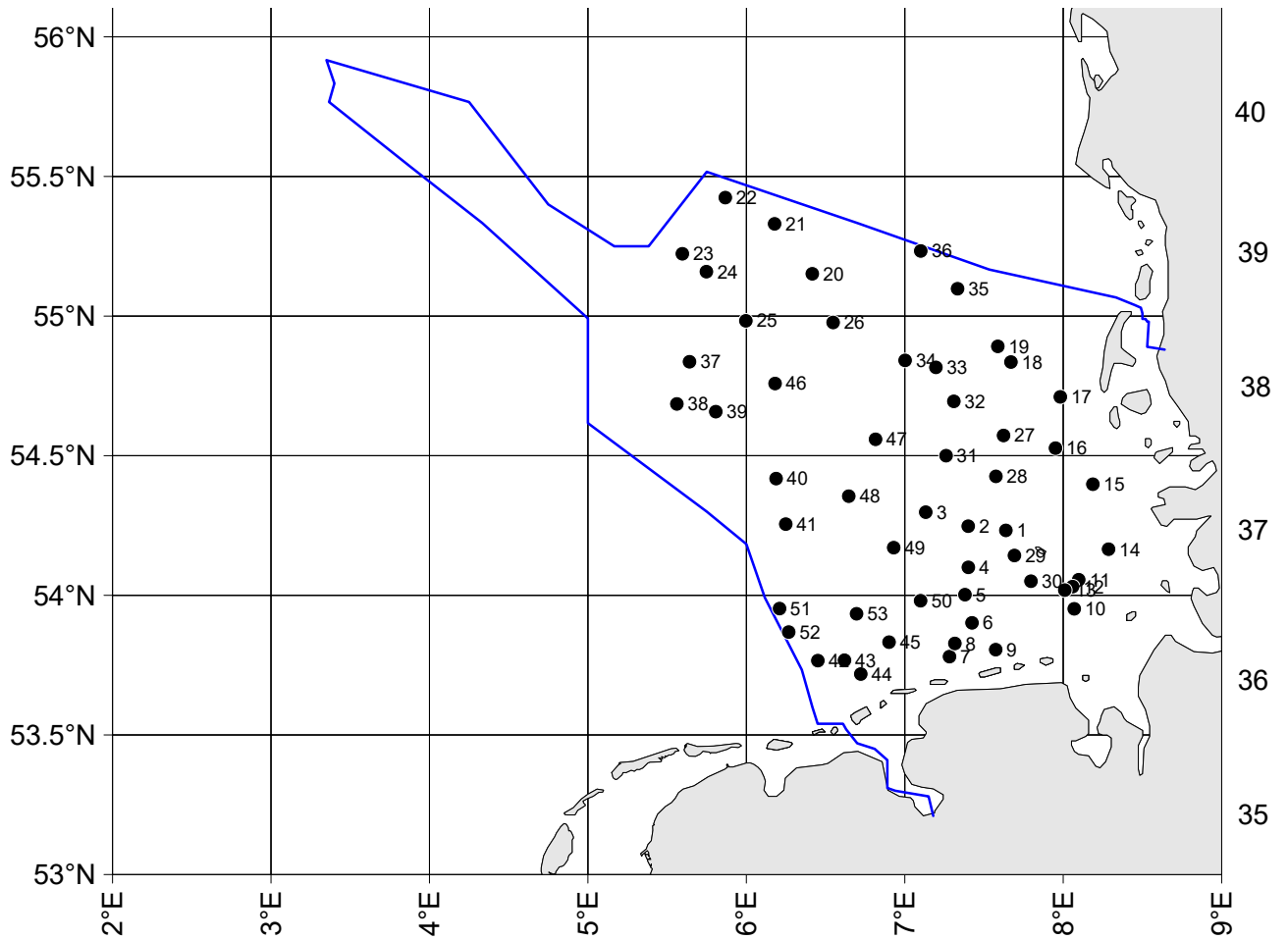
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### **Participants:**

