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

1973 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 9/73

(PROVISIONAL: Not to be quoted without prior reference to the author)

STAFF

J W Ramster (NIC)
J A Durance
R F Lincoln (1-8 June)
K J Medler (24-29 May, 1-8 June)
Miss R T Harrop (24 May-1 June)
H Chiu (1-8 June)
H D Dooley (Marine Laboratory, Aberdeen) (29 May-1 June)
R S Payne (" " ") (29 May-1 June)
D Edleston (SMBA) (24-29 May)
Mrs M Betz-Wiser (Belgium) (24 May-1 June)

DURATION

Left Lowestoft 1300 h, 24 May

Arrived Lowestoft 1215 h, 8 June

All times are Greenwich Mean Time

LOCALITY

Northern and Central North Sea

AIMS

1. To salvage JONSIS Station A and then re-establish it and to service JONSIS Station B.

2. To recover the 6 moored current meter stations laid in a line across the northern North Sea from Rattrey Head, Scotland to Lim Fjord, Denmark during Cruise 6. At each station hydrographic serial observations will be made and 50 Woodhead sea-bed drifters released.

3. To anchor the vessel at 55°07', 01°10'W, the centre of Dr P O Johnson's sprat-fishing area, and take observations of tidal current speed and direction at various depths in the water column over a 25 hour period.

4. To establish an equilateral triangle (side length 10 miles) of moored recording current meter stations in the central area of the northern North Sea and track the drift of a parachute drogue released within the triangle over a 25 hour period.

5. To collect turbot eggs for Dr Purdom and ectoparasites of <u>RAIA radiata</u> for Mr Leppington-Clark.

<u>NOTE</u>: Aims 3-4 had to be omitted in favour of firstly recovering the 5 moored stations established by RV EXPLORER of the Marine Laboratory, Aberdeen in late April that had had to be left at sea and secondly, searching for the 3 current meters put out at 2 stations on the Lim Fjord-Rattray Head line that had probably been fished up or dragged away from their original positions.

NARRATIVE

The vessel left Lowestoft at 1300 h, 24 May and set course for JONSIS station A which was found early the next day after a search in fog that lasted several hours. Some detailed notes on the condition of the rig and of all the other moored current meter rigs that it was planned to recover during the cruise are provided in the table attached to this report. By 0730 h, the station had been recovered and the vessel proceeded to JONSIS Station B which was also shrouded in fog. The acoustic release on the moored rig was triggered successfully at 2.5 miles range and the meter wire cut via an acoustic signal once the vessel was within sight of the surface pellet. The equipment was then recovered and by mid-afternoon the vessel was on passage to station L, the most easterly position on the line of 6 stations that were to be recovered. (See attached chart.)

On arrival at station L at 1500 h, 26 May no trace of the rig could be found. A box search of the area was made, a beam-trawler's crew asked if they had seen any sign of the buoy, the vicinity of the rig dragged through 3 times with the grapnel and a night-search of the area undertaken that was aimed at locating the surface buoy by radar or its coded light. No trace of the rig was found at any time. Banks of fog began to form at about midnight and so the vessel moved on to Station K. Again there was no sign of the rig at the surface but a signal from the ship-board transducer set off the acoustic release on the meter wire. Various acoustic surveys of the region were then put in hand and the grapnel dragged through the region indicated by them but no contact with any part of the rig was made. As a last resort an attempt was made to cut the meter wire via the acoustic release at 1430 h and the command repeated 4 times. After each "firing" the signal from the release indicated that the firing circuit had been activated but there was no sign of any part of the rig on the surface. Another acoustic survey was then carried out and more attempts made to cut the meter wire but again to no avail. At 1530 h the search was ended for the time being and the vessel moved on westwards to the position of Station J. There was no trace of this rig of any kind. A 2 mile box acoustic survey of the area was begun at 2130 h and carried on until 0300 h, 28 May without success. The ship then set course for Station H.

At 0730 h in poor visibility and some 1½ miles downrange of its expected position the surface buoy at Station H was found on the radar. The vessel quickly closed onto the target and the gear was recovered without incident. The rigs at stations E and D also were brought inboard at 1630 h and 2130 h respectively on the same day without any complications developing and the ship then moved to Aberdeen, docking at 0800 h, 29 May.

