

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

1976 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: 14/76

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

STAFF:

K Brander

P Wallace

B Mumford

C Whiting

T Watson

D Minchin (Ireland)

27/9-8/10

8/10-17/10

DURATION:

Left Lowestoft 1030 h, 27 September

Arrived Lowestoft 0030 h, 17 October

All times are Greenwich Mean Time

LOCALITY:

Irish Sea

AIMS:

1. To carry out a trawl survey in the area between St Georges Channel and the Calf of Man.
2. To tag young cod along the Irish coast for studies of recruitment.
3. To collect vertebral count data on cod for studies of stock structure.
4. To carry out a survey of young gadoids and to preserve young cod for electrophoretic studies by Dr Child.
5. To collect fish food for Dr Lincoln.
6. To bring back large live plaice for Mr Scholes.
7. To collect samples of cod from the Irish coast for Mr Jefferies.

NARRATIVE:

CLIONE sailed from Lowestoft at 1030 h, 27 September and steamed straight to St George's Channel, where the first trawl survey station was carried out at 1250 h, 29 September. The trawl survey design was to carry out two replicate hauls on predominantly sandy bottoms in each of four depth strata (0-10, 10-20, 20-50 and over 50 fathoms) in three zones along the Welsh coast (52°N-52°30', 52°30'-53°, 53°-53°30'). Each trawl survey station consisted of a one hour haul using the standard Granton trawl with rubber wheels in the bosom, seven fathom bridles and a small mesh liner and cover on the codend. Trawling took place only between 0630 and 1800 h. The numbers of each fish species caught in the codend and cover were recorded and the commercially important species were measured. Length stratified samples of plaice, cod and whiting were taken for otoliths and weighed whole. All sole, brill, turbot, lemon sole and hake were otolithed and

weighed. Good sea conditions for most of the cruise made weighing fairly easy and a Salter pan balance with 5 kg capacity was used for small fish. Larger fish were weighed on a 12 kg capacity Danish (BISCO) steelyard, which proved to be far more reliable and easier to use in poor conditions. A special record sheet developed for groundfish surveys in this area (copy attached) was used in addition to the Naturalist's Logbook and will be used for future surveys as it simplifies recording and subsequent data processing. The benthos taken in the trawl at each station was recorded photographically.

The first line of stations for young gadoids was carried out on the night of 29/30 September using the Boothbay net (see Cruise track). Each station consisted of a V haul down to within 6 metres of the bottom, as recorded by the headline transducer. Following a day's trawling in the southern part of Cardigan Bay on 30 September, four replicate young gadoid stations were worked using the Boothbay and 2 m² frame trawl, but since neither caught any gadoids it was decided to use the Boothbay for the main survey grid and to keep the frame trawl for work in shallower water inshore at a later stage in the trip. The same timetable of trawling during the day and surveying with the Boothbay at night was continued on 1 and 2 October, completing all except two of the inshore stations in Cardigan Bay and the two deep stations in the northern part, for which no suitable ground could be found. A poor forecast on 3 October prevented further work in Cardigan Bay and CLIONE steamed round into Conwy Bay, where there was sufficient shelter to carry out one trawl haul in the evening on a station being sampled routinely during our groundfish surveys on F.V. ALBERTUS and to take four grab samples in order to clarify part of our sediment chart for the bay.

All the inshore trawl stations in Caernarvon Bay were completed on 4 October and a line of Boothbay stations was carried out during the night, ending off the Irish Coast at dawn. S.W. gales prevented fishing on 5 and 6 October, except for one haul in Dublin Bay, but on the evening of 6 October the line of Boothbay stations across to Holyhead was worked and on 7 October the two deep trawl stations in the Caernarvon Bay sector were carried out. The northern Boothbay section was completed on the night of 7/8 October and two trawl hauls were made in the Chickens area, S.W. of the Isle of Man before docking in Douglas at 1230 h on 8 October.