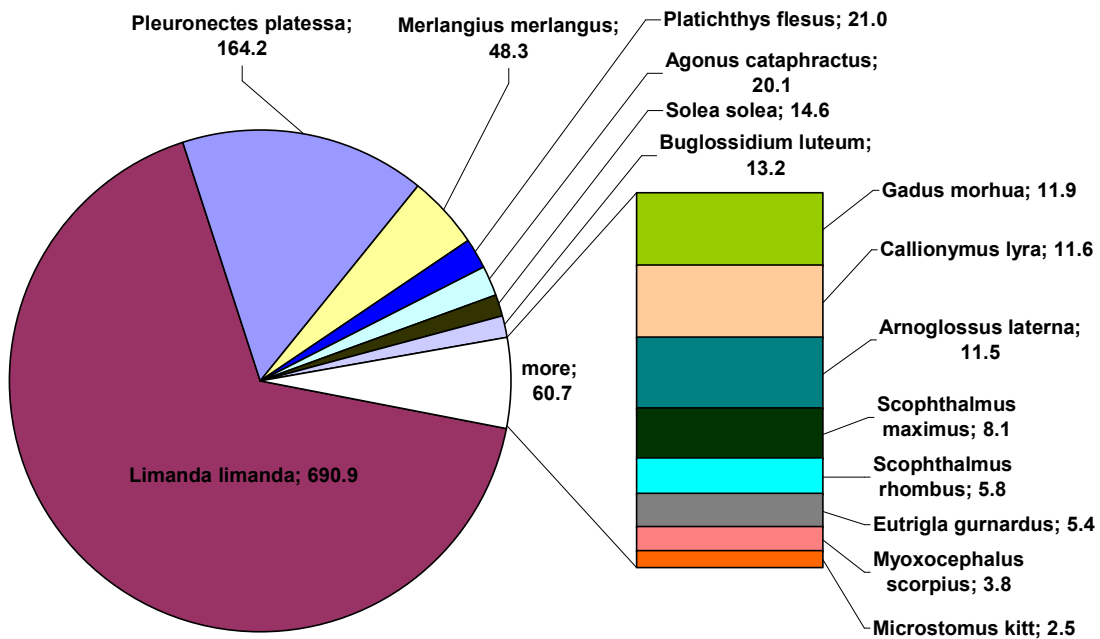
<b>Name</b>	<b>Institution</b>
Kay Panten	TI-SF
Marcel Bächtiger	TI-SF
Paul Haffke	TI-SF
Thomas Kehlert	TI-SF
Karin Krüger	TI-SF
Gabriela Mootz	TI-SF
Simon Wieser	TI-SF



