

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

1972 RESEARCH VESSEL PROGRAMME

REPORT: R V TELLINA: CRUISE 11

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

STAFF

| | | | | |
|---------------|---|----------------|---|------------------|
| M Rolfe | } | Benthos survey | } | 11-21 December |
| P Hardiman | | | | |
| M J Holden | } | Fishing survey | } | 11-20 December |
| C N Humphreys | | | | 21 December only |
| D Peek | | | | |

DURATION

| | |
|---------------------------|----------------|
| 23 November - 10 December | Benthos survey |
| 11 December - 21 December | Fishing survey |

LOCALITY

East coast between Lowestoft and Felixstowe

AIMS

1. To carry out a comparative benthos survey of areas which have been dredged for gravel and those for which permission to dredge has been requested.
2. To carry out a comparative fishing survey of the same areas.

NARRATIVE

TELLINA steamed to Ipswich on 23 November where Messrs Hardiman and Rolfe went aboard at 2030 h. Storms badly hampered the work and the surveying of a heavily dredged area in the vicinity of the Shipwash was limited to 26 and 27 November. On 8 December TELLINA steamed to Lowestoft after managing to work only two stations en route on the proposed dredging area off Sizewell. On 9 and 10 December surveying was completed in the Sizewell area. Messrs Hardiman and Rolfe came ashore at 0900 h on 11 December at Lowestoft and were replaced by Messrs Holden and Humphreys.

11 December was spent changing gear. Bad weather prevented sailing on 12 and 13 December and a water pump failure prevented sailing on 20 December. For the remainder of the cruise the ship worked on a daily basis from Lowestoft, making a shot each day of 500 hooks, baited with frozen sprat, in the proposed dredging area off Southwold and Aldeburgh, except on 21 December when the Shipwash area was fished.

RESULTS

In the Shipwash area 45 stations were worked with a $\frac{1}{10}$ m² Smith McIntyre grab in an area $2\frac{1}{2}$ miles wide extending 17 miles eastwards from Bawdsey Bank. At each station the general sediment type was noted and a sample retained for particle size analysis by Dr Dickson (who will be conducting further studies in the area in March 1973). The fauna retained on a 2 mm sieve was retained for identification. Seven hauls with an Agassiz trawl were also made.

From an initial inspection it was not possible to distinguish any faunal difference between those areas where dredging has and has not occurred. Within the dredged areas the sediment types ranged from sand and shell to muddy gravel. The benthos was poor in all areas with a mean of 4.6 species and 7.5 individuals per station.

In the dredging area 35 stations were worked with the same grab in an area between Southwold and Sizewell extending from 3 to 7 miles offshore. In addition 7 ten minute hauls were made with an Agassiz trawl. From an initial inspection, the surveyed area can be separated into a number of zones according to sediment type. Stations to the west were predominantly muddy and were richer in benthos (up to 2120 Abra alba per m²) than the more gravelly stations to the east. Approximately 25% of the stations lying within the proposed dredging area were of muddy gravel and supported a moderate benthic fauna which would be available to demersal fish.

Each of the 6 longline shots in the proposed dredging area was made on one of the different bottom types found during the benthos survey. Hooking rates obtained were:

| Area | Type of bottom | % hooking rate | | |
|--------------------|----------------------|----------------|--------|-------|
| | | Cod | Others | Total |
| Sizewell-Aldeburgh | Mud and gravel | 11.8 | 4.0 | 15.8 |
| | 90% gravel | 7.8 | 1.4 | 9.2 |
| | Mud | 4.2 | 2.0 | 6.2 |
| | Gravel with some mud | 3.2 | 3.6 | 6.8 |
| | More than 50% shell | 2.0 | 5.6 | 7.6 |
| | Gravel and mud | 1.8 | 3.2 | 5.0 |
| Shipwash | Gravel | 2.6 | 4.0 | 6.6 |

The other species consisted mainly of whiting with a few pout whiting, spurdogs, thornback ray and lesser spotted dogfish. The majority of the cod were in the length range 50-70 cm and formed the bulk of the catch by weight in all shots. The cod were feeding predominantly on Crustacea, hermit crabs, porcellanid crabs, Crangon vulgaris and Pandalus montagui (brown and pink shrimps). The majority of the whiting had empty stomachs.

The only area in which commercial longliners were seen working during the survey was in the area of mud and gravel. A feature of the one shot in the Shipwash area was the difficulty found in hauling the lines which kept snagging on the bottom.

93 cod were tagged. 10 cod were returned live to the laboratory for Dr Bye and live whiting also brought in for Mr Riley.

M J Holden
12.1.73

SEEN IN DRAFT: WB (Fishing Skipper)

INITIALLED: AJL

DISTRIBUTION

Basic list
Mr A J Maynard, Fisheries II, GWH