

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

1972 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 10

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

STAFF

R G Houghton  
K M Brander  
T W Boon  
B J Knights  
P Bryan (Grimsby)  
R Guichet (ISTPM)

DURATION

Left Lowestoft 1505 h 20 July

Arrived Lowestoft 1930 h 9 August

All times are Greenwich Mean Time

LOCALITY

West of Scotland

AIMS

1. To survey the continental shelf west of Scotland between latitude 55°30'N and 59°30'N for hake and other demersal species.
2. To obtain length and age samples of pelagic species from the same area (Burd, Bolster, Macer, Johnson).
3. To obtain hake tissue samples for genetic studies (Mangaly).
4. To inject 1000 dogfish with tetracycline and release with tags attached (Holden).
5. To preserve 20 specimens of Black-mouthed dogfish for parasitological work (Platt, IMER).
6. To carry out a TTN survey of the area for hake and herring larvae.
7. To preserve herring samples for muscle fibre studies (Greer Walker).
8. To complete a line of eight hydrographic stations from Cape Wrath northwards (Ramster).

NARRATIVE

CLIONE sailed from Lowestoft at 1505 h 20 July and arrived off Cape Wrath at 1500 h 22 July. A section of eight hydrographic stations on a line NNW from Loch Eriboll was completed at 0055 h 23 July. Trawling commenced on the same day 20 miles NW of Sula Sgeir at the first station of the groundfish survey (see track chart). The survey was completed at 0252 h 3 August after two

short interruptions: from 1000 h 28 July to 0800 h 29 July CLIONE was in Stornoway to take on fresh water etc and bad weather prevented work between 1400 h 31 July to 1200 h 1 August when CLIONE was 30 miles west of Tiree.

Since each station was randomly selected for the purposes of the survey, one to three hours were spent surveying the ground with the echo-sounder before shooting the trawl, usually the night before. Several station positions were rejected on the basis of these surveys and new positions were selected at random. Even so, heavy gear damage occurred at several stations and these had to be repeated. It soon became obvious that a 48 station survey (4 stations in each of 3 depth strata in 4 areas) was impossible to complete, and, after the loss of the second trawl, it was considered prudent to complete 24 stations properly (ie including repeats) before attempting the second half. This was done by 0252 h 3 August by which time insufficient time remained to complete even 12 stations (1 in each sector) and therefore the second half was abandoned.

Five TTN stations were completed during this period and one additional hydrographic station.

The remaining 4 days (4 to 7 August) were spent searching for spurdogs between Rona and Fair Isle. On 7 August large quantities were caught 12 miles SE of Fair Isle in two hauls, a large proportion of which were injected, tagged and released making a satisfactory conclusion to the scientific work.

CLIONE began steaming for home at 1900 h 7 August and docked at Lowestoft at 1930 h 9 August.

NB: Large scale commercial fishing activity was observed south of St Kilda and also on Papa Bank. Eighteen large stern trawlers of East German, Polish, West German and Dutch nationalities were seen using midwater trawls 20 miles S. of St Kilda on 25 July. Later, in Stornoway, three of the scientific staff visited the "TIKO I" of Bremerhaven which was found to have caught 350 tons of fish off St Kilda since leaving Bremerhaven 12 days earlier. These were mainly herring, mackerel and (blue?) whiting. Thirty side trawlers and purse seiners (mainly Russian with some British) were seen working a very restricted area off Papa Bank on 5 August. The species that they were catching was not determined.

## RESULTS

Aim 1: A 24 station groundfish survey of the area between 50 and 200 fathoms from Tory Island in the south to Sula Sgeir in the north was completed. Three depth strata in 4 areas were each sampled twice (50-75, 75-100 and 100 to 200 fathoms). For completion this required fishing at 31 stations since 7 had to be repeated because of severe gear damage. Gear damage was suffered on 6 other occasions but was not considered sufficient to warrant repetition of the station. Two complete nets were destroyed and a set of bunt bobbins was lost.

The total weight caught and length composition of each fish species was measured at each station. Otolith samples were taken from hake, cod, coalfish, haddock, whiting, megrim and lemon sole.

Hake were caught at almost every station but the greatest quantities of large fish were caught between St Kilda and Sula Sgeir. Small hake were abundant in the North and South Minches and ranged from 12 to 30 cm, average 20 cm.

Haddock were the most abundant commercial species, the greatest quantities being caught south of St Kilda.

Several uncommon fish were caught - an adult Pearlfish (Echiodan drummondi), several specimens of Pearlside (Mauroliticus muelleri), the sandeel Hyperoplus immaculabus and a specimen of the lamprey, Petromyza marinus. Several

unidentified gadoids of the genus Phycis (possibly P. phycis) were also caught.

Aim 2: Samples of horse mackerel were frozen from each of the four areas and several samples of mackerel and herring were obtained.

Aim 3: Blood and tissue samples were taken from 94 hake. In addition several hundred small hake (less than 30 cm) were frozen whole for processing at the laboratory.

Aim 4: 441 spurdogs were injected with tetracycline, tagged and released in the vicinity of Fair Isle. 178 tank rejects were measured, sexed and their spines removed for age determination.

Aims 5 and 8 were also completed. Aim 6 was abandoned, partly completed due to lack of time, and Aim 7 was not achieved because insufficient herring were caught.

In addition about 80 kg of fish was frozen in 1 kg lots for feeding turbot and halibut at the laboratory. About 20 otoliths of the Macrourid - Malacocephalus laevis, were taken for Dr Fitch and 50 assorted otoliths of non-commercial species were taken for Mr Neil.

R G Houghton  
18 August 1972

SEEN IN DRAFT: James R French (Master)

A H Button (Fishing Skipper)

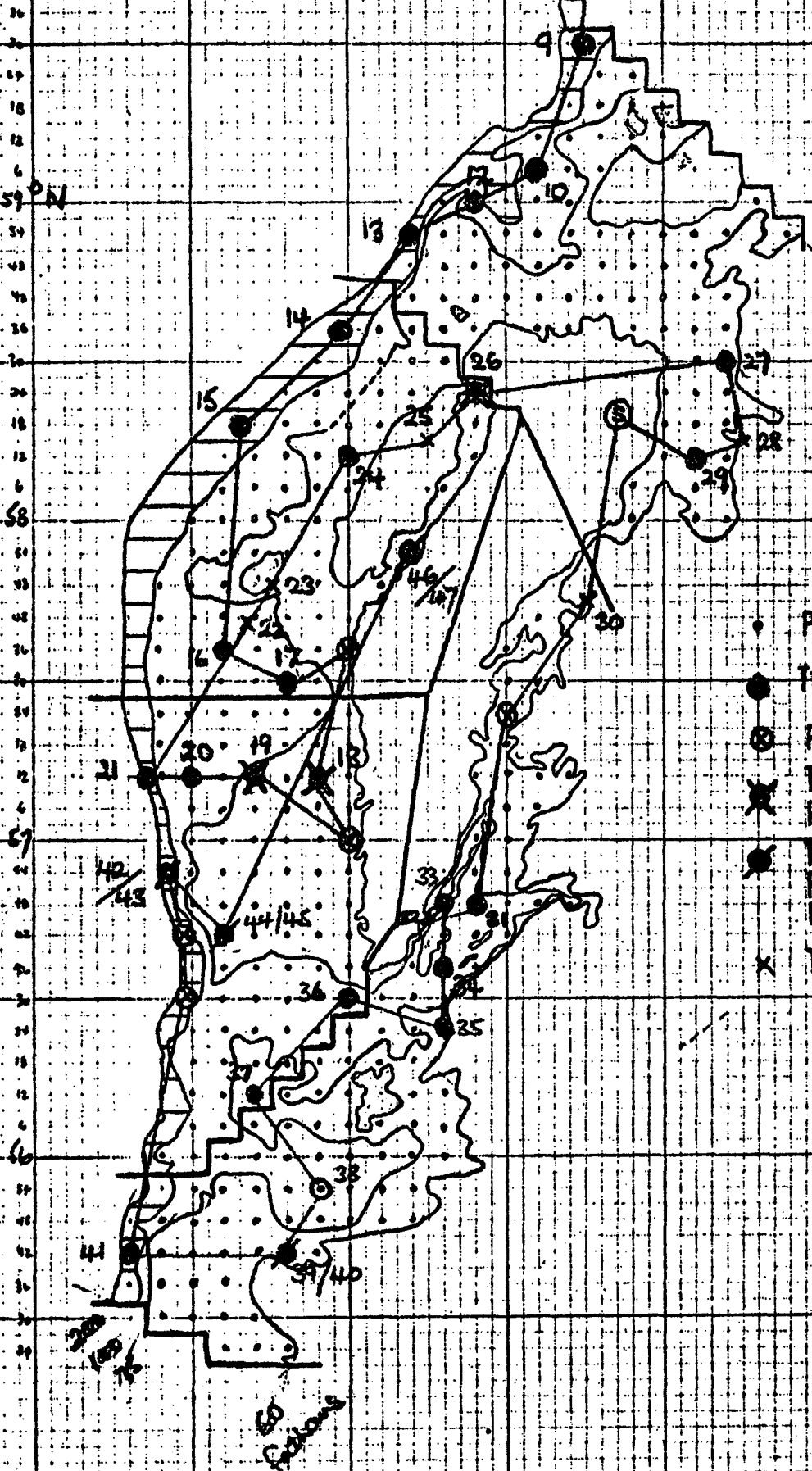
INITIALLED: AJL

DISTRIBUTION

Basic List  
R G Houghton  
K M Brander  
T W Boon  
B J Knights  
P Bryan (Grimsby)  
R Guichet (ISTPM)

# CLIONE 0172 TRACK + STATION CHART

12 9 6 3 0 3 6 9 12 15 18 21 24 27 30 33 36 39 42 45 48 51 54 57 60



- POTENTIAL T.S.
- TRAWL STATION (T.S.)
- ⊙ REJECT T.S.
- ★ T.S. HEAVY DAMAGE REPEATED ELSEWHERE
- ★ T.S. HEAVY DAMAGE REPEATED AT SAME PLACE
- X T.T.N. STATION