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

1988 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES : CRUISE 8

STAFF:

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Ms S J Swaine (Weymouth)
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DURATION:

22 October-3 November

Left Lowestoft 1830 GMT, arrived Lowestoft 1630 GMT.

LOCATION:

Southern North Sea

AIMS:

1. To investigate predation rates and prey selection in cod and whiting.
This involves:
 - (a) Survey of abundance of cod and whiting and their demersal prey using a Portuguese high-headline trawl. (Including 24 h sampling periods to investigate diurnal patterns.)
 - (b) Sampling of stomach contents and preservation of material for analysis in the laboratory.
 - (c) Survey of the macrobenthos using a 3-metre beam trawl.
2. Identification of the incidence of diseases in dab and cod.
3. Collection of live invertebrates for UEA.
4. Collection of trash fish for laboratory feeding experiments.
5. Collection of Nephrops samples (200 per sample, T Macer).
6. Collection of herring and sprat samples (P Johnson).
7. Collection of commercial fish species for analysis of pollutants.
(A Franklin).
8. Collection of long rough dab (D Harding).

NARRATIVE:

CORYSTES left Lowestoft at 1830 GMT on Saturday 22 October after two days delay due to winch repairs. Steering and engine tests were successfully completed and the ship sailed north later in the evening to commence fishing the Silver Pit on Sunday 23 October using a Portuguese high-headline trawl with top cover. The ship worked a series of stations northwards, completing up to 5, 1 hour tows per day. On Tuesday evening one engine developed a fault and Wednesday 26 was spent

dodging due to gales. Continued engine problems and the prospect of more bad weather made it expedient that the ship sail southwards, and the most northerly series of stations across the Dogger was abandoned. By Thursday 27 the engineering crew had rectified the engine fault and 4 trawling stations were undertaken before the first of the 24 h trawling cycles commenced at Smiths Knoll on Friday 28 October. This involved a series of six, 2 h tows at 4 h intervals. On Saturday 29, a 24 h trawling cycle was undertaken at Kentish Knock, followed by a series of 6, 15 minute tows with a 3-metre beam trawl on Sunday 30 to sample the benthos. Later in the day a second series of 24 h tows was undertaken at Kentish Knock before the ship returned to Smiths Knoll for another 24 h set of tows, culminating on the evening of Tuesday 1 November with a series of 6 beam trawl stations. CTD stations were worked at Smiths Knoll and Kentish Knock. On Wednesday the ship started fishing 1 h tows east of the Broad Fourteens and worked a total of 4 stations westwards, culminating with three 1 h tows off Southwold on the morning of Thursday 3 November, before returning to Lowestoft at 1630 h.

RESULTS

1. Aim 1 was fully satisfied. In total, 900 cod and 2000 whiting stomachs were frozen for analysis. They fish from the cover of the Portuguese high-headline trawl, and benthos from the beam trawl were comprehensively sampled.
2. The delay to the start of the cruise forced the abandonment of sampling for dabs in the eastern region of the North Sea and stations to the north of the Dogger were lost due to bad weather.

Dabs were sampled and examined for specified diseases on Dogger Bank stations and reference stations, south of the Dogger. The prevalence rate of disease in dabs on the Dogger averaged at 10.5%, whereas on the reference stations the prevalence rate was 3.5%. Liver neoplasias were identified in 5 of 36 Dogger Bank dab \geq 25 cm length, and none on the reference stations.

Cod were examined on all stations for evidence of significant diseases. An incidence of 6.7% of cod over 35 cm length showed nodular lesions on the hearts, spleens and livers. In some instances all these organs were affected. The station off Southwold revealed an incidence rate of 10%. Samples were taken for further laboratory investigations.

- 3 to 8. Insufficient Nephrops were caught to provide a sample, otherwise all the sampling requirements were fulfilled.

P J Bromley
25 November 1988

SEEN IN DRAFT:

JF
PM

INITIALLED:

D J G

DISTRIBUTION:

| | |
|-------------|---------------|
| Basic List+ | S W Feist |
| P J Bromley | Ms S J Swaine |
| D Bucke | J Last |
| T Watson | K Winpenny |

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