

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

1998 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 1

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E Chambers  
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DURATION: CORYSTES left Lowestoft at 1530 on 6 January 1998  
Arrived at Lowestoft at 1630 on the 22 January 1998

LOCALITY: North Sea, English Channel, Irish Sea

AIMS:

1. To collect and examine dab and other fish species for diseases.
2. To collect samples from dab for histopathology, DNA adduct analysis and AChE and EROD measurements.
3. To examine herring for Ichthyophoniosis.
4. To collect blood and gonad samples from flounders (J Thain).
5. To collect samples of whelks (J Thain).
6. To collect samples of frozen dab and whiting for contaminant analysis (A Franklin).
7. To collect live plaice from the North Sea (J Metcalfe).
8. To collect samples of viscera from gadoids, herring and turbot for VHS virus testing (P Dixon).

ADDITIONAL AIMS:

1. To collect samples of scallops and queens for disease assessment.
2. To collect samples of parasites for molecular biology studies.
3. To collect blood from juvenile plaice (A Scott).

NARRATIVE (all times are GMT):

RV CORYSTES sailed from Lowestoft during the afternoon of the 6<sup>th</sup> and proceeded overnight to Humber Off Ground (ICES rectangle 36F0). During the 7<sup>th</sup> two tows were completed before CORYSTES moved to a more sheltered inshore location to complete the work in this area. On the 8<sup>th</sup> a total of four tows were made with good catches of dab, cod and haddock. Sufficient samples were obtained to meet the requirements of the aims for this area.

During the evening of the 8<sup>th</sup> CORYSTES steamed to Sole Pit (ICES rectangle 36 F1) and during the 9<sup>th</sup> fishing continued. A total of three tows were completed in good weather. Because of net damage, incurred during the third tow, it was decided to cease fishing in this area. Despite this, sufficient fish were caught to meet the primary aims for this area. CORYSTES then proceeded to Flamborough Off Ground (ICES rectangle 37F0). Four one-hour long tows were made on the 10<sup>th</sup>. These produced excellent catches of dab, cod and numerous other fish species, including anchovy. A full set of dab disease data was collected and samples of liver tissue were collected for laboratory investigations. Several other aims for this area were also fulfilled. Work then proceeded on the 11<sup>th</sup> at stations on the western Dogger Bank (ICES rectangle 38F1). During the four one-hour long tows made at this area good catches of dab enabled all of the primary aims for this area to be met. In addition, cod, herring and scad were sampled in fulfilment of aim 8 and whelks were collected for aim 5. On completion of work in this area CORYSTES steamed to an area off the north east coast (Off Amble) (ICES rectangle 38E9). In good conditions three tows were completed. Despite relatively poor catches of dab (sufficient for aim 2), good samples of haddock and small cod were obtained and sampled for aim 8 and also whiting for aim 6. In addition, whelks were collected for aim 5. CORYSTES then proceeded northwards around Scotland and into the Irish Sea. During the passage a killer whale was sighted for several minutes just west of Pentland Firth. The ships crew also took the opportunity to make fine adjustments to the trawl before arrival at the next area.

Fishing commenced again at Dundrum Bay on the 15<sup>th</sup>. Despite marginal fishing conditions, three tows were completed. Sufficient fish were obtained to fulfil several aims and a photographic record of diseased gadoids was taken. As soon as the last catch was hauled on deck CORYSTES went to the assistance of a vessel in difficulty. Fortunately the situation was resolved without major incident during the early evening. The programme continued on the 16<sup>th</sup> in Red Wharf Bay (ICES rectangle 35E5). As in previous years, dab and small cod were plentiful and the aims for these species were met in full. Only four flounder for aim 4 were caught and samples of shellfish were collected to meet the requirements of aims 5 and 9. CORYSTES then steamed to Liverpool Bay (ICES rectangle 35E6) and work commenced on the morning of the 17<sup>th</sup>. Three one-hour tows and one half-hour tow were completed in good weather. Good catches were again obtained and sufficient samples to meet the aims in this area were collected. The programme then continued on the 18<sup>th</sup> in southern Cardigan Bay (ICES rectangle 33E5). Taking into account the forecast of deteriorating weather, consecutive hour tows were made during the morning and early afternoon. The final tow was curtailed because of the rapidly worsening conditions. Despite this, aims 1 and 2 for dab and aim 6 for whiting were achieved.

