

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

1989 RESEARCH VESSEL PROGRAMME

REPORT: RV CORYSTES: CRUISE 7

STAFF:

- B M Thompson
- B F Riches
- P Walker
- S R J Lovewell
- L S Emerson
- A R Lawler

DURATION:

Left Lowestoft, 1042 h 8 June
 Arrived Lowestoft, 0820 h 5 July
 All times are Greenwich Mean Time

LOCALITY:

English Channel, Western Approaches, Bay of Biscay

AIMS:

1. To carry out a plankton survey using the 53 cm High Speed Tow Net fitted with a MAFF Guildline CTD monitoring system, to determine the distribution and abundance of crab (Cancer pagurus) larvae.
2. To take sub-surface sea water samples for salinity determination at each plankton station, and to monitor continuously sub-surface sea water for chlorophyll "a" fluorescence.
3. To use a fine-mesh auxilliary sampler at selected stations to determine the distribution of scallop (Pecten maximus) larvae.
4. To take additional plankton samples in areas of highest abundance of larvae to estimate haul to haul and spatial variability.
5. To deploy baited crab pots in selected areas of the English Channel to monitor the gonad condition of female crabs.
6. To study the vertical distribution of crab larvae using a LHPR sampler.
7. To deploy an ARGOS satellite tracked drifting buoy to track the drift of crab larvae in the La Chapelle Bank area.
8. To sample for sole (Solea solea) eggs and larvae at selected stations if time allowed.

NARRATIVE:

RV CORYSTES sailed at 1042 h on 8 June and proceeded to the first station of the survey grid approximately 2 n. miles South East of North Foreland.

Sampling began at 1931 h on 8 June and continued until 1941 h on 20 June when the accuracy of the logged data deteriorated to such an extent that it became necessary to repair the plankton sampler towing cable. Course was set for

Concarneau and CORYSTES docked at 1506 h on 21 June.

After leaving Concarneau at 0605 h on 23 June, plankton sampling was resumed at 0943 h on the same day and continued until completion of the main grid of stations at 0315 h on 3 July. (Figure 1.)

A secondary grid of 17 stations was sampled on 4 July covering the Shingle Bank area (Figure 2).

Thirty baited crab pots were deployed on 10 June in the Shingle Bank area, on 14 June in Lyme Bay, and on 15 June in mid-Channel (50° 02.7'N 02° 56.2'W).

The satellite tracked Argos buoy was released at 2327 h on 28 June in the La Chapelle Bank area (47° 37.7'N 06° 59.4'W).

Minor interruptions in the sampling programme were caused by the need for cable repairs, faulty slip rings on the main cable winch which needed frequent attention, and force 6-7 West to South West winds on 26 and 27 June which made it necessary to work a westerly line of stations before the wind.

Sampling was completed at 2110 h on 4 July and course was set for Lowestoft.

RV CORYSTES docked at 0820 h on 5 July.

RESULTS:

1. A total of 319 stations were sampled on the main survey grid, using the 53 cm High Speed Tow net fitted with a 20 cm diameter opening nose cone and a 270 μ mesh net.

Eighteen of these stations were in the Trevoise Head sole spawning area.

A small number of plankton samples from selected stations were examined during the cruise, and Cancer pagurus larvae were found to be present in the areas of Mounts Bay, Wolf Rock, Lyme Bay and Royal Sovereign.

Free flow calibration tows were carried out at speeds of 4, 5 and 6 knots to test the positioning of the external flow meter.

2. An auxilliary sampler fitted with a 20 μ mesh net was used at 83 stations in the English Channel to determine the distribution of Pecten maximus larvae.
3. Two sub-surface sea water samples were taken at alternate plankton stations for salinity determination.
4. Depth profiles of salinity, temperature and light were obtained at each station using data logged from the Guildline CTD system mounted on the tow net.

Sea surface temperatures ranged from 12.02°C in the eastern English Channel to 20.55°C south of Concarneau.

Near sea bed temperatures ranged from 10.5°C in the Western Approaches to 16.9°C south of Jersey.

A surface to near sea bed temperature difference of 4.4°C was recorded across the area of the Ushant front and a maximum "delta T°C" of 8.5°C

occurred at stations south-of Concarneau.

All data were logged on the HP 1,000 computer.

5. The surface CTD, chlorophyll "a" and light monitoring system was run continuously. Two sub-surface sea water samples were taken every 4 hrs for salinity determination and calibration purposes.

All data were logged on the HP 1,000 computer.

6. Eight female crabs were caught in pots deployed in the Shingle Bank area of which six carried empty egg cases.

One male crab was caught in Lyme Bay.

7. Updates of the position of the Argos Buoy received during the cruise are shown in Figure 3.

8. There was insufficient time available to complete aim 6 of the cruise.

Brenda M Thompson
5 July 1989

SEEN IN DRAFT: Capt J French (Master)
P Mackay (Senior Fishing Mate)

INITIALED: J G S

DISTRIBUTION:

Basic List+
Staff on cruise
D J Symonds
J W Horwood
DI's: Hastings
Poole
Plymouth
Brixham
Newlyn

Sea Fisheries Committees: Devon
Cornwall
Isles of Scilly
Channel Isles
Southern
Sussex

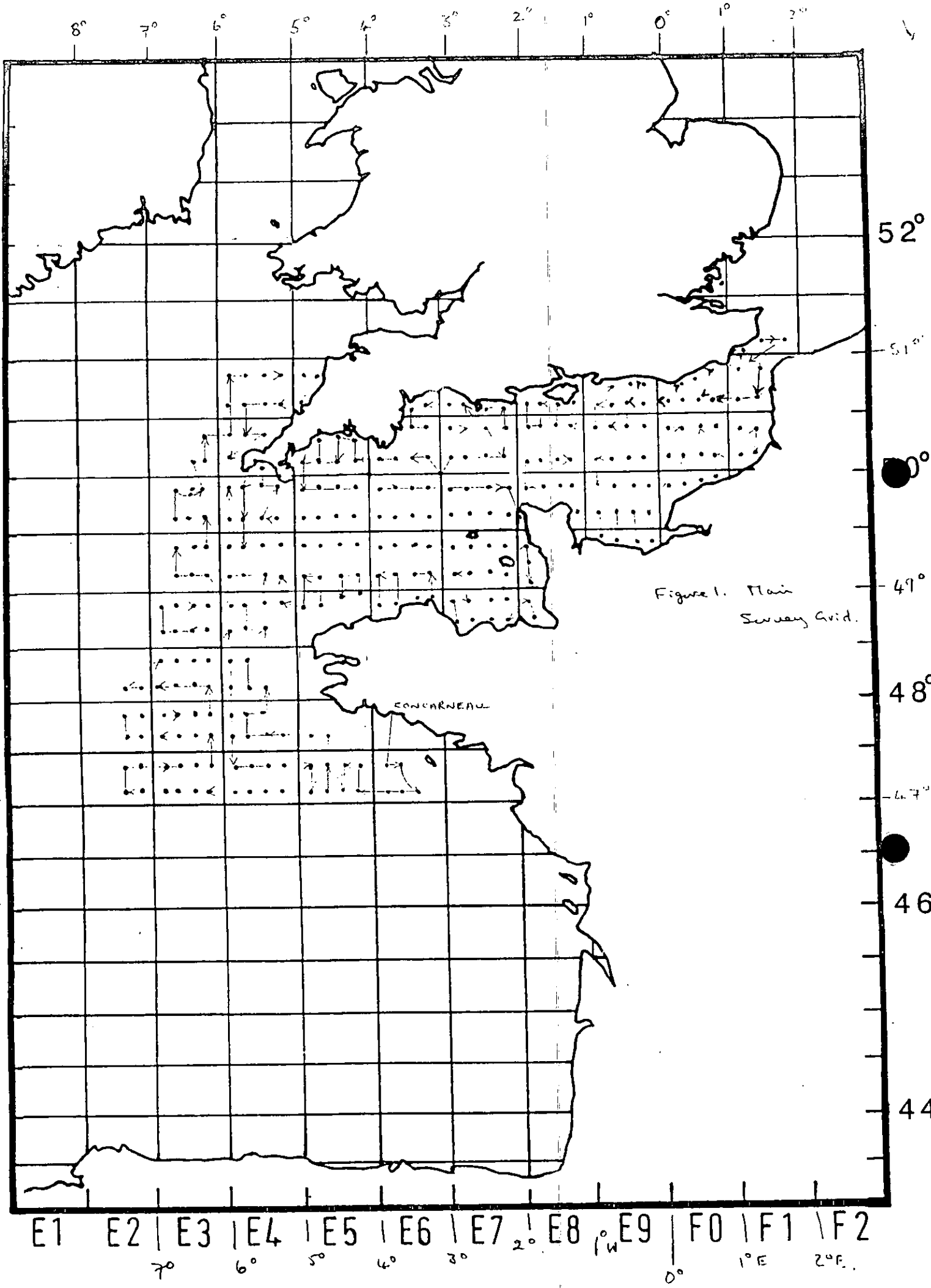


Figure 1. Main Survey Grid.

ARGOS BUOY CORYSTES 7 1989

SHOWING :
CRUISE TRACK

Figure 3

DATA VALUES REPRESENTING : TIME

