MR. BARE

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

1973 RESEARCH VESSEL PROGRAMME

(Provisional: Not to be quoted without reference to the author)

REPORT: R V CLIONE: CRUISE 14/73

STAFF:
A R Margetts
H R Stewardson
I L Davies
C R Hood
B C Mumford
G T Thacker (29 September - 8 October)
A Corrigall (DAFS 1 - 4 October)

DURATION: 29 September - 12 October 1973

AIMS:

1 In cooperation with R V MARA (DAFS Marine Laboratory), to make sector-scanner observations of a Danish seine in action.

2 To make sector-scanner observations of various commercial fishing gears in action and of any disturbance to the sea bed caused by them.

3 To make sector-scanner observations of the Covehithe-Katwijk Post Office telegraph cable.

4 To collect and process a sample of dabs from MARA for Mr Htun Han.

NARRATIVE

CLIONE left Lowestoft at 0930 h GMT 29 September and proceeded northwards. After being delayed by a northerly storm which necessitated dodging for 20 h off the Yorkshire coast, Leith was reached at 0830 h 1 October. There the scanner dome was fitted, and the fishing skipper and Mr Corrigall joined the ship. CLIONE left Leith at 1220 h 1 October. Rendezvous was made with M V MARA in St Andrews Bay at 0730 h 2 October. The three days 2-4 October were spent sector-scanning over MARA's Danish seine. Mr Corrigall left CLIONE on 4 October, joining MARA for her homeward passage. At 2200 h 4 October, CLIONE docked at Leith where the dome was taken off, a faulty scanner camera was despatched to Lowestoft and extra video tape was obtained via the Deputy Marine Superintendent, DAFS.

CLIONE left Leith at 1200 h 5 October on passage to Ijmuiden. Surface and bottom temperature and salinity observations were made every 30 miles between Longstone and the Dutch coast. Ijmuiden was reached in thick fog at 0145 h 7 October. There the dome was fitted again and a current meter station surface buoy (YW) was collected.

CLIONE left Ijmuiden at 0845 h 7 October and had started scanner observations on the eastern end of the Covehithe-Katwijk No 1 telegraph cable before information was received about a family bereavement of a staff member and a hospital appointment for a crew member. Course was set for Gorleston where Mr Thacker and a greaser left the ship by tender at 0200 h 8 October. Scanner observation of the Covehithe-Katwijk Nos 1 and 2 telegraph cables was resumed from the western end at 0730 h 8 October. At 1930 h 8 October a search for beam trawlers was commenced in a northerly direction. All of the daylight period of 9 October was spent dodging in a southwesterly gale. During 10 and 11 October the gear and tracks of

four Dutch double beam trawlers were observed by sector-scanner on Texel Ground and to the south of Broad Fourteens. In that time also three current meter rigs set out on Cruise 13, from which the surface buoys were now missing, were searched for by scanner.

CLIONE docked in Ijmuiden at 1530 h 11 October. There the dome was taken off and a Cruise 13 current meter rig, complete except for the surface buoy, was collected. CLIONE left Ijmuiden at 1640 h 11 October. Live copepods for Mrs Thomson were collected south of Smith's Knoll at 0100 h 12 October. CLIONE berthed at Lowestoft at 0830 h 12 October.

RESULTS:

Aim 1. The seine net observations were made in ideal conditions of calm weather, 9 fm depth of water and a smooth featureless sea bed. Fourteen shots of the seine were made and observed. MARA was fly-dragging with four coils of leaded polypropylene rope per side. The net was clearly seen on the scanner but the ropes were detected only in midwater and just clear of the bottom and were not detectable on the bottom. Float markers on the ropes were ineffective but acoustic tag markers gave very accurate spot positions. With a tag marker at a known position on each rope and regular monitoring of the positions and relative ranges and bearings of both ships, the net and the markers and of length of rope hauled, all against an accurate time base, the changing geometry of the seine was followed. When the tags were operating at steady power there was no apparent mutual interference or triggering between them, even when they came close together (2-10 m) at the end of a haul.

Aim 2. Observation of commercial fishing gear was confined to double beam trawlers. The positions of the trawls themselves were easily detectable by the scanner, but their outlines were completely obscured by noise from the chains. (One of the trawlers was using 10 m beams with 10 ticklers between heads and 7 across the bosom of the net.) On the ridged hard sandy ground off Texel and on the softer sand in big ridges and sand waves to the south of Broad Fourteens, the trawl tracks were easily discernible after the clearance of the turbidity clouds about 100-200 m behind the trawls. They were more sharply defined but not of measurable depth on the "softer" ground. In these tidal waters the tracks decayed noticeably with age; one was followed back from the trawler towing at 5-5¼ kts to 1¾ miles where it was practically undetectable. Marks where the trawl had gone over the crests of big ridges or sand waves were visible when the edges of the tracks had become diffuse. Anchor dredge samples were taken where scanner observations of trawls were made.

Aim 3. Along most of their length the two Covehithe-Katwijk telegraph cables run approximately parallel to the sand waves. They were not detected by the scanner on those sections inspected which run this direction, but the No 2 cable was seen, sometimes clear of the sea bed and sometimes going through sand waves, where it runs in a north-easterly direction to cross the Lowestoft-Scheveningen cables; this is one of the places where there has been a high incidence of damage to the cable by trawls.

Aim 4. A large sample of dabs caught by MARA in St Andrews Bay was measured and processed for Mr Htun Han.

5. ICES requested surface and bottom hydrographic observations were made on a line Longstone - Ijmuiden and to the south of Smith's Knoll.

6. Live copepods were collected from south of Smith's Knoll for Mrs Thomson.

7. Convenient opportunities were taken to inspect MAFF current meter stations in the southern North Sea. JONSIS B was seen in good order on 6 October. At JONSDAP WG the surface buoy was in position but with its light out. At JONSDAP YY,

YW and WC the surface buoys were missing. The sector-scanner clearly showed the underwater rig at YY to be complete and in position (the pellet was seen by eye) but scanner searches failed to detect any underwater rig targets at YW and WC.

A R Margetts
19.10.73

INITIALLED: MRS
JJ
AJL

DISTRIBUTION:

Basic List

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Mr Stewardson
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