

Provisional: Not to be quoted without reference to the writer

R. V. CLIONE  
Report on Cruise 5/1967

Staff:

- R. W. Blacker
- B. C. Bedford
- B. Meggett
- T. J. Storeton-West
- R. Tucker

Duration:

22nd June-5th July

Aims:

1. To investigate the feasibility of surveying and sampling O-group Gadoids in the North Sea.
2. To photograph coral in the Muckle Flugga area.
3. To use cameras for the identification of echo traces.

Narrative:

The ship left Lowestoft at 0915 22nd June and sailed for the Flamborough area. Work was started in the evening of the 22nd with an echo survey between the Yorkshire coast and the Dogger Bank. The next four days were spent testing the Garrod tow-net, the Isaacs-Kidd trawl and the 800 mesh Engels trawl on scatter-layer traces in various places between Flamborough and the Fladen ground. On the 27th camera stations were worked between 100 and 200 fathoms on the edge of the shelf west of Shetland and a modified Isaacs-Kidd rig was designed by Captain Sutton. This was tested and calibrated for depth and towing speed while the ship was sheltering off Luna Ness, Shetland, from SW and W gales.

Two camera stations were also worked in this bay, but during the second station the hydrographic wire parted and a camera was lost in 9 fm of water. Attempts to grapple for it resulted in the loss of the grapnel. The 28th and 29th June were spent sheltering off Luna Ness until the evening of 29th when we were able to sail southwards to anchor again off Mousa. During the night the wind force reached 50 knots, but in the morning of the 30th the wind had moderated sufficiently for the echo survey for gadoids to be resumed. The next five days were spent making a coarse echo-survey grid from the Coral Bank (approximately 59°N 01°E) southwards to the Tail End of the Dogger Bank. Strong westerly winds on the 4th prevented the survey being extended along the southern edge of the Dogger Bank. Instead the survey was made south east towards the White Bank and then south-westerly across the Cleaver Bank and the Rising Ground (53°40'N 03°E). Work finished there during the morning of 5th July and the ship sailed for Lowestoft, docking at 1915 hrs 5th July.

Results:

Aim 1. Fish traces and scattering layers were recorded on the echo sounders over very wide areas. On the Fladen ground these proved to be traces of O-group haddock mixed with smaller numbers of O-group cod, coalfish and Norway pout. Off Flamborough Crystallogobius and Jellyfish were caught where the scattering layers were recorded, and east of the Dogger Bank O-group Whiting and Jellyfish were caught. No O-group cod were caught south of 58°N. The problem of adequately sampling echo traces remains. None of the nets used was entirely satisfactory: the Garrod tow-net appears to be too small to catch the larger O-group fish. All attempts to find a suitable rig for hauling the Isaacs-Kidd midwater trawl over the stern of CLIONE failed and the depressor was irreparably bent when the net was fished from the aft trawl gallows. The modified Isaacs-Kidd net - the Sutton Shoal Sampler - with a heavy iron beam and kite-otter replacing the Isaacs-Kidd depressor, proved a convenient type of gear for using over the stern, but again the mouth opening is perhaps too small to catch the largest O-group fish. The 800 Engels does catch samples of most size fish but it is not

quantitative for very small fish and takes a long time to shoot and haul. The success of a North Sea survey for 0-group gadoids will depend on finding a suitable net such as a small Engels trawl which can be shot and hauled rapidly while the ship still maintains contact with the echo traces by Asdic or Sector Scanner. Early in the year 0-group fish may be sampled with existing high speed tow nets but in mid summer a ground trawl is needed as well as mid water gear, as the absence of 0-group Cod from the southern part of the survey area may mean that these fish have already become demersal.

Aim 2. Attempts to use the towed camera near the sea bed in deep water failed for a variety of reasons, but CLIONE's Fleuger rudder made it possible to keep a Mk III camera suspended a fathom off the bottom without the difficulties caused by large wire angles when vertical lowerings are attempted without the Fleuger rudder facility. Excellent negatives of the sea bed were obtained by this means.

Aim 3. Although a camera was towed through many scattering layers only one or two photographs of Jellyfish were obtained. The small size of 0-group fish means that they must pass within 6 ft of the camera to give a reasonable image size on the negative and apparently they have no difficulty in keeping out of range of the camera. No attempt was made to photograph larger fish.

R. W. Blacker  
5 July 1967

Seen in draft: T.A.S.

Initialled: A.J.L.

Distribution:

Dr. Cole  
Mr. Lee  
Captain Aldiss  
Dr. Cushing  
Mr. Bolster  
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Miss Conolly  
General Lab.  
Lab. Registry  
Library (2)  
Mr. Whiting  
NIC next cruise (Mr Iles)

Mr. Simpson  
Dr. Reynolds  
Chief Inspector  
All District Inspectors  
Fisheries Registry  
Captain Sutton  
CLIONE file (Captain Sutton)  
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Dr. Peachey  
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W.F.A.  
Director, Charlottenlund  
Director, IJmuiden  
British Trawