

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

1979 RESEARCH VESSEL PROGRAMME

REPORT: RV CORELLA: CRUISE 6

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

STAFF:

R G Houghton
T J Hulme
C N Humphreys
A Fordham
M J Boon

DURATION:

Left Lowestoft 1200 h, 18 April

Arrived Lowestoft 1615 h, 5 May

All times are GMT.

LOCALITY:

English Channel

AIMS:

1. To determine the location of sole spawning areas in the English Channel and to estimate the mortality rates of sole eggs and larvae.
2. To carry out a 30 station groundfish survey of the eastern English Channel.
3. To catch sole in order to study their feeding and to collect gonad samples for fecundity work.
4. To position toroidal buoy moorings for Scallop Settlement Monitoring, in Weymouth and Start Bays.
5. To collect samples of fish for the Fish Identification course and also for Environmental Archaeological Unit, York.

NARRATIVE:

The toroidal buoy moorings were rigged on the steam down into the English Channel and deployed in Weymouth and Start Bays at 1220 and 1815 h on 19 April. The tin-tow-net was calibrated 8' south of Start Point and the survey grid was begun at the same position at 2200 h. The 87 stations covering the English Channel from 50°15'W to the Straits of Dover were completed at 0025 h 27 April and CORELLA went into Boulogne for water, fuel and stores.

After being rigged for trawling CORELLA left Boulogne at 0800 h, 28 April and began the trawl survey close to the French coast. The survey involved a 45 min haul with the Granton preceded by a Day Grab station to obtain material for sediment analysis. The fish were sorted, counted and weighed and measurements and otoliths were taken of selected species. Sole gonads were preserved. Weather delayed the

survey for a short period on 3 May; CLIONE and CORELLA met at lunchtime on 4 May and some measurements of the trawl were taken with the sector scanner. The survey was completed at 0047 h 5 May and CORELLA set course for Lowestoft arriving there at 1615 h 5 May.

RESULTS

1. An attempt was made to identify and count the sole eggs in the 83 samples collected using silhouette photography, but a number of problems were encountered including lack of definition leading to difficulties in identification and the obscuring of the samples by phytoplankton. Photographs were taken of subsamples of fixed plankton from 20 stations and of subsamples of live plankton from a further 20 stations: they demonstrated that live plankton must be used for egg counting with this technique. The technique is a promising one for the estimation of plankton at sea and useful experience was gained.

Sea temperatures ranged from 10.4°C in the west, off Ushant, to 8.2°C at the Straits of Dover with colder water masses inshore down to 7.55°C. The character and quantity of the zooplankton changed markedly from west to east; generally becoming less dense and dominated by a smaller species of copepod in the east than the west.

2. 28 clear hauls and 2 with slight damage were completed; one station had to be repeated after the belly was torn out. No gear was lost. The weights caught in the 10 hauls in each depth band of various species groups were as follows:

Group	No. of species	Top Species	Kg caught/7.5 hrs		
			0-20	20-40	40-60m
Flatfish	11	Plaice	161	97	5
Gadoids	7	Pout whiting/cod	417	538	87
"Sharks"	5	Lesser spotted dogfish	22	79	2
Rays	4	Thornback ray	42	122	1
Gurnards	4	Red gurnard	12	74	14
Minor commercial	7	Anglerfish	3	19	73
Pelagic Minor	8	Horse mackerel	18	25	202
non-commercial	12	Dragonet	15	15	9
Cephalopods	3	Cuttlefish	5	1	1
TOTAL	61		695	970	394

Cod were present in almost every haul and consisted of a number of yearclasses - that of 1977 was prominent (in 1976 very few cod were caught in a similar survey).

Day grab stations were completed at each fishing position and samples were frozen for analysis at the laboratory.

3. 33 sole ovaries were preserved in Gilsons Fluid for fecundity work.

4. The buoys were positioned at 50°35.9'N, 2°18.0'W and 50°14.0'N, 3°38.3'W.

5. A large variety of fish were deep frozen for the Fish Identification Course and Environmental Archaeological Unit, York.

R G Houghton
21 May 1979

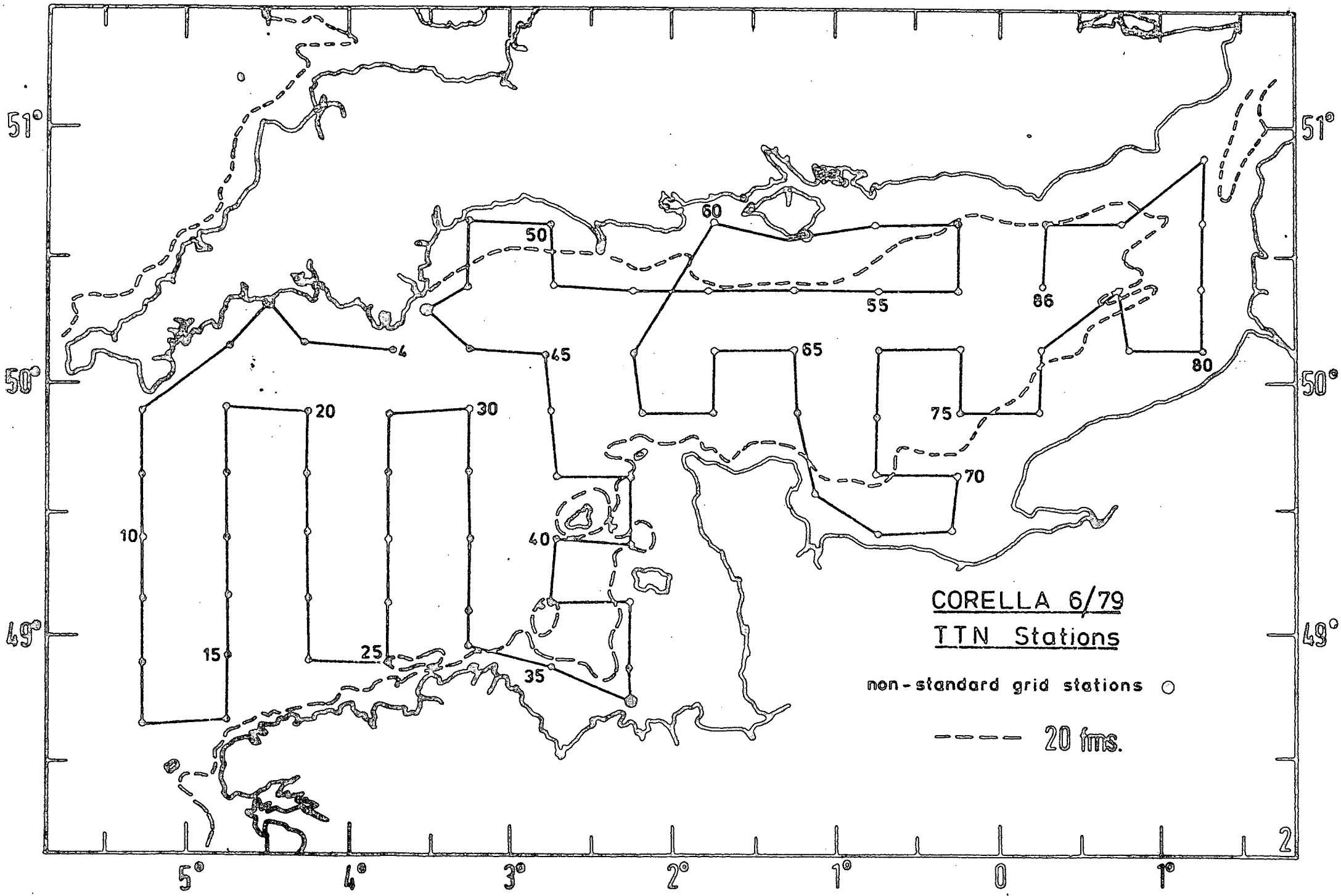
Seen in draft: GS
RG

INITIALLED: AJL

DISTRIBUTION:

Basic List
R G Houghton (4 copies)
T J Hulme
C N Humphreys
A Fordham
M J Boon

5° 4° 3° 2° 1° 0 1°



51°

51°

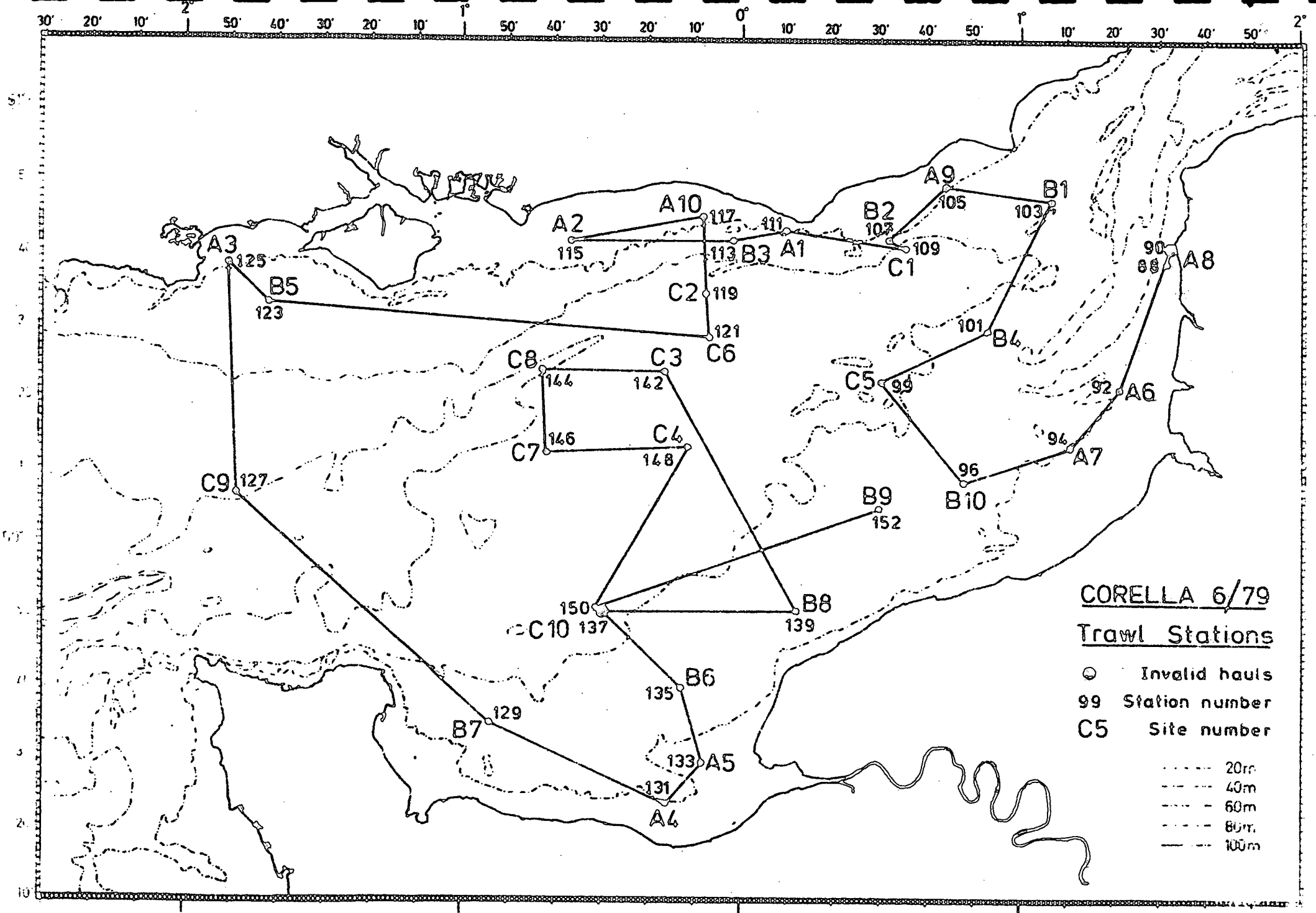
50°

50°

49°

49°

5° 4° 3° 2° 1° 0 1° 2



CORELLA 6/79

Trawl Stations

- Invalid hauls
- 99 Station number
- C5 Site number

- 20m
- 40m
- 60m
- 80m
- 100m