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

1988 RESEARCH VESSEL PROGRAMME

REPORT: CHARTER VESSEL: PUTFORD PETREL

STAFF: S Rowlatt (part-time)
H Rees
P Hudson
D Limpenny
G Lees
W Dore)
M Lambert) part-time
A Clarke

DURATION: Sailed 2100 h 6 December
Docked 0230 h 20 December
All times are Greenwich Mean Time

LOCALITY: North Sea and English Channel

AIMS:

1. To carry out surveys at the Hastings Shingle Bank and Isle of Wight aggregate extraction sites, using side scan sonar, epibenthic dredges and underwater photography.
2. To carry out a survey of the benthos and sediment at the Plymouth sewage sludge dumpsite.
3. To obtain core samples of sediments at the Exeter sewage sludge dumpsite.
4. To survey the Hurst Fort dredgings disposal site (Isle of Wight) using side-scan sonar and grabs.
5. To obtain core samples of sediments and biota from the Middle and Barrow Deep (outer Thames estuary).
6. To sample the sediments and benthos at the South Falls sewage sludge and industrial waste dumpsite.
7. To evaluate potential dumpsites for capital dredgings in the Salcombe/Dart area.

NARRATIVE:

This cruise replaced CORYSTES 10 which was aborted at short notice due to a required change of propeller. Some of the 'aims' relate to CORYSTES and were not possible using the Putford Petrel (ex CLIONE).

The Putford Petrel sailed at 2100 h on 6 December and proceeded to the Hastings Shingle Bank where a sidescan sonar survey was carried out on 7 December at the aggregate extraction area (aim 1).

On 8 December the ship moved to the Plymouth sewage sludge disposal site where a grab and beam trawl survey was started (aim 2). The survey was continued until 11 December.

Putford Petrel then steamed to an area off Start Bay where two sidescan sonar surveys were undertaken to evaluate potential dumpsites for capital dredgings (aim 1). One of the sites was shown to be heavily trawled and therefore unsuitable, while the other, an area of foul ground, appeared more promising.

A series of core samples were collected from the Exeter sewage sludge site to evaluate the performance of a recently purchased Craib corer. It was found to be satisfactory. The extensive coring survey planned (aim 3) was cancelled as it was dependent on the use of a Reineck corer which was not possible from this ship.

Three beam trawl samples were collected from the Exeter sewage sludge disposal site as a precursor to a future intensive study of the area.

Putford Petrel returned to the Plymouth area on 13 December. A set of 24 grab samples were collected as part of a study of temporal changes in sediment quality.

Dr Rowlett and Mr Dore left via Pilot boat and Miss Lambert joined the ship.

Putford Petrel sailed overnight to the eastern end of the Isle of Wight, where side-scan sonar survey of three aggregate extraction areas commenced on the morning of 14 December. This was completed by the afternoon of 15 December. Exceptionally clear definition of trawler dredging tracks were obtained at one of these areas, which was accordingly selected for follow-up study. A heavy-duty rock dredge (recently constructed at Lowestoft from a WHOI design) was successfully deployed at and to the east of the extraction area and records obtained of the sediments and benthos. 'Groundtruth' sampling by Shipek grab was then conducted. Side-scan sonar records were examined in detail to select the most favourable track for camera sledge deployment, within the area of intensive dredging activity. This was successfully carried out on the morning of 16 December, and video and still images of the sea bed were obtained, including trawler dredging tracks. 'Groundtruth' sampling was then completed and, finally, a rock dredge sample of the benthos and sediments at the Nab Tower spoil ground was obtained.

Putford Petrel sailed overnight to the South Falls area, where 31 Day grab stations were worked on 17 December, and samples of sediments for particle size, trace metals and benthos were obtained for later analysis. A further 21 stations were worked on 18 December, ceasing at 1700 h due to freshening westerly winds. After sheltering overnight off North Foreland, Putford Petrel returned to the sampling area east of South Falls on the following morning. Strong N/NW winds precluded further sampling, and - after dodging to Orfordness on the afternoon of 19 December - Putford Petrel docked at Lowestoft at 0230h on 20 December.

RESULTS:

Aims 1, 2, 6 and 7 were successfully achieved though in the latter case on a reduced scale, due to weather. Aim 4 was not attempted due to uncertainties with the deployment of the sidescan sonar. Aims 3 and 5 were deferred, pending use of a Reineck core sampler from CORYSTES.

SEEN IN DRAFT: William Smith (Master)

S M Rowlett

INITIALLED: RJP

H L Rees

(Scientists-in-Charge)

22 December 1988

DISTRIBUTION:

Basic List +
P Hudson
D Limpenny
G Lees

W Dore
M Lambert
A Clarke
J Cotter