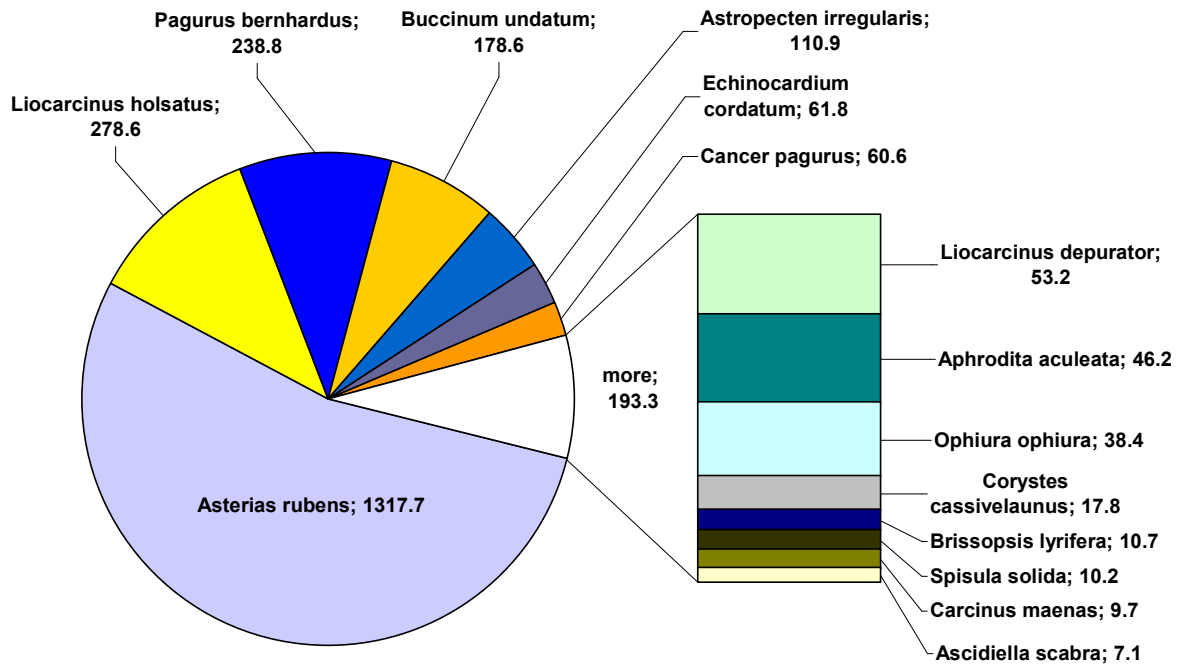
Dipl.-Biol. K. Panten



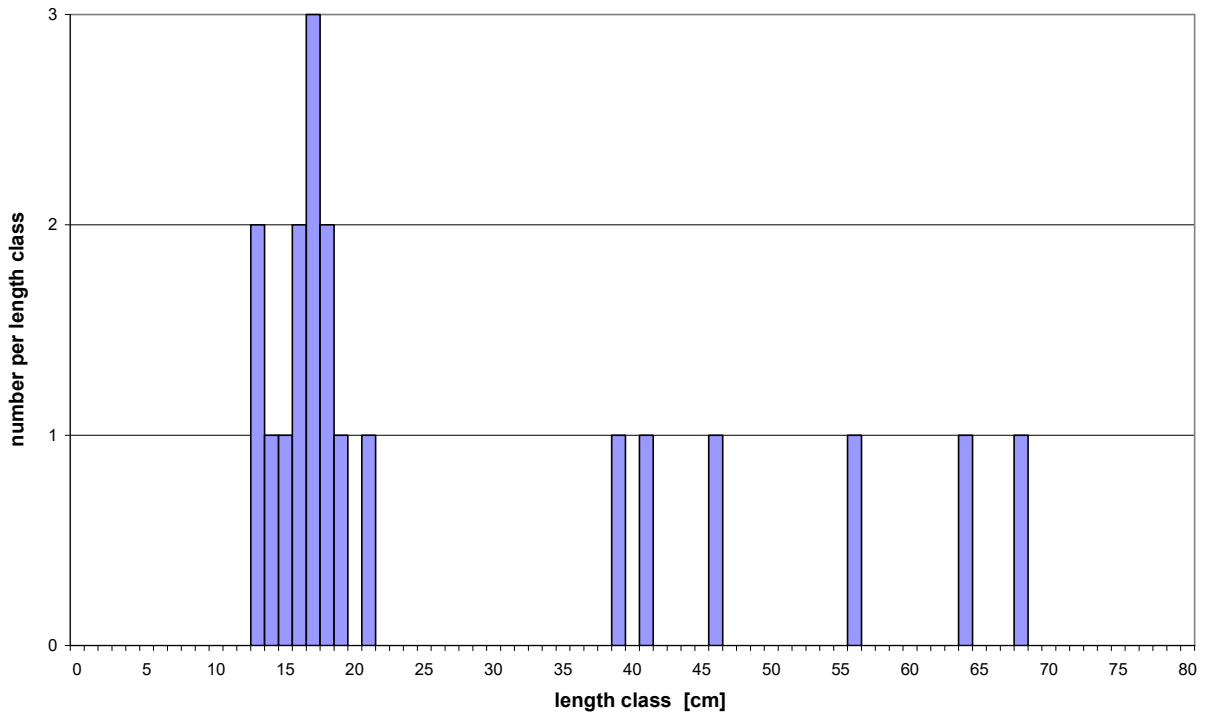
**Fig. 1: "Solea", Cruise no. 743, Haul positions and area of investigation**



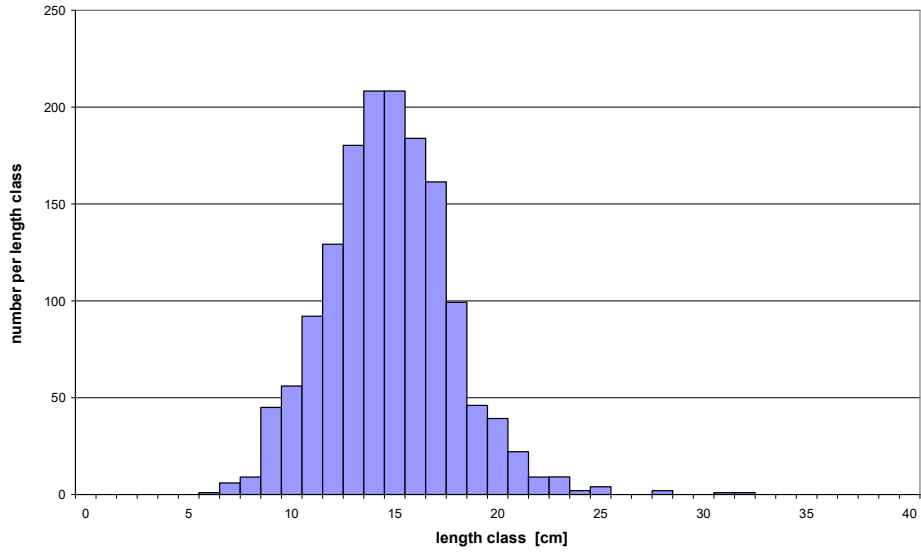
**Fig. 2: Catch composition with the 15 most fish species caught in kg**