On the 19<sup>th</sup> work commenced at a station in Carmarthen Bay (ICES rectangle 32E5). Catches were poor with large amounts of weed trapped in the trawl. Insufficient dab were caught for the requirements of standardised disease recording. Nevertheless, several aims were met from the other fish species caught and samples were taken for laboratory analysis. Several bags of plastic and other debris (including netting, twine etc. from old fishing gear) were collected for disposal on land. CORYSTES then proceeded to Lyme Bay (ICES rectangle 30E6) and undertook two tows in the western part of the bay during the 20<sup>th</sup>. These produced good catches of a wide variety of fish

species with dab and lemon sole being particularly abundant. A further two tows were made to the east, off Lyme Regis, resulting in the same diversity of fish species but less abundance. Requirements for aims 1,2,4,5,6 & 9 were fulfilled for this area.

Fishing commenced again on the 21<sup>st</sup> in Rye Bay (ICES rectangle 30F0). Excellent catches resulted in the need for only three one-hour tows in order to provide the target numbers of dab for disease recording (aims 1 & 2). Whiting were collected for aim 6 and cod, herring and a single turbot were sampled for aim 8. As for Lyme Bay this area produced a wide diversity of fish species including several bass, three twaite shad, a small eel (*Anguilla anguilla*) and a black sea-bream. Attempts to collect live plaice for aim 7 produced only 7 fish of suitable sex and size. Final attempts to fulfil this aim were made at Smiths Knoll on the 22<sup>nd</sup> and 35 fish were retained. Unusual for this area, a 6.5Kg halibut was also caught. CORYSTES then returned to Lowestoft and docked at 1630.

#### RESULTS:

A total of 13 main sampling areas were investigated using a Granton trawl fitted with a liner and tickler chains.

- Aim 1 All dab (over 5300) and cod (1146) were length measured, examined for disease and recorded according to ICES recommended protocols for standardised disease monitoring. All suspect liver neoplasms 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 dab, flounder and plaice from the various areas were taken for histopathology and immunohistochemistry. Samples from the same specimens were also taken for a suite of additional tests including EROD, AChE and DNA adduct analysis.
- Aim 3 No clear evidence of Ichthyophoniosis in herring was found, although representative specimens exhibiting minute multifocal cystic lesions in the spleen were preserved for laboratory analysis.
- Aim 4 Gonad, blood and liver samples from all flounder were taken for intersex investigations.
- Aim 5 Samples of whelks were collected from all areas where sufficient numbers were caught.
- Aim 6 Samples of whiting and dab from the majority of the areas visited were collected and frozen for contaminant analysis.
- Aim 7 Seven plaice were collected from Rye Bay and 35 from stations at Smiths Knoll off Lowestoft.

- Aim 8 Samples of viscera from cod and herring were collected from all the areas visited for laboratory testing for the presence of VHS virus. Other relevant species such as turbot and brill were also sampled.
- Aim 9 Tissue samples from scallops and queens from several areas were preserved for subsequent histological evaluation.
- Aim 10 Samples of protistan parasites from haddock and whiting from two North Sea stations were taken for molecular biology studies.
- Aim 11 Blood was collected from 30 juvenile plaice.

The expertise and perseverance of the ships personnel in marginal fishing conditions at some locations contributed significantly to the successful fulfilment of the aims. This is gratefully acknowledged.

S W Feist (SIC)  
6 February 1998

SEEN IN DRAFT:

Master: B Chapman  
Fishing skipper: M Reynolds

DISTRIBUTION:

B J Hill  
D J Alderman  
M Waldock  
J Thain  
S W Feist  
G J Jones  
E Chambers  
M R Hurst  
M J Green  
R Benstead  
Relevant Sea fisheries Committees &  
MAFF Inspectorate Offices from NE to Cumbria  
DANI