As previously planned Mr Medler took several current meters ashore to the DAFS' Marine Laboratory for checking and re-calibration, Mr Edleston left the ship and Messrs Dooley and Payne of the Aberdeen Laboratory joined the scientific staff. The vessel sailed at 1500 h for the Fair Isle area and 3 Aberdeen rigs were recovered by 0500, 0900 and 1400 h respectively the next day (30 May) in conditions that changed progressively from thick fog to near gale-force winds. Two more stations established 90 miles due east of Aberdeen were recovered on 31 May and then the ship sailed westwards and anchored about 2 miles off the coast in the early hours of 1 June. During the morning the ship's boat was launched and used to take a "bleeping" acoustic release system round the ship at ranges of 3 and 6 cables so that the shipboard transducer unit could be calibrated in relation to the Ship's Head and some experience gained of the nature of the return signal to be expected at various ranges from and bearings to the ship. The vessel then put into Aberdeen at 1345 h so that all the DAFS gear could be unloaded and the Lowestoft current meters brought back on board. Mrs Betz-Wiser, Miss Harrop, Messrs Dooley and Payne left the ship at this point; Mr Medler rejoined the staff and the complement was made up by the arrival on board of Mr Lincoln and Mr Chiu from Lowestoft.

The early morning of Saturday, 2 June was spent preparing the deck for trawling

and at 1000 h the vessel set course for the eastern half of the original line of stations. Enquiries made with both Danish and Lowestoft contacts had produced the information that Station J was on board the fishing cutter TAVAMA (L 505) and that the surface buoy from Station L was being held in Thyborean, a Danish fishing port. Consequently the ship moved straight to the position of Station K, though water bottle stations were done at Station H and J en route to complement those done at Stations L, H, E and D a week or so before. At 1400 h, 3 June the acoustic release at Station K was triggered off again and for 3 hours a new acoustic survey undertaken. The grapnel was then towed through the newly defined "search area" many times in the period 1700-1900 h and then the lighter Aberdeen grapnel was tried for another 2 hours. The dragging operations were resumed at 0530 h the next morning but then called off at 0900 h in favour of trawling through the region. Three tows involving 7 passes through a rectangle of sides 3 by 7 cables were made without any contact with any part of the rig being made. In each case the catch was checked by Mr Lincoln for items of biological interest. By 1400 h it was felt that the exercise had to be called off in view of other cruise commitments but attempts were again made to "fire" the release before it was finally turned off and the ship moved off to Station L. Trawling at this station began at 1900 h and 2 unsuccessful sweeps through the original rig position were made. At 2200 h this search operation was also called off and the ship then set course for the "turbot tows" in the Middle Rough area that lies on the western flank of the Dogger Bank.

Trawling began at 1900 h, 5 June was stopped for the night at 2325 h and then went on for the period 0500-2030 h the next day. Seven males and two female turbot were caught: other notable features of the day being the presence of berried crabs in each trawl-haul and the fact that at one time 70 trawlers were working a small area 12 miles to the west of the CLIONE's position. These vessels had moved on before it was possible to find out what they were fishing for.

The ship steamed overnight to JONSIS Station A which was re-established at 0900 h, 6 June; station B being re-launched during the afternoon. The ship then moved to the Mablethorpe Brill nursery ground and a single hour-long tow made at 2100 h which produced 3 brill. Course was then set for Lowestoft, the vessel docking at 1215 h, 8 June.

RESULTS

1. JONSIS Stations A and B were successfully recovered and re-established.

2. Of the 6 stations on the Rattray Head-Lim Fjord line the 3 most westerly rigs (Stations D, E and H) were recovered intact and the current meters from the next station (Station J) on the line are to be landed in Denmark shortly. The meters from Stations K and L could not be found.

   The pairing of cruises 6 and 9 has meant that for the same amount of preparatory work and ship-time almost six times the amount of data has been collected as was possible via the old style of three week-long current meter exercise exemplified by cruise 11/72 of the CLIONE. Three current meters were lost in both exercises so that the increased length of time at sea does not appear to significantly alter the loss rate.

3. The 5 Aberdeen moored current meter stations lying in a line roughly perpendicular to the Lowestoft line were successfully recovered: one meter wire had been broken and the current meter and subsruface float were missing. This joint recovery venture was the first time representatives of the two current meter groups had been at sea together on the same ship and the experience was found to be mutually advantageous. It is felt that the two sets of data will compliment each other in marked degree.

4. Eight live turbot (6 males, 2 females) and 2 brill were brought back to Lowestoft for Dr Purdom. No running female turbot were caught and no specimens of the ectoparasites of RAIA radiata were found. A feature of the Middle Rough trawl hauls was the presence on each occasion of berried crabs in the catch. Three specimens were brought back to Lowestoft in case they were of interest to the Burnham Laboratory.

5. Hydrographic serial observations were made along the Rattray Head-Lim Fjord and Fair Isle-Swatchway lines of moored current meter stations. Releases of Woodhead sea-bed drifters were not made because of the development of new calls on limited supplies since the cruise programme was written.

6. Detailed notes have been prepared and put on the appropriate file of the performance of the MAFF acoustic release system, acoustic survey and search routines and features of the DAFS rig of particular interest to the Hydrographic Section at Lowestoft.

J W Ramster
18 June 1973

SEEN IN DRAFT: M R Sutcliffe (Master)

INITIALLED: HH, AP

DISTRIBUTION:

Basic List

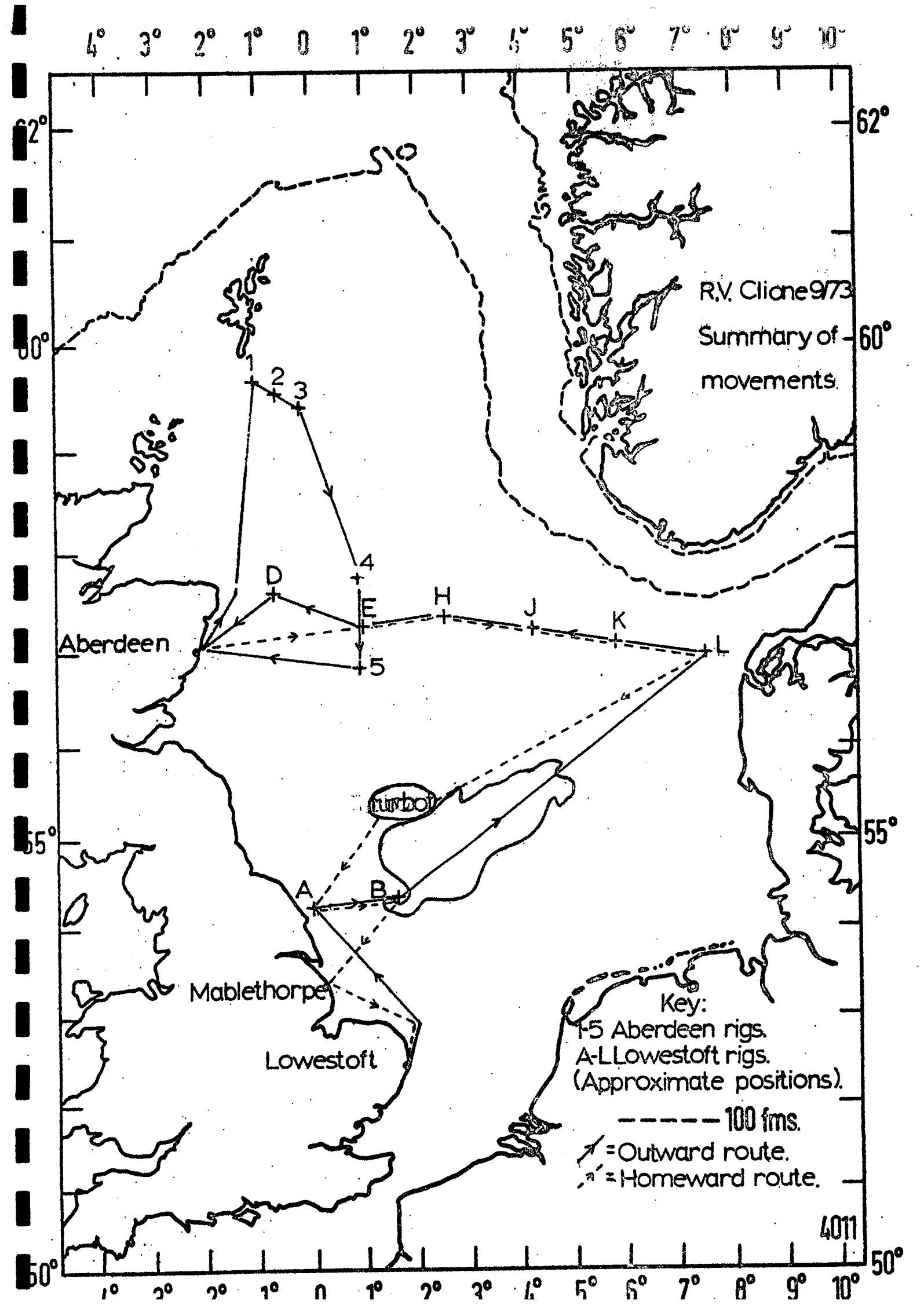
J W Ramster
J A Durance
R F Lincoln
K J Medler
Miss R T Harrop
H Chiu
H D Dooley, DAFS
R S Payne, DAFS
D Edleston, SMBA
Mrs M Betz-Wiser, Belgium

TABLE 1. CLIONE 9/73: MAFF MOORED BUOY POSITION SHEET

Buoy	Date on arrival	State on arrival	Evidence of fishing	Comments/Measurements Taken/Information Received	Final Outcome as at 8 June
JONSIS A	25 May	3 miles north of original position. Top Meter and sub-surface float already returned to Lowestoft. Light batteries decomposed	Skipper of vessel actually involved returned gear	Brought in normal way - A/R tested on board - apparently OK. Bottom frame and fin mangled, meter intact	Station re-laid 7 June
JONSIS B	25 May	No response from A/R at 5 miles, set off at 2.5 miles. Fired successfully at close range. Light battery voltage low - light not working in fact	None	Brought in as two operations. No complications	Station re-laid 7 June
L	26 May (1500)	Nothing Found	Twin Beam trawler MAREM of Cuxhaven within one mile Told	Visual searches: 0.5, 1.0 & 1.5 0.5, 1.0 and 1.5 miles boxes)26-27 7.5 mile night box)May 3 drags through rig position) surface buoy in Thyborean - 1 June 2 tows through rig position - 4 June	Missing: 1 Meter (No. 295) 1 Subsurface float, wires and weights Toroid in Thyborean*
K	27 May	No toroid, no pellets A/R triggered	Sand eelers between K & L. 10 trawlers 2 miles to south	A/R Surveys: (a) Close to rig (b) Spins at 4 points (c) Line approaches)27 May 3 June A/R "Firings" & associated visual Search 27 May and 3 June Innumerable drags thro' area 27 May/3 Ju 3 tows thro' region 3 June	Missing 1 SSB + Toroid + wires + weight 2 Meters (Nos. 686, 353) 1 A/R release
J	27-28 May	Nothing found (Toroid already returned via Danish Seiner)	2 Seiners within 1 Mile	A/R 2 mile box survey - 27-28 May. Told whole meter wire on board Danish cutter - 1 June	Meters + SSB + A/R + Toroid * 12 to be picked up by Esborg agent on 9 June and put on CORE on 11 June

TABLE 1 (Continuation)

Buoy	Date on arrival	State on arrival	Evidence of fishing	Comments/Measurements Taken/Information Received	Final Outcome as at 8 June
H	28 May	Toroid 2 miles off position, No pellets, A/R could not be turned on. Light not working very well	All courlene ropes, snap shackles, pellets gone	Brought in old way - no troubles. A/R responds to shipboard tests only when battery replaced. Light battery voltage low	Recovered intact
E	28 May	All good except buoy strops maypoled. A/R responds to first "on" and "fire" command. Takes 7 attempts to turn it off	None	Brought in as 2 operations. No complications	Recovered intact
D		Toroid in position - Buoy strops maypoled. A/R turned on/off at first attempt	None	Hauled in old way - no troubles	Recovered intact


4° 3° 2° 1° 0 1° 2° 3° 4° 5° 6° 7° 8° 9° 10°
62°
60°
55°
50°
R.V. Cliona 9/73
Summary of movements.
1
2
3
4
5
D
E
H
J
K
L
A
B
Aberdeen
Turbot
Mablethorpe
Lowestoft
Key:
1-5 Aberdeen rigs.
A-L Lowestoft rigs.
(Approximate positions).
100 fms.
= Outward route.
= Homeward route.
4011