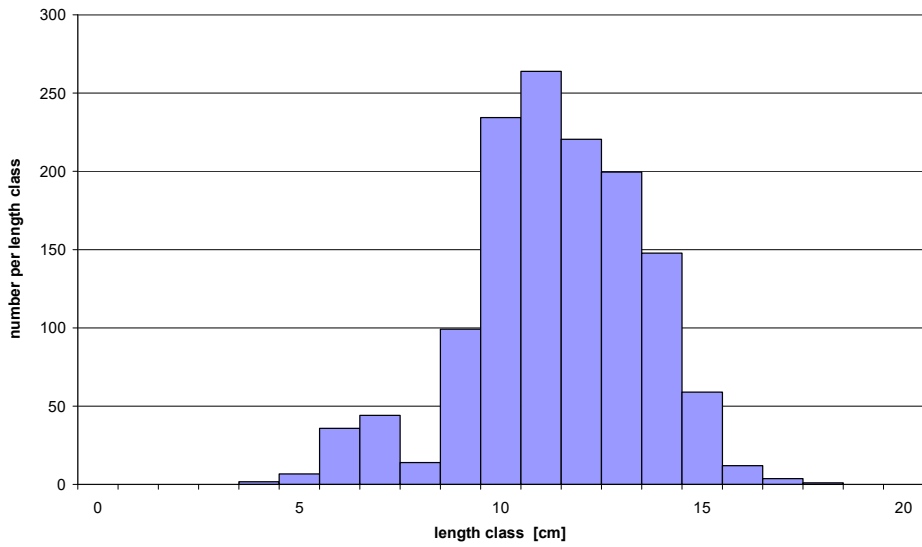
**Fig. 3: Catch composition with the 15 most invertebrates caught in kg**



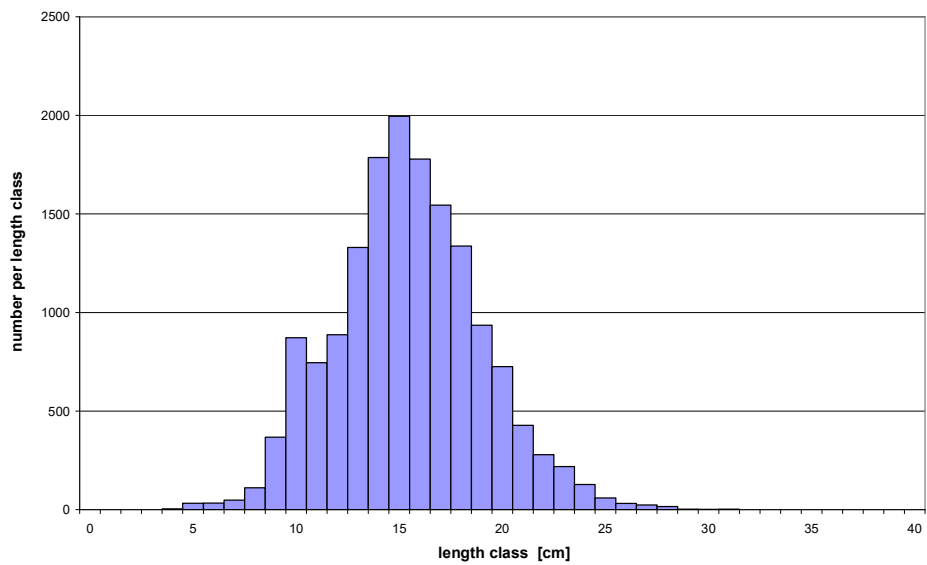
**Fig. 4: Length distribution of cod (*Gadus morhua*)**



