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CRUISE REPORT

FRV "MARA"

18 May - 13 June 1970

PERSONNEL:

N P E Langham SO (in charge)
R A Watt SSA
J R Hutcheon SA

DIVING PERSONNEL:

J Main EO
N P E Langham SO
Miss M V Moodie SA
G Sangster SA

OBJECTIVES:

- 1 To observe a sandeel trawl in operation and the behaviour of sandeels in its vicinity.
- 2 To conduct a fishing survey for sandeels in the Smith's Bank and East Orkney areas.

GEAR OBSERVATIONS:

Divers made observations on the Danish type sandeel trawl in operation on three hauls in shallow water at the commencement of the cruise. Although no sandeels were seen it was possible to examine the shape of the net at normal towing speeds.

1st Haul. At a depth of 10-12 fm, with 25 fm of warp, and engine speed of 500 revs with pitch 1-2, the net showed no strain points. However, the footrope was 1-2' off the bottom. The headline height was about 20 ft and the spread about 20 ft.

2nd Haul. At the same revs and pitch, in the same depth but with 50 fm of warp, the footrope remained on the bottom. The headline height and spread were both about 20 ft. The headline was in front of the footrope by 29½ meshes (442.5 cm).

3rd Haul. The net appeared to be fishing well with 25 fm warp in 7 fm of water at the same revs and pitch.

Very few fish were caught, apart from some flatfish and a few sandeels.

FISHING RESULTS

The survey was divided into two parts:

- 1 a preliminary survey of the area SE of Orkney and
- 2 a further investigation of stations around Smith's Bank which produced sandeels in previous years. All the hauls were of one hour's duration.

The 15 stations SE of Orkney produced little in the way of industrial fish species. One haul contained half a basket of T. esmarkii in addition to protected species; two others contained 35 and 40 Argentines. One haul produced 1 basket of A. marinus and another 36 A. marinus and 55 sprats:

In the Smith's Bank area a number of hauls contained sandeels and three contained $\frac{1}{4}$ - $\frac{1}{2}$ a basket of sprats. Station 10 ($58^{\circ}12\frac{1}{2}'N$, $02^{\circ}59'W$) was fished three times producing 20, 16 and 20 baskets of almost clean sandeels. These were principally composed of A. marinus, but contained some H. lanceolatus. These hauls were made at 15.17-16.17 hr, 15.41-16.41 hr and 07.55-08.55 hrs, respectively. Station 1 to the SE of Station 10 produced 8 baskets of A. marinus at 13.51-14.51 hrs, and 16 baskets containing a few H. lanceolatus and flatfish besides A. marinus, at 09.50-10.50 hrs. Unfortunately, at both of these stations all the hauls were made too close to maximum tidal flow to indicate any differences with rate of flow, but they show little variation with time of day.

Other stations were less productive with 5 producing less than a basket of sandeels each. One of these contained 8 specimens of H. immaculatus, the only records for this species in the Moray Firth apart from one taken by the 'Scotia' in 1958. One other haul took 3 baskets of sandeels. These were mainly A. marinus, but also contained about 1800 G. semisquamatus, the most caught on this survey, and a further 20 specimens of H. immaculatus.

In the hauls taken in the Moray Firth the by-catch consisted principally of flatfish, especially lemon soles and common dabs, and to a lesser extent plaice and long rough dabs. Callionymus lyra were often common. In the hauls made to the SE Orkney, haddock and whiting contributed most of the catch.

N P E Langham
2.7.70