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CRUISE REPORT

FRS CLUPEA

23 April - 1 May 1975

OBJECTIVES:

1. To carry out a census of the benthic populations of Sullom Voe, Shetland with special attention to the distribution, density, diversity and biomass of these populations. Information on the status of the benthic communities in Sullom Voe would provide baseline data against which the effects of any interference or change (oil spills) could be measured.
2. To participate in FRV 'Explorers' study of ecology of larval gadoids in the northern North Sea with particular emphasis on niche overlap in terms of feeding and distribution.
3. To carry out tests of the Dutch Gulf III's towing characteristics to provide information required for the further development of the deck-recording depth-flowmeter.
4. To carry out tests on the Birmingham University digital scanner.

NARRATIVE:

'Clupea' left Aberdeen on the early afternoon of 23 April. The digital scanner was installed on board the ship on 22 April, and was operated on passage to Peterhead. On passage to Peterhead, tests of the Dutch Gulf III's stability were carried out by IMER staff (Dr Aiken). Recordings obtained during these trials were taken to IMER, Edinburgh for analysis and interpretation.

A call was made at 18.00 at Peterhead and the trials staff of the instrumentation team and IMER were landed. The ship then proceeded to Sullom Voe where she arrived at 14.30 on 24 April. The benthic survey of the Voe started on the same day and lasted until 26 April. Over this period a total of 33 stations covering several depths and arranged in transects along and across the Voe were sampled. Samples for macrobenthos, meiobenthos and sediment for particle size analysis were taken by means of grabs (Van Veen, Smith-McIntyre) and corers (Craib, Reineck). The epifauna of several areas was also studied by means of a 2m Agassiz trawl.

The sediments of the deeper parts of the inner Voe, were muddy and distinctly anaerobic with a very sparse fauna and flora. Preliminary examination of the macrofauna samples showed a limited number of sedentary polychaetes while the epifauna of this area was limited only to a few ophiuroids (Ophiura sp) and the occasional gastropod (Buccinum sp). The sediments in the rest of the Voe ranged from sandy mud to muddy shell gravel. Loose or attached brown and red seaweeds were present on most stations in the shallow depths of the inner and middle Voe. A rich and varied fauna consisting of bivalve molluscs (Cultellus sp Corbula sp etc) and polychaetes both sedentary and errant, was present on most stations. The epifauna was also rich, with large numbers of ophiuroids, several crustacean decapods, gastropod molluscs (Buccinum undatum, Colus sp.) asteroids, the queen clam

Chlamys opercularis and the horse mussel Modiolus modiolus. Full information on the quantitative and qualitative aspects of the benthic populations will be provided as soon as these samples have been analysed. On 25 April during the meiobenthos sampling, the Reineck box corer parted from the wire as a result of a broken clip. Subsequent repeated efforts to retrieve the samples from a depth of 80 ft proved unsuccessful. On the evening of 26 April the ship steamed to Balta Sound in preparation for the sampling of larval gadoids programmed for 28-29 April.

Severe weather conditions did not prevent the ship from sailing at 8.00 on 28 April from the grid area where parachute drogue was deployed on 27 April by FRV 'Explorer'. The grid was reached by 14.30 but search for the parachute drogue proved unsuccessful. Worsening weather conditions precluded any sampling being carried out and forced the ship to the lee of Fetlar which she reached by 22.00 the same day. On 29 April the bad weather prevented the ship from reaching the grid area; thus the possibility of carrying out the sampling of larval gadoids had to be abandoned. Continuous bad weather forced the ship into the shelter of the islands and finally to Sullom Voe where she arrived at 18.00 on 29 April, after carrying out instrumentation trials, when conditions permitted, for the Dutch Gulf III. These trials, however, were severely affected by problems with the terminations of the towing cable which suggested that further work is required in order to remedy this trouble. On 30 April most of the day was spent in Sullom Voe in an effort to retrieve the lost box corer and complete the unfinished meiobenthos survey. All efforts for its retrieval were abandoned on the afternoon of 30 April and in an attempt to come into contact with FRV 'Explorer' and provide a progress report for the instrumentation trials and the abortive larval sampling the ship left the Sullom Voe area on 15.30 bound for Lerwick. Having made radio contact with FRV 'Explorer' and under conditions of heavy swell and strong wind 'C lupea' set course for Aberdeen where she docked at 14.00 on 1 May.

A Eleftheriou
15 May 1975

Seen in draft - G Geddes