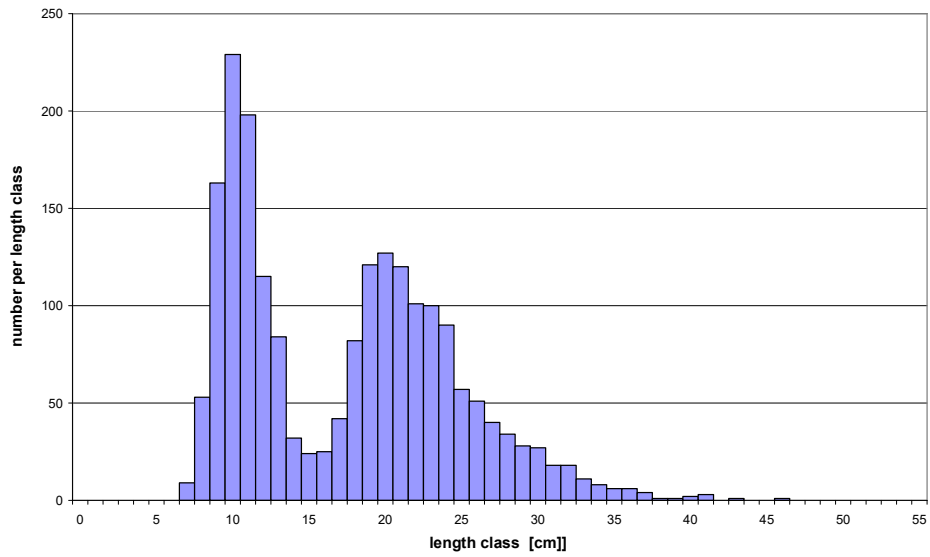
**Fig. 5: Length distribution of whiting (*Merlangius merlangus*)**



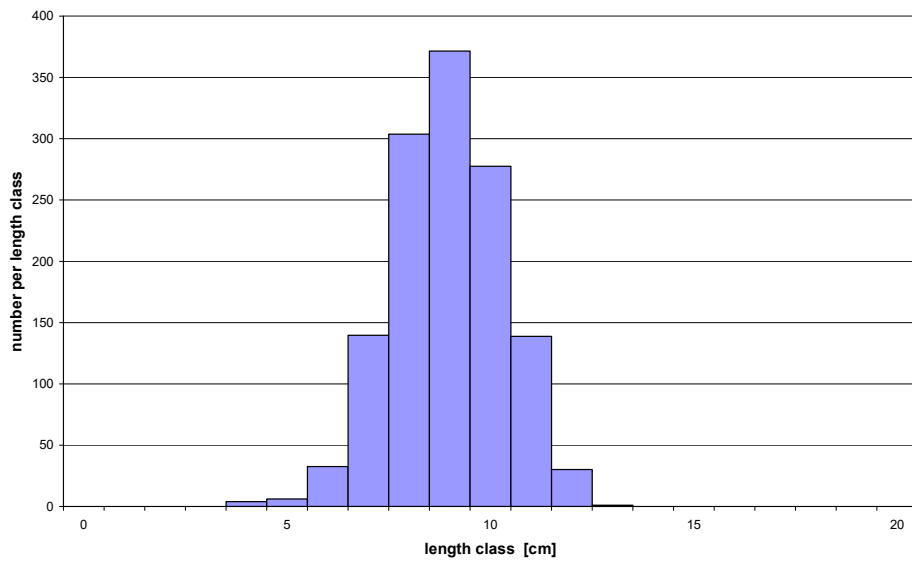
**Fig. 6: Length distribution of pogge (*Agonus cataphactus*)**



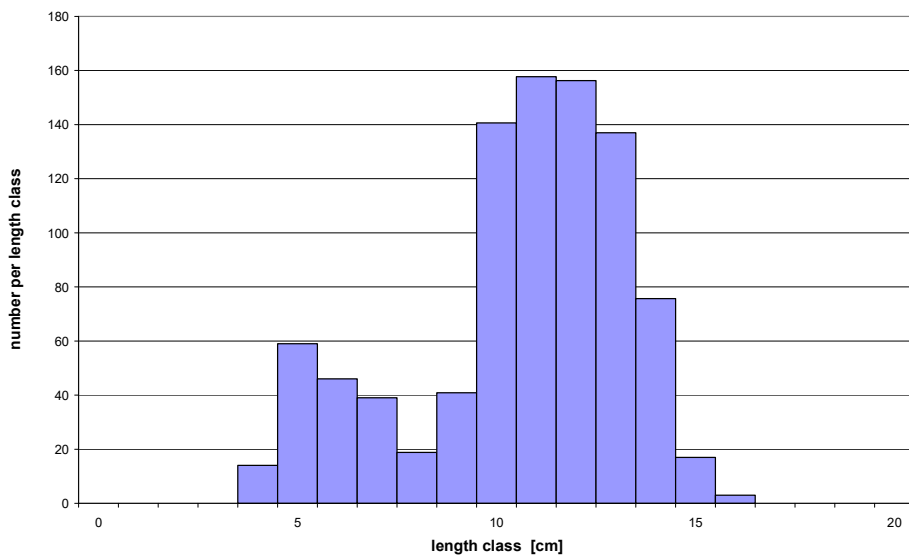
**Fig. 7: Length distribution of dab (*Limanda limanda*)**



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



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



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