

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

1996 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 2

STAFF

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DURATION:

CORYSTES left Lowestoft at 0715h on 18 January
Arrived at Lowestoft at 0730h on 2 February

LOCALITY

North Sea, English Channel, Irish Sea

AIMS:

1. To sample and examine dab and other fish species for diseases.
2. To collect samples of dab and other flatfish livers for histochemistry and electron microscopy.
3. To examine herring for Ichthyophoniosis.
4. To examine *Nephrops* sp. for evidence of *Haematodinium* sp.
5. To collect samples of frozen dab, whiting and other species for the NMP (A. Franklin)
6. To collect samples of viscera from gadoids for VHSV testing (P. Dixon)
7. To collect sediment samples for use in laboratory toxicity experiments.

ADDITIONAL AIMS:

8. To collect samples of gallbladders from selected fish species to evaluate the use of their protozoan parasites as pollution biomarkers.
9. Undertake an ADCP survey in the wake of an aggregate dredging vessel.
10. To carry out a sidescan sonar survey in the outer Wash.

NARRATIVE (all times are GMT):

RV CORYSTES sailed on the morning of the 18th and, following a diversion to put off a member of the crew at Cromer, proceeded to Sole Pit. Two tows were completed and samples and data were collected to meet the various aims. A sediment sample was also taken

before the ship moved on to the Humber/Wash area for the 19th. A total of three tows at this area yielded a good sample of cod (Aim 6). Although catches of dab were poor, sufficient flounder were caught for a record of the disease status of this species to be taken. On completion of fishing in this area CORYSTES steamed to the Docking Shoal area of the Wash and an ADCP survey of the area, prior to, during and after a dredging operation, was successfully completed by 1700h on the 20th. The following day a member of the scientific staff (L. Fernand) involved in the ADCP study was put off at Grimsby by pilot boat and a replacement crew member put aboard. CORYSTES then steamed to Flamborough Off Ground where despite marginal weather conditions three tows were successfully completed in fulfilment of the various aims. Three attempts were made to obtain sediment samples using a Day grab (conditions being too dangerous for the use of the Hamon grab). These were unsuccessful.

The programme then continued, on the 22nd, to an area off the north east coast (off Amble); however, with rapidly deteriorating conditions and a forecast for similar weather for several days CORYSTES was forced to abandon this and other North Sea stations and proceeded northwards around Scotland and into the Irish Sea.

During the 24th three tows were completed at Dundrum Bay (ICES rectangle 37E4) with reasonable catches of dab, flounder and cod. A sediment sample was successfully obtained. On leaving this area CORYSTES steamed eastwards through rough seas and winds gusting to Force 11. Because of the poor weather conditions on the 25th, more inshore stations were selected in an attempt to find some shelter from the prevailing easterly wind. Again three tows were completed despite winds gusting to 50 knots. Sufficient catches were made to fulfil the various aims. The following day three tows were made in ICES rectangle 35F6 (two in Liverpool Bay and one off Great Orme). Those in Liverpool Bay were more productive with a good catch of dab. A sediment sample was also collected from this area. Work in Red Wharf Bay was curtailed because of rapidly worsening weather, with one tow completed.

On the 27th work commenced at a station in the northern part of Cardigan Bay. A single tow was completed and five baskets of roker were caught but few dab. Consequently, it was decided to move to inshore stations in the south of the bay. These proved very successful for dab and whiting and all aims for this area were met. CORYSTES then steamed to Carmarthen Bay and despite marginal conditions one tow was successfully completed on the 28th and sufficient fish were caught to meet Aim 6. Continuing adverse weather made for a rough passage to Lands End and likewise along the English Channel into prevailing easterly winds which significantly hindered progress during the 29th. Conditions were not suitable for fishing in Lyme Bay and it was decided to continue steaming for the more important stations in the Rye Bay area on the 30th. In good conditions the first trawl of the day was aborted because of gear damage and the Granton trawl was replaced by a 4 metre beam trawl. A total of four tows using this gear provided sufficient samples to meet the various aims without any further gear damage. A sediment sample was also collected from this area.

CORYSTES then proceeded to Lowestoft in order to pick up a member of scientific staff on the 31st and continued to the Wash to complete the second phase of the ADCP and sidescan surveys throughout the afternoon and evening of the 31st, finishing around 1700h on the 1st February. CORYSTES then returned to Lowestoft.

RESULTS:

A total of 10 main sample areas were investigated using a Granton trawl fitted with a tickler chain, with a further area off Rye Bay being fished with a 4 metre beam trawl.