Here we were joined by Mr D Minchin from the Fisheries Department, Dublin and T Watson left the ship. Dr M Windsor (Chief Scientist's Group), who had been due to join the cruise here, had had to cancel. CLIONE sailed from Douglas at 0815 h, 9 October and steamed straight to Arklow Bank. The period from then until the late evening of 13 October was spent trawling for cod in the area from the south end of Arklow Bank down to Blackwater Bank, in depths of 10-35 fathoms. The quantities of fish caught were rather small, with a maximum of 38 cod tagged at any one station. The condition of many of the fish tagged was poor and a cage was used for releasing some of the fish from each station. The proportion of young cod (1 year old) present was low and attempts to locate them in shallow water were not successful. Trawling was hampered by strong tides at the time and by strong winds on 12 October.

Two lines of closely spaced stations were worked using the 2 m² frame net in depths of 10-30 fathoms to try to find 0-group cod, but none was taken. The frame trawl was fished on the bottom for five minutes at each station and gave interesting samples of epibenthos. At one station very steep sand ridges were encountered and the gear filled with over a ton of sand and shell, but damage was very slight, the net being pulled away from the canvas fastener.

Work finished on the evening of 13 October and CLIONE sailed for Fishguard to land Mr Minchin. Strong N.E. winds prevented this however and the subsequent gale on 14 October caused a delay in the homeward passage. The ship docked in Lowestoft at 0030 h, 17 October.

RESULTS

1. The main part of the trawl survey along the Welsh coast was completed, but

time lost through bad weather prevented the survey around the Isle of Man from being carried out.

2. A total of 498 cod were tagged in the Blackwater area, of which about 50 were one year old fish. In addition 37 plaice were tagged.

3. Vertebral counts were made on 134 cod, mostly below 60 cm in length.

4. Five lines of stations using the Boothbay net were carried out, a total of 26 stations, but no 0-group cod were caught. Two lines of stations using the 2m² frame net also yielded no cod and only 3 were taken in the Granton trawl. These were frozen for Dr Child.

5. All Dr Lincoln's fish food requirements were met.

6. Very few plaice were taken on the Irish Coast and the only two live ones kept for Mr Scholes died after the gales on the passage home.

7. Ten cod were gutted and frozen for Mr Jefferies and their livers frozen separately.

8. The stomach contents of all otolithed fish were examined and noted, using a 10 point index of fullness. The stomachs of 100 cod were frozen for further examination. In all, the numbers of fish measured and otolithed were:

	Otoliths	Measurements
Cod	150	697
Plaice	284	1409
Whiting	270	3908
Sole	65	106
Brill	10	13
Turbot	4	4
L. Sole	13	26
Hake	40	43
Rays	-	617

Keith Brander
26 October 1976

SEEN IN DRAFT: GS
GFL

INITIALLED: AJL

DISTRIBUTION:

Basic List
K Brander
P Wallace
B Mumford
C Whiting
T Watson
D Minchin (Ireland)

VESSEL

STATION NUMBER DATE

BELT

SEDIMENT TYPE

DEPTH

	SHOT			HAULED		
BECCA POSN	R	G	P	R	G	P
LAT/LONG						
TIME						
DEPTH						
TIDE..... WIND DIRECTION/FORCE..... SEA STATE.....						

CATCH

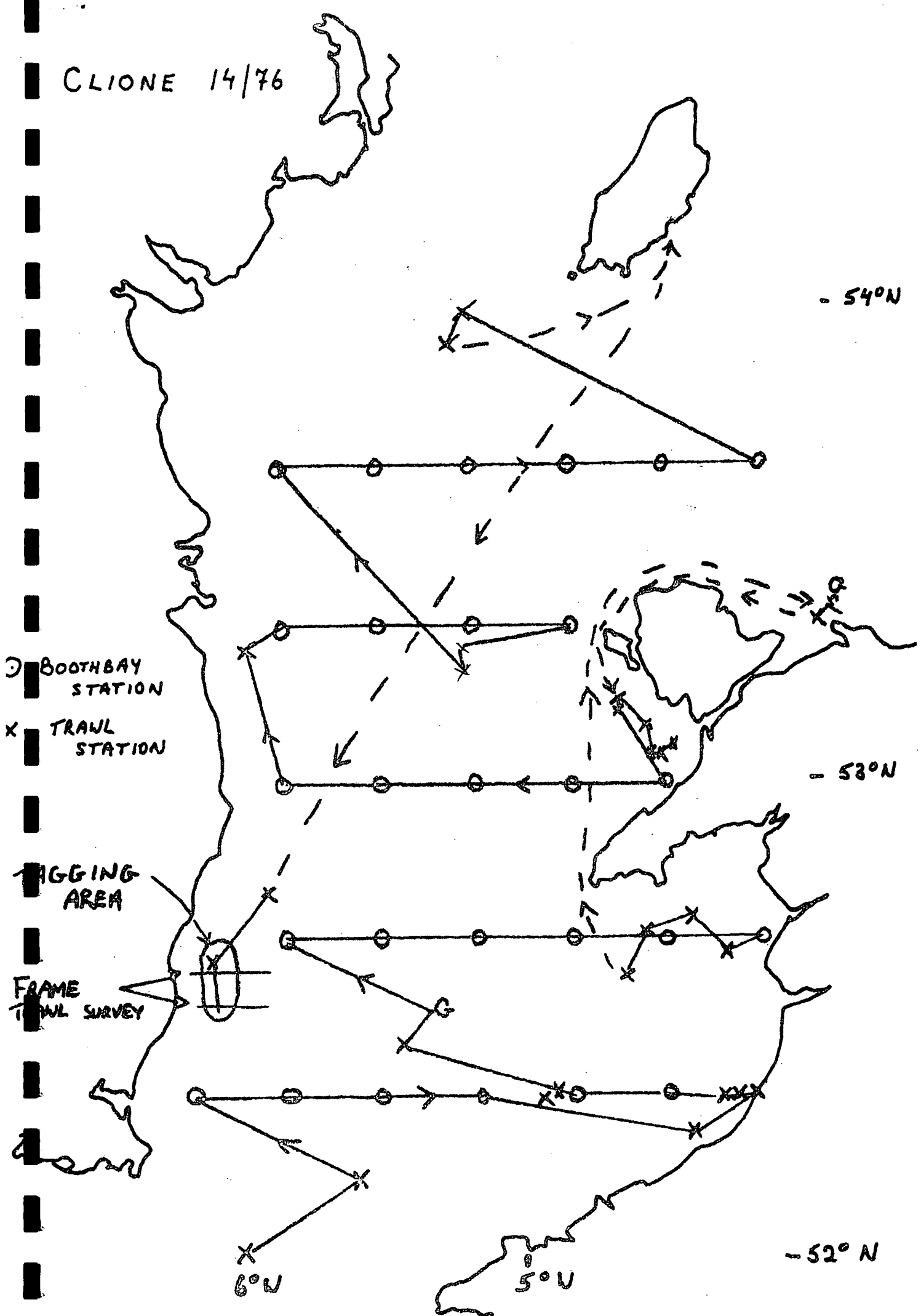
SPECIES	COD END		COVER	
	QUANTITY	MEASURED	QUANTITY	MEASURED
PLAICE				
WHITING				
SOLE				
COD				
SAB				
BRILL				
FLOUNDER				
DRAGONET				
GURNARD, RED				
" YELLOW				
" GREY				
POUT WHITING				
POOR COD				
<i>R. clavata</i>				
<i>R. montagui</i>				
<i>R. naevus</i>				
<i>R. brachyura</i>				
WEEVER				
HERRING				
SPRAT				
MACKEREL				

BEATING FISH YES/NO

NATURAL PRESERVED

REMARKS:—

CLIONE 14/76



- 54°N

- 53°N

- 52°N

6°W

50°N

○ BOOTHBAY STATION

X TRAWL STATION

▭ FISHING AREA

△ FRAME TRAWL SURVEY