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

1987 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 8

(PROVISIONAL: not to be cited without prior reference to the author)

STAFF:

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- R C A Bannister
- D Key
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- P Walker
- D Palmer

DURATION:
9-17 June 1987

LOCALITY:

English Channel (eastern)

AIMS:

1. To measure population structure, density and reproductive state of scallops in selected areas of the eastern Channel fishery off the Sussex coast.
2. To collect scallop shells for age determination by isotopic analysis (CSG project, University of Cambridge).
3. To sample bottom substrates and collect hydroids for scallop spat.
4. To carry out trials with a remotely operated vehicle (ROV) fitted with a colour CCTV camera: a) to locate edible crab concentrations, b) to compare its performance with that of the MAFF system for detecting scallops.

NARRATIVE:

RV CLIONE sailed at 0830 on 9 June and arrived off Hastings that evening. The survey began at 0500 next morning in an area to the SW of Shingle Bank where Newhaven scallop boats had been fishing in the spring. A series of standard 15 min tows with 3 Newhaven dredges was worked in this area, along Decca positions provided by the Secretary of the Newhaven Fishermen's Association. Very few scallops were found, however. Dredging was then concentrated on a larger fishery area to SW of Newhaven (see map). In the outer zone of this area scallops were found in sufficient quantities to merit working a series of stations with fine-meshed dredges, epibenthos sledges and the cameras sledge. This more productive ground lay just inside of the traffic separation zone.

A total of 56 stations was worked: - 37 with standard Newhaven dredges, 4 with fine-mesh dredges, 10 with epibenthos sledges, and 5 with the U/W cameras.

On 13 and 14 June, demonstrations of a remotely operated vehicle, the Mini Rover Mk2, were carried out in conjunction with MK Services Ltd. A series of 9 stations was worked on and around Shingle Bank in an attempt to locate ovigerous brown crabs and to assess the epifauna in a proposed shingle extraction concession area. Commercial and additional MAFF staff (A Howard, B Holford, R Flatt) were picked up at Newhaven each day for this exercise.

The scallop survey work finished at 1745 on 15 June; RV CLIONE then proceeded back to Lowestoft where she docked at 1030 on 17 June.

RESULTS:

1. The population density of fishable scallops in both the areas surveyed was very low; average catch rates were 3.4 scallops per standard tow (max = 20 scallops per tow). Of the catches, 7% of scallops in standard dredges were undersized compared to 21% in fine-mesh dredges. Juvenile scallops were also scarce, judged by the catches in the epibenthos sledges. The smallest scallop captured in this new equipment was 29 mm shell breadth.

Spawning was just starting, most gonads being at stage 6 or 7, and it was evident that scallops in shallower water (25-35 m) were more advanced than those offshore at 55-65 m. Sea temperature was 12-12.5°C.

Additional data were gathered on total live weight, wet weight of roe and adductor muscle, age composition and annual growth increments.

Stomach contents were collected for examination later

2. Samples of scallop shells were collected for chemical age determination at Cambridge University.
3. Epibenthos - hydroids were plentiful at many stations, and a large collection was made for later examination for pectinid spat. Starfish abundance was recorded, and other taxa were recorded for entry into the computer data base.
4. Fish bycatch: the following commercial fish and crab species were taken by the standard dredges during 37 tows - 20 plaice, 4 sole, 3 dab, 1 brill, 1 spotted ray, 4 spider crabs, and 2 brown crabs. All except one brown crab were undamaged. The other brown crab was ovigerous with its eggs just hatching.
5. All scallop, fish, crab and benthos data have been entered into the Groundfish Survey Data Base.
6. The ROV trials were carried out successfully with all systems working impressively. A total of ~5 hours of seabed observations was video-taped. Visibility was greatly hampered by a dense Phaeocystis bloom. Nevertheless, useful observations were made of substrates and fauna. Only one brown crab (non-ovigerous) was located; but the area searched was restricted by poor visibility and strong currents. A full report of this work will be filed separately.

MISCELLANEOUS:

Gear loss: 2 beams with 7 Newhaven dredges, due to rough grounds and operational factors.

Cameras: (i) The new (third) TV light leaked on first deployment, ruining the bulb.
(ii) Both Olympus cameras developed faults (flash synchro, shutter), thus reducing the amount of film exposed.

P J Dare
23 June 1987

SEEN IN DRAFT:

Captain J French (Master)
Mr P Mackay (Senior Fishing Mate)

INITIALLED:

D J G

DISTRIBUTION:

Basic List +
P J Dare
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