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

1989 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 2a/89

STAFF:

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DURATION: 31 Jan-6 Feb

LOCALITY: Southern North Sea, English Channel.

AIMS:

1. To carry out hydrodynamic measurements on the improved MII MAFF 53 cm plankton sampler.
2. To carry out line tension measurements by deploying various items of towed gear using the new line tension block.
3. To develop, use and evaluate Scanmar equipment.
4. To carry out measurements on the MAFF multi-net sampler, subject to previous satisfactory tank trials.
5. To carry out a sector scanner survey of Hastings area aggregate extraction site.

Late additional aims:

6. To deploy a current meter rig off Orfordness.
7. To carry out a herring larvae survey using the MAFF MkII 53 cm plankton sampler.
8. To recover current meter rigs for IOS Proudman Laboratory.

NARRATIVE:

CORYSTES sailed at 1435 h on 31 January and proceeded to Orfordness area to deploy a current meter rig at position 52°09.1'N 01°52.1'E. Trials connected with CORYSTES Log Control were carried out by LSE engineers en route. A current meter rig was deployed at 1640 h. CORYSTES returned to Lowestoft area to disembark, J. Read, M. Lloyd, and three LSE engineers, by Searider. CORYSTES then proceeded, overnight, to the Hastings Shingle Bank. A survey using the sector scanner in side scan mode was carried out on 1 February within the aggregate extraction area. The MAFF U/W TV sledge was used to record various bottom features during 2 February before commencing hydrodynamic trials with the MAFF MKI and II 53 cm plankton samplers. A range

test with the Gilden radar transponder, mounted on CORYSTES' Searider, took place in Rhye Bay on the evening of 2 February. During the evening of 3 February two under-water wrecks were examined, off the Drill Stone, using the MAFF sector scanner. Between 3 and 4 February a new Scanmar CGM 02 display was tested in conjunction with spread sensors fitted to a standard Granton trawl.

A survey for herring larvae, at the request of FSM3, was carried out on 5 February. CORYSTES docked at Lowestoft on 0750 h on 6 February.

#### RESULTS:

##### Aim 1

The MAFF MkI 53 cm plankton sampler was fitted with standard survey instrumentation together with roll and pitch sensors. Two deployments were made, (1) one with the large Scripps pattern depressor (2) the second with two smaller Scripps pattern depressors suspended on a forked bracket. In both cases the sampler demonstrated a tendency to oscillate through the water in pitch and be permanently rolled ( $5-10^{\circ}$  to port in case (1);  $2-5^{\circ}$  to starboard in case (2)). The MAFF MkII 53 cm plankton sampler was fitted with standard survey instrumentation together with roll and pitch sensors. This was deployed three times; on each occasion the sampler demonstrated good stability characteristics. Adjustments were made which, on the final deployment, produced an acceptable dive profile in the working depth of 40 metres. The results look very encouraging for future use.

##### Aim 2

The General Oceanics Cable out and Tension Block Model 4048 (T) was used in an attempt to obtain reference information on line tension imparted to the towing cable by various items of towed gear. The tension block sensor became intermittent in use and will require investigation by the manufacturers.

##### Aim 3

A total of nine tows were made using the Scanmar CGM 02 display and spread sensors, fitted to a standard Granton trawl. Tows 1 to 4 were made using Polyvalent doors. Tows 5 to 9 were made using BMV doors. Tows 3 and 7 gave either intermittent or total loss of signal from the Scanmar sensors. All other tows gave reliable signal returns.

Tow 3 problems seemed to be connected with misalignment of sensors because only one, instead of two clamps were used for attachment to the headline leg.

Tow 7 problems seemed to be connected with misalignment caused by the wire clamps fouling on the wire rope splices of the headline legs. A successful tow was completed after the sensors had been moved further up the headline leg, to a position approximately 1 m from the top wing end thimble.

A printed record of tows 5 to 9 was produced. The versatile CGM 02, colour monitor was well received by the ships officers.

##### Aim 4

This was not attempted because sufficient data were obtained during tank trials at ARE Teddington, to make sea trial observations unnecessary.

Aim 5

A survey grid was completed, within the Hastings Shingle Bank aggregate extraction site, to ascertain the usefulness of the MAFF sector scanner, operating in side scan mode. A line scan paper record was produced during the survey. Areas of trailer dredger activities and different sea bed texture were identified, video recordings were also made. The MAFF U/W TV sledge was used to record events of interest within the survey grid.

Aim 6

This was successfully completed on 31 January.

Aim 7

A herring larvae survey was completed, at the request of FSM. A total of 10 stations were sampled using the MAFF MkII 53 cm plankton sampler. Results will be worked up by the plankton laboratory staff.

Aim 8

This was not attempted owing to insufficient time being available.

E G Shreeve  
6 February 1989

SEEN IN DRAFT: JF, PM

INITIALLED: JP

DISTRIBUTION:

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