- Aim 1. All dab (2782), flounder (276) and cod (220) were length measured, examined for disease and recorded according to ICES recommended protocols for standardised disease monitoring. All suspect liver neoplasias were preserved for confirmatory diagnosis. Otoliths from these fish were taken for age correlation. Other commercial species were examined macroscopically for disease and photographs and samples were taken as appropriate. All results were entered onto a spreadsheet for subsequent statistical analysis.
- Aim 2. Samples of liver and spleen from dab, flounder and plaice from the various areas were taken for immunohistochemistry and x-ray microanalysis.
- Aim 3. Herring were only caught in sufficient numbers at Rye Bay. Of those examined only one showed evidence of *Ichthyophonus* infection and tissue samples from this fish were taken for laboratory confirmation.
- Aim 4. Insufficient *Nephrops* sp. were caught to evaluate prevalence of the pathogen *Haematodinium* sp.
- Aim 5. Samples of dab and whiting from the majority of areas visited were collected and frozen for the NMP (A. Franklin)
- Aim 6. Samples of blood and/or viscera from cod and whiting were collected from all areas for laboratory testing for the presence of VHSV. Other relevant species such as poor cod and herring were sampled wherever sufficient numbers were caught.
- Aim 7. Sediment samples were collected from 5 areas for use in laboratory toxicity experiments.
- Aim 8. Whiting and dab gallbladders were collected from all Irish Sea locations and Rye Bay.
- Aim 9. ADCP surveys were carried out over both spring and neap tidal periods. Successful observation of the dredging plume through the water column was achieved.
- Aim 10. The survey was carried out successfully over an aggregate extraction site periodically monitored by AEP 2.

Despite last minute changes to the programme the cruise aims were successfully met. The expertise and perseverance of the ships personnel in difficult fishing conditions is gratefully acknowledged.

S.W.Feist (SIC)
1 February 1996

SEEN IN DRAFT:

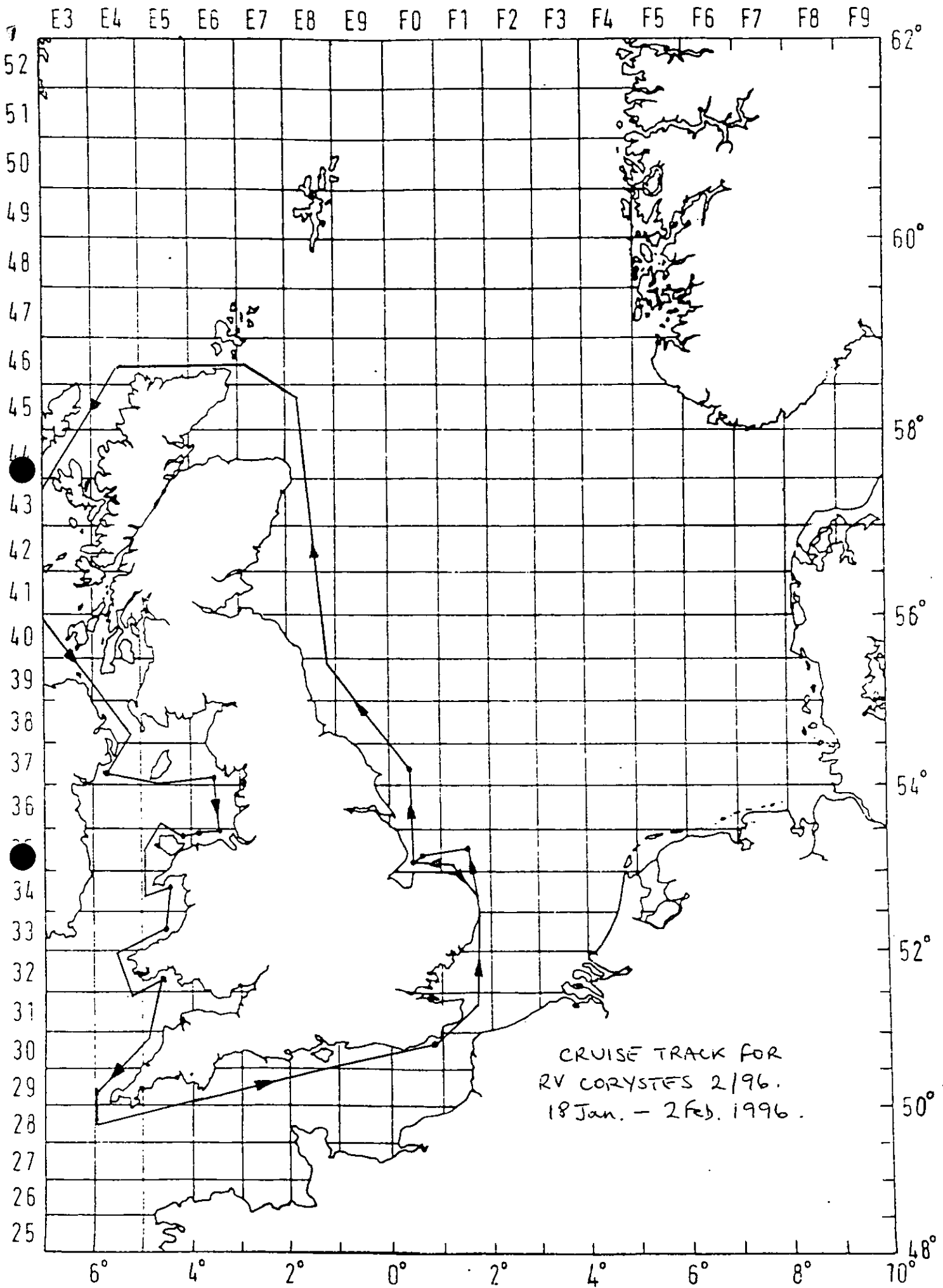
Master	BC
Fishing skipper	WM

INITIALLED:

JEP

DISTRIBUTION:

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DANI



CRUISE TRACK FOR
RV CORYSTES 2196.
18 Jan. - 2 Feb. 1996.