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CENTRE FOR ENVIRONMENT, FISHERIES AND AQUACULTURE SCIENCE, LOWESTOFT LABORATORY, LOWESTOFT, SUFFOLK, NR33 OHT, UK

2000 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 6/00

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DURATION: 1 May – 13 May

LOCALITY: North Sea (IVb and IVc)

AIMS:

The main aims of the cruise were to identify species that are vulnerable to beam trawling disturbance and describe the structural and trophic changes that take place in benthic communities when vulnerable species are lost.

The specific objectives of the cruise were:

1. To sample the meiofaunal community at trawled and control sites (Western Mud Hole and Botney Cut). The trawled sites were fished on Corystes 12/99 and 14/99.

2. To survey the trawled and control sites in Western Mud Hole and Botney Cut with side-scan sonar.

3. To sample epifuanal invertebrates at a series of offshore sites (7 in Silver Pit and 13 in the Hills) that are subject to different levels of fishing disturbance.

4. To sample infaunal invertebrates at a series of offshore sites (7 in Silver Pit and 13 in the Hills) that are subject to different levels of fishing disturbance.

5. To collect invertebrates for stable isotope analysis.

NARRATIVE: (all times are BST)

Corystes sailed from Lowestoft at 1955h on Monday 1 May. She steamed overnight to a site in the Western Mud Hole (a box of 1 nm E-W and 2 nm N-S with NW corner at 53°37'N, 03°23'E) and arrived there at 0600h on Tuesday 2 May. Two E-W lines of 1000m were side-scanned (300m apart N-S) to confirm that there was no recent trawling activity in the area. Four NIOZ cores were collected from site A (a site experimentally trawled during Corystes 12/99) and 4 from site B (the control site) for the study of meiofauna.

From the Western Mud Hole, Corystes steamed to a box of 2 nm (N-S) by 1 nm (E-W) in the Botney Cut (NW corner at 53°55' N, 03°03'E). She arrived there at 1300h on 2 May. Two E-W lines of 1500m were side-scanned (300m apart N-S) to confirm that there was no recent trawling activity. Four NIOZ cores were collected from site A (a site experimentally trawled during Corystes 12/99) and 4 from site B (the control site) for the study of meiofauna.

From Botney Cut, Corystes steamed to the first of 7 sites in the Silver Pit area. Three beam trawl, 3 anchor dredge and five NIOZ core samples were collected at each of the sites. Work commenced at 0600h on 3 May but had to be suspended at 1900h on 4 May so that Corystes could return to Lowestoft and put ashore a crew member who was experiencing personal difficulties. The crew member was put ashore by searider at 0800h on 5 May and Corystes returned to the final site in the Silver Pit later that day. She arrived there at 1830h and work was completed by 0730h on 6 May. Sea conditions were excellent throughout the period of work at the Silver Pit sites, with light northerly winds.

From the Silver Pit, Corystes steamed to the first of a series of 13 sites in the Hills area. She arrived there at 0930h on 6 May. Three beam trawl, 3 anchor dredge and five NIOZ core samples were collected at each site. Work at the Hills sites was completed by 1900h on Tuesday 9 May. Sea conditions were excellent throughout with light northerly winds followed by variable winds of Force 1-2 and fog.

From the final Hills station, Corystes returned overnight to the most westerly of the Silver Pit sites. She arrived there to begin side scanning and 4m beam trawl sampling at 0600h on 10 May. All seven Silver Pit sites were mapped with side-scan sonar and the invertebrate communities were sampled using 4-m beam trawls. The side-scan sonar images were examined on the ship and showed recent beam trawling activity.

Work in the Silver Pit area was completed by 1030h on 12 May, and Corystes made 4 collection tows with the 4-m beam trawl to obtain material for stable isotope analysis. The collection tows were completed by 1430h on 12 May and Corystes sailed for Lowestoft. She docked at 0625h on 13 May.

With fine weather and slight seas throughout, the objectives of the cruise were met in full. Moreover, work that could not be completed on Corystes 12/99 and 14/99 (due to bad weather) was finished on this cruise. The unavoidable return to Lowestoft on 4 and 5 May cost approximately 10 working hours, but it did not prevent us from meeting the objectives of the cruise.

The following progress was made in relation to the stated objectives (page 1):

Objective 1. To sample the meiofaunal community at trawled and control sites. This objective was met.

Objective 2. To survey the trawled and control sites in Western Mud Hole and Botney Cut with side-scan sonar. This objective was met.

Objective 3. To sample epifuanal invertebrates at a series of offshore sites (7 in Silver Pit and 13 in the Hills) that are subject to different levels of fishing disturbance. This objective was met.

Objective 4. To sample infaunal invertebrates at a series of offshore sites (7 in Silver Pit and 13 in the Hills) that are subject to different levels of fishing disturbance. This objective was met.

Objective 5. To collect invertebrates for stable isotope analysis. This objective was met.

The excellent weather conditions meant that it was possible to complete some additional work. All 7 sites in the Silver Pit area were mapped using side-scan sonar and the larger invertebrates at these sites were sampled with 4m beam trawls.

It is not possible to speculate on the results of this work until the samples have been processed in the laboratory and the data have been analysed.

Simon Jennings
Scientist in Charge
13 May 2000

SEEN IN DRAFT: A.M.T. Reading (Master)
M. Reynolds (Senior Fishing Mate)

INITIALLED:

DISTRIBUTION:
Basic List+
P Hudson
S Lovewell
T Mead
M Schratzberger
P Walker
K Warr
FCO (for Netherlands)