International Council for the Exploration of the Sea

C.M.1973/K:42
Shellfish and Benthos Committee

Catch statistics of lobster (Homarus vulgaris L.)

by

Kaare R. Gundersen[x)]

INTRODUCTION

The lobster fishery is rather young among the Norwegian fisheries. The increasing demand for lobster in the Netherlands around the year 1600 gave the impuls to the Norwegian lobster fishery and export. At the beginning the lobster stock must have been very rich along the Norwegian coast. During the first 100 years of the fishery the whole catch was taken only by pinchers, tines two or three fathoms long. By means of this tool it was possible to take about 240 lobsters during an early morning. Later, lobster pots were used and it was possible to catch lobsters on greater depths. During the following centuries the catch flucturated, partly because of varied demand from other countries or due to natural protection caused by different wars in Europe which stopped the export.

STATISTICS

The first statistics of lobster in Norway only deals with the number of and goes back to 1815. From 1933 onwards the commercial catch of lobster is given in metric tons. The highest catch recorded in this country was taken in 1932 and amounted to about 1300 tons. The landings decreased a little during 1930 -39, but the average catch these years reached about 1000 tons.

During the World-war II the statistics is more or less inreliable. From 1946 to 1960 the landings only shows small variations with a average yearly catch about 700 tons. From 1960, however, the Norwegi-

x) Institute of Marine Research
Bergen, Norway

an landings of lobster have declined steadily from year to year and reached the lowest record in 1972 with only 150 tons.

DISCUSSION

The variations in the catch from 1946-1960 may be due to natural fluctuations in the stock, recruitment and fishing intensity, but it is difficult to explain the steady decreasing in landings from 1960-1972.

The main fishery in Europe take place in the countries around the North Sea. In Fig. 1 the landings of lobster in Denmark, Sweden and Norway from 1946 to 1970 are given graphically. Fig. 2 shows the landings in Ireland, England and Scotland in the same interval.

