

MINISTRY OF AGRICULTURE, FISHERIES AND FOOD
FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1970 RESEARCH VESSEL PROGRAMME

REPORT: RV TELLINA: CRUISE 3

(PROVISIONAL: Not to be quoted without prior reference to the author)

STAFF

P D Wallace
B H Holford)
M R Vince) Diving team (part time)
A E Howard)
A J Jones)

DURATION

Left Lowestoft 1030 hours, 2 March

Arrived Lowestoft 2215 hours, 19 March

All times are British Standard Time

LOCALITY

River Blackwater

AIMS

1. To measure the area of the Eagle Bank herring spawning ground and to get an estimate of the number of herring eggs deposited on it throughout the spawning season.
2. To carry out a dredge and grab survey in the area to see whether there are any other herring spawning grounds.
3. To carry out echo surveys in the area and to sample the traces.

NARRATIVE

TELLINA sailed from Lowestoft at 1030 hours, 2 March, and proceeded southwards to the River Blackwater. During the next 17 days apart from bad weather, which stopped work on 5 days, echo, dredge and grab surveys took place in the region of the Eagle Bank and the surrounding areas. TELLINA was based throughout the period at Felixstowe and at Brightlingsea.

The investigations involved the co-operation between the Diving Team and the staff in TELLINA during the process of concrete slab laying on the Eagle Bank and their subsequent examination for presence of herring spawn. A pattern of slabs was laid over the shingle during the first part of the cruise but was subsequently modified due to requests from fishermen. TELLINA first made a grab survey round the region of the Eagle and North Eagle buoys and mapped the area of shingle and stones. Then the ship with the help of the Diving Team laid a line of 250 fathoms of 1" flexible steel wire from a central anchored buff in the middle of the area to the region of the Eagle Buoy and a second line of 250 fathoms was laid from the centre to the region of the North Eagle Buoy. The two ends were marked

by a double buff. Concrete slabs were then fixed to the main line at 30 fathom intervals. The divers then checked that the line was laid over the shingle and stones on the Bank. The next day, 8 March, at low water the top of the Eagle Bank became visible and it was found that the exposed part measured 100 yards by 30 yards and shelved quickly on the eastern side but more gradually on the western side. During the next two days, 9 and 10 March, at slack low water two lines of slabs were laid at right angles from the centre of the ridge. Each line had four slabs placed at 12 fathom intervals along it. At the centre of the ridge a further 8 slabs were embedded at 1 fathom intervals roped to a double weight, and the central point of the ridge was marked by a buff. During the rest of the cruise the slabs were examined visually at intervals.

Bad weather stopped diving operations during the last three days of the cruise and TELLINA carried out a last grab and dredge survey over the Eagle Bank on 19 March. The ship then returned to Lowestoft, docking at 2215 hours on the same day.

RESULTS

1. There was no sign of herring eggs present either on the slabs or on the surrounding shingle throughout the cruise. The water temperatures over the Eagle Bank were low during the cruise period and ranged from 2.3°C on 7 March to 4.0°C on 19 March. There was intensive fishing activity by pair trawlers round the Eagle Bank from 6 March and at times 16 pair trawlers were seen working in the area. TELLINA carried out a midwater tow through a trace near the Eagle Bank on 12 March and all the herring caught were in ripe condition but there were no spent herring present in the sample. It is hoped to inspect the network of slabs during the coming weeks from time to time and to measure the rate of egg deposition on them.

2. A dredge and grab survey was carried out over the sea bottom near the Bench Head buoy but most of the grab hauls showed that the bottom consisted of mud and would therefore be unsuitable as a herring spawning ground. A grab survey was also carried out in the area of the Bar buoy and the contents of several grab hauls showed that there were patches of shingle and small stones separated by patches of mud. No herring eggs were found in any of the dredge or grab hauls.

3. Several echo surveys were carried out in the area and the echotraces were sampled with the midwater trawl in different localities. A tow through fairly thick traces off West Mersea yielded 2½ baskets of sprats (modal length 7 cms) and immature herring (modal length 13 cms). At the southern end of the Wallet in Swire Hole catches consisted mainly of small herring with a few sprats. The midwater trawl was towed through traces near the Swin Spitway buoy and 3½ baskets of herring and a few sprats were caught. There were two size groups of herring caught - one group had a modal length of 13 cms, and the other consisted of fish between 23 and 28 cms. The latter herring were in a "maizy" condition. Throughout the period spent surveying the Eagle Bank area there were usually traces just off the bank and boats towing through the traces were catching "maizy" herring.

P D Wallace

24 March 1970

SEEN IN DRAFT: WB

INITIALLED: AJL

DISTRIBUTION

Basic List

P D Wallace
B H Holford
M R Vince
A E Howard
A J Jones