

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

1992 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 4

STAFF: M Waldock (SIC)  
H L Rees to March 28 M Blackburn from March 28  
G Lees to March 28 B Jones from March 28  
E Shreeve to March 28 Jacqueline Jones from March 28  
P Hudson to March 28 Jane Lewis from March 28  
A Kenny to March 28 Susan Kuenstner\* from March 28  
J Brown to March 28  
J Read to March 28

\* Central London  
Polytechnic

DURATION:

24 March - 6 April 1992

LOCATION:

North Sea, English East Coast, Norfolk to Berwick.

AIMS:

1. To provide baseline information on the types of benthos and sediment taken from a treatment site selected for impact and recolonisation studies following the extraction of 50,000 tonnes of aggregate by suction trailer dredger. To provide baseline information on the types of benthos and sediment taken from a reference site. Secondly, to provide baseline data from an experimental disposal site.
2. To collect samples of demersal fish in support of the National Monitoring Plan (NMP) and Environmental Quality Objective programmes.
3. To collect sediment samples for analytical chemistry at stations established by the North Sea Task Force and National Monitoring programmes.
4. To collect sediment samples for enumeration of resting cysts of *Alexandrium tamerense* in support of a MAFF funded research programme on Paralytic Shellfish Poison.
5. To evaluate an Acoustic Doppler Current Profiler (ADCP). (Additional aim, added after publication of the cruise programme.)

NARRATIVE:

In poor weather CORYSTES sailed to North Norfolk and waited on station for calmer conditions. By 0500 h on 25 March the weather had moderated sufficiently to allow scallop dredging followed by Hamon grabbing in support of Aim 1. By 1400 h surveys of both treatment and reference sites had been completed, the afternoon was spent on sector scan and side scan surveys, and a further scallop dredge survey of a nearby disposal site. In order to make best advantage of what appeared to be a narrow window of fair weather, attention then turned for the rest of the day to evaluation of the ADCP

for Aim 5. On March 26 poor sea conditions prevented completion of the original aim of a television survey of the treatment and reference sites. In order to make best use of time further transects of the sites were undertaken using a rock dredge to collect samples of *Modiolus modiolus*. Rock dredge surveys were complete by 1500 h, and during the remainder of 26 March and 27 March CORYSTES dodged in heavy seas whilst the collected benthic material was processed.

On 28 March, CORYSTES headed for Yarmouth and the scientific staff were exchanged by pilot boat. CORYSTES then steamed to Smiths Knoll for trawling, grabbing and water sampling in support of Aim 2. Further trawls were completed on the Outer Silver Pit and Dogger NSTF stations on 29 March. During the following day the programme of Day grabbing and coring in support of Aim 4 commenced off the Farne Isles, but deteriorating weather conditions prevented continuation of the programme on 30 March, and a particularly stubborn area of low pressure produced atrocious sea conditions during the next two days. In a change of tactic CORYSTES headed south on 2 April to resume trawling at the Wash and Humber NSTF stations. The sea state on 3 April was sufficiently calm to allow trawling, grabbing and water sampling at the Wash and Humber NSTF stations. Unfortunately extensive damage to the gear at both stations prohibited the collection of the required fish species. CORYSTES then once again proceeded northward to recommence grab and core transects off Flamborough, Tees, Tyne and Blyth. By working shifts the sample programme was largely completed by midnight on 4 April. Further trawling, grabbing and water sampling at Tyne and Tees NSTF stations was completed by 1200 h on 5 April, and CORYSTES returned to Lowestoft, docking at 1130 h.

## RESULTS:

Aim 1 of the cruise was completed reasonably successfully. Five scallop dredge surveys, 26 Hammon grabs and 7 rock dredge tows were completed on the proposed dredging site, reference sites, and a further 2 scallop dredge tows were undertaken on a nearby disposal site. All samples were sorted on board and benthic organisms were collected and preserved. Sub-samples were sieved and preserved for detailed examination at the laboratory. The results of these surveys, coupled with sonar surveys of the sites allowed sufficient information to be gained for the pre-exploitation phase of the experimental dredging operation.

Few of the fish species required for Aim 2 were caught at NSTF stations, no whiting were caught, very few cod, and dab, flounder and plaice were rarely seen. Only two samples of dab, one of plaice and a partial sample of cod were collected. Edible crabs and whelks were taken from the Outer Silver Pit and the Wash.

Samples of water and sediment were taken at all seven NSTF stations in support of Aim 3.

Persistent heavy swell prevented the deployment of a corer at sites sampled for *Alexandrium* cysts. Day grabs were collected at 30 of the 35 sites, providing 60 samples, which were preserved by chilling to 4°C.

The ADCP trial largely failed. The device was deployed successfully but software problems with the computing system prevented collection of credible data.

M Waldock

6 April 92

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INITIALLED:

*Handwritten: L. Graham S.K.M.  
15/10*

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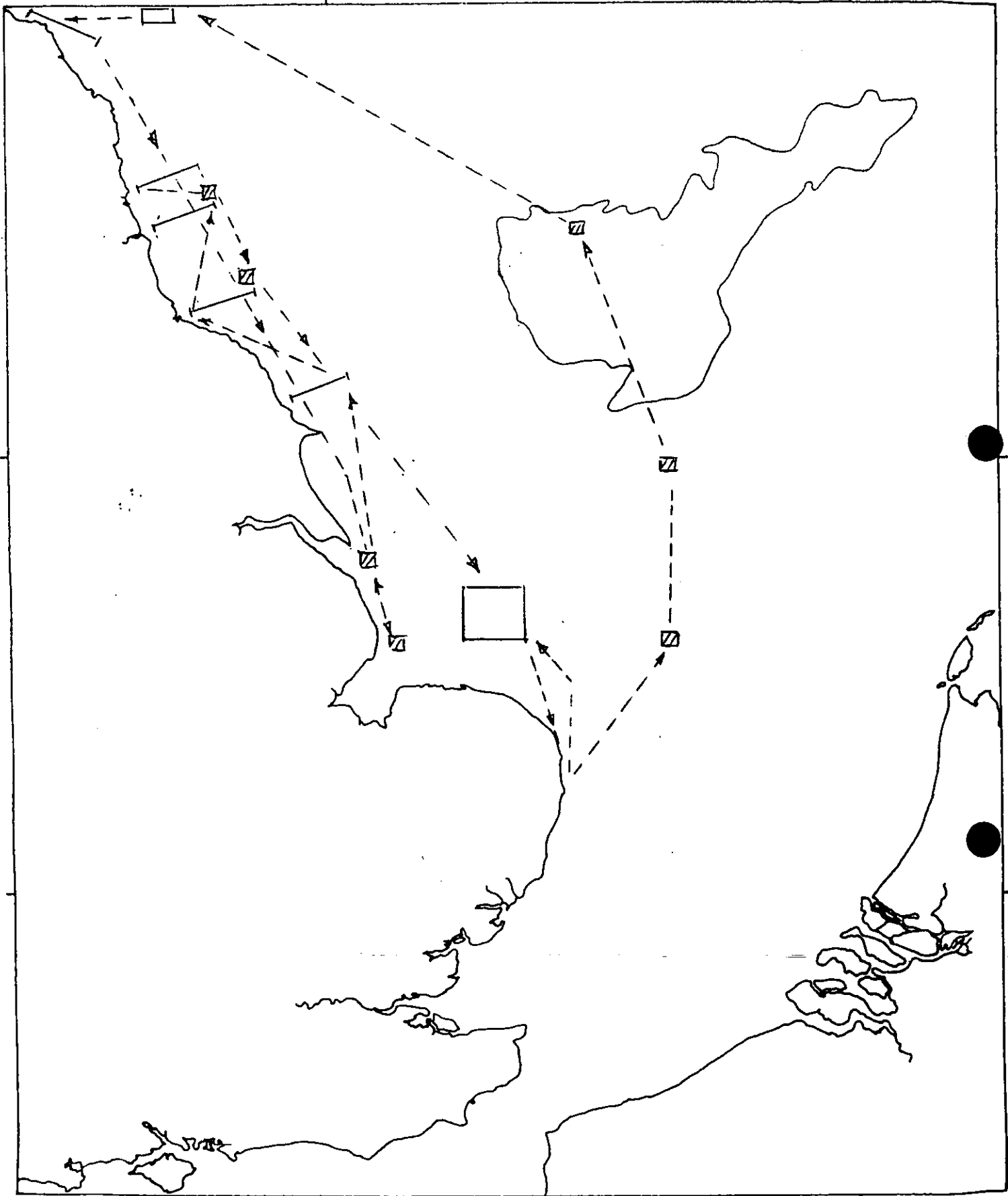
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CORYSTES 4/92 CRUISE TRACK



▣ TRAWL STATION  
— GRAB TRANSECTS