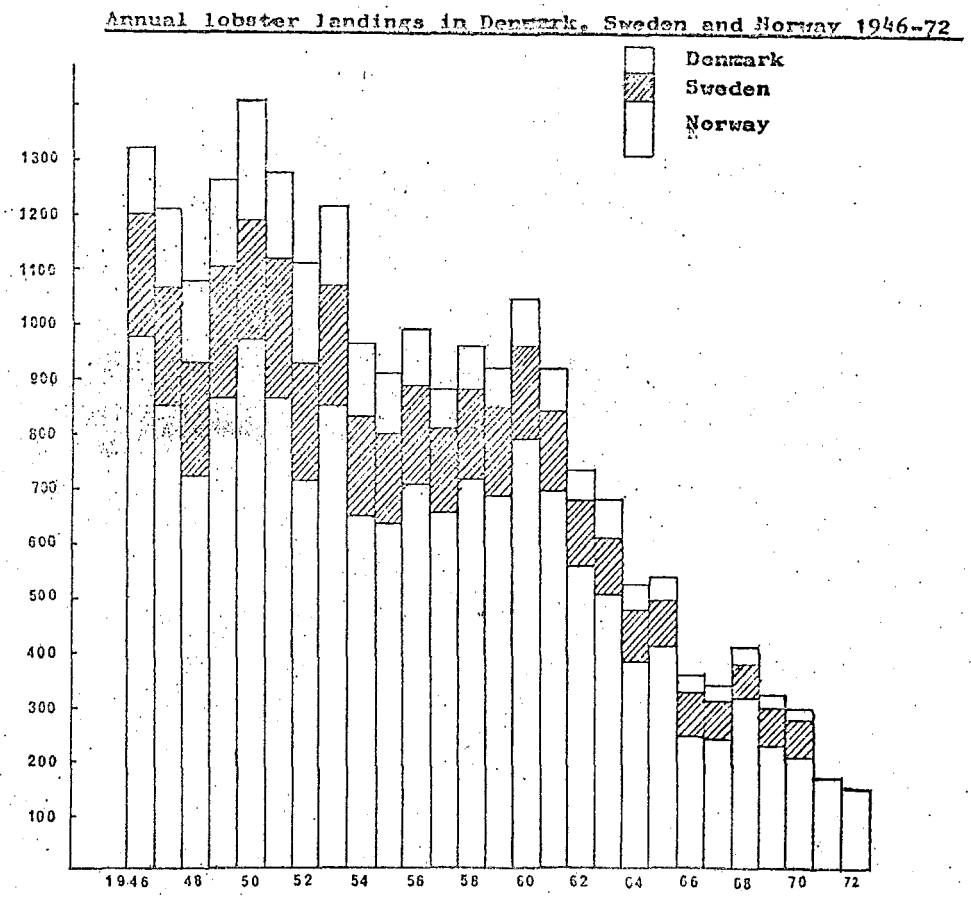


Fig. 1

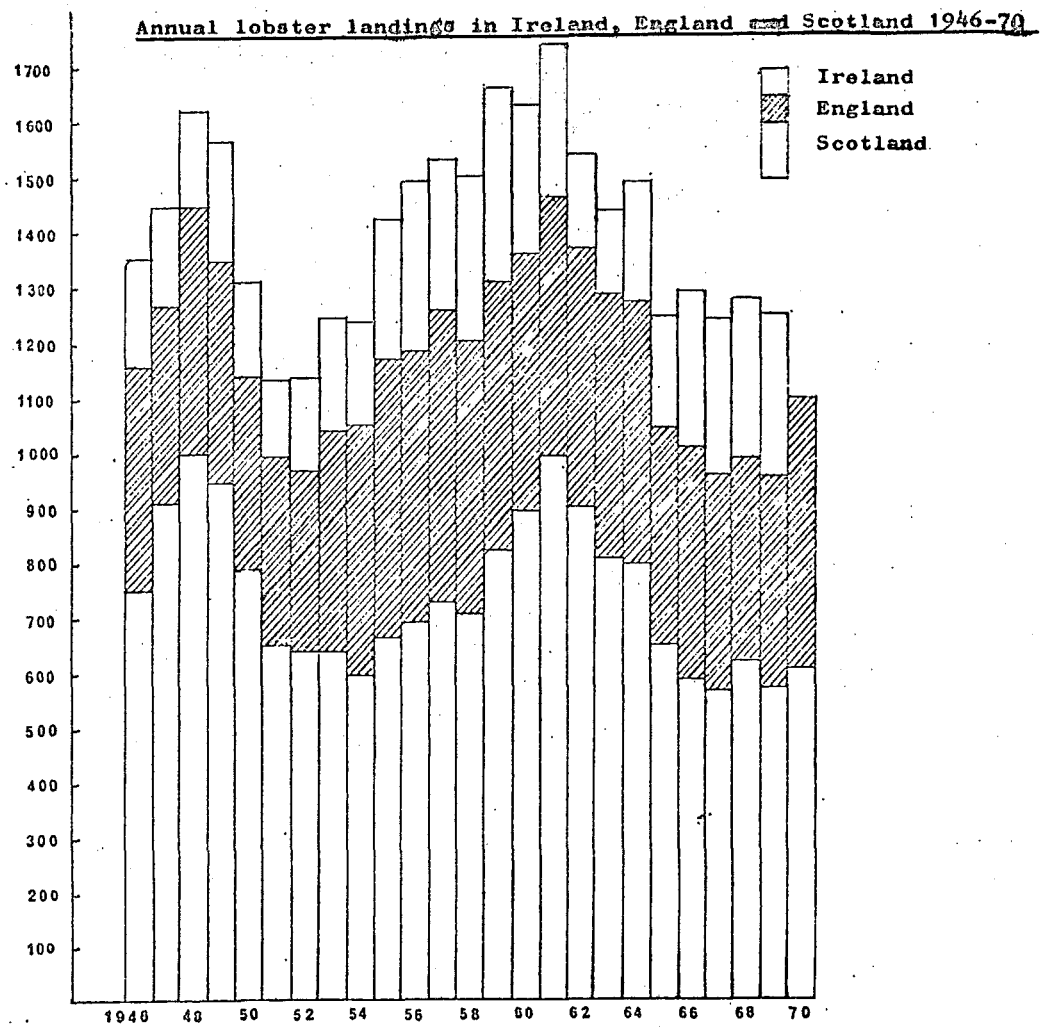
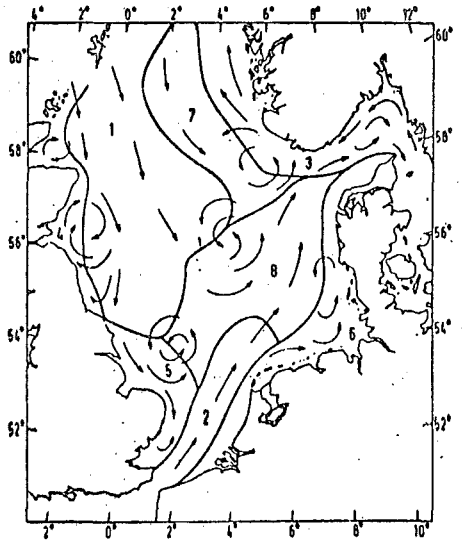


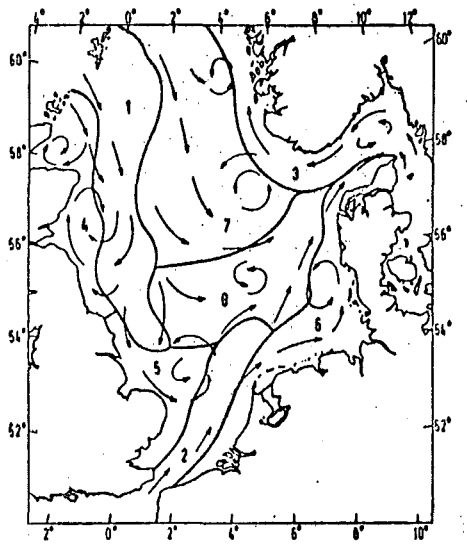
Fig. 2

The figures shows a marked difference in catches on the east and west side of the North Sea. The explanation for this difference is rather difficult to find.

However, with the last years' problems of pollution in mind, it is natural to start by looking at the water currents on the two sides of the North Sea. Lee (1970) gives two figures of water types and currents of the North Sea in winter and summer reproduced here as Fig. 3, and Sætre (1973) gives a detailed figure of the water current along the Norwegian coast, Fig. 4.



—Water types and currents of the North Sea in winter according to Böhnecke (1922) and Laevastu (1963).

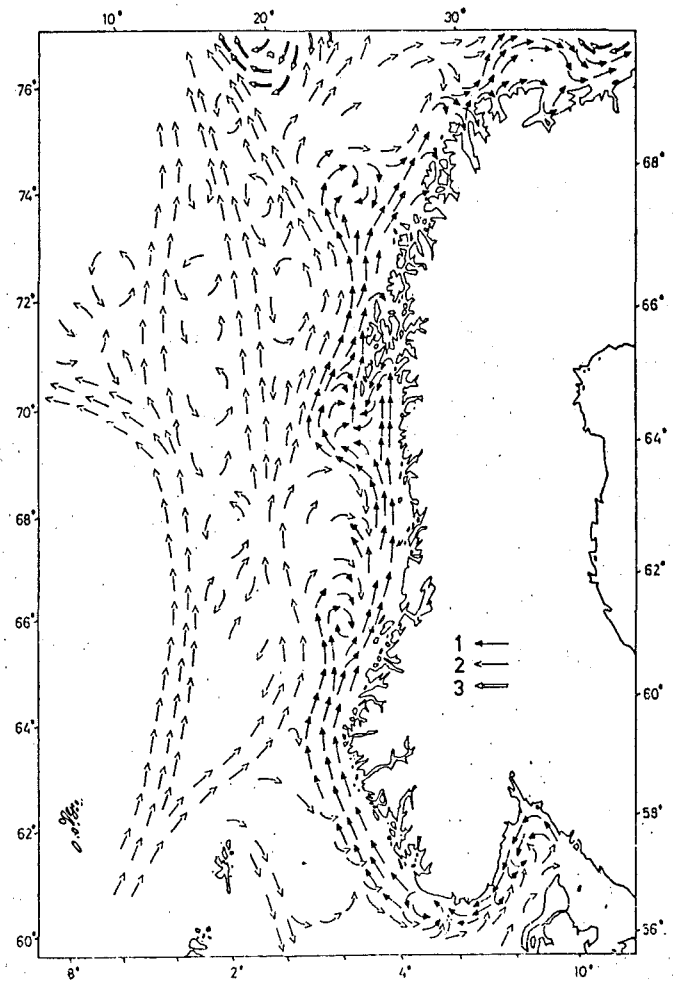


—Water types and currents of the North Sea in summer according to Böhnecke (1922) and Laevastu (1963).

Primary water types
1. North Atlantic.
2. Channel.
3. Skagerrak.

Secondary (mixed) water types
4. Scottish Coastal.
5. English Coastal.
6. Continental Coastal.
7. Northern North Sea.
8. Central North Sea.

Fig. 3. After Lee (1970, Fig. 1a and 1b).



Vannmasse- og strømfordeling. 1) Kystvann, 2) Atlantisk vann, 3) Polarvann. [Distribution of water masses and current. 1) Coastal water, 2) Atlantic water, 3) Polar water].

Fig. 4. After Sætre (1973, Fig.1).

According to these figures the water masses on the west side of the north sea originate from the Atlantic, with the coastal current along Sweden and Norway is dominated by water from the Baltic.

Investigations in the Baltic the last years have shown a higher degree of pollution than in the Atlantic and the North Sea (Jensen,S., Johnels,A.G., Ohlson,M. and Otterlind,G. 1969).

CONCLUSIONS

From the material presented it is not possible to give any explanation of the marked difference in landings of lobster at the coast on the east and west side of the North Sea. The high degree of pollution in the Baltic, especially of insecticides may influence the recruitment of lobster along the coastline in Sweden and Norway, and perhaps investigations of this problem would be of value.

REFERENCES

Jensen,S., Johnels,A.G., Ohlson,M. and Otterlind,G. 1969. DDT and PCB in Marine Animals from Swedish waters. Nature, 224 (5216): 247-250.

Lee,A. 1970. The currents and water masses of the North Sea. Oceanogr. Mar. Biol. Ann. Rev, 8: 33-71.

Sætre,R. 1973. Temperatur- og saltholdighetsnormaler for overflatelaget i norske kystfarvann. Fiskets Gang, 59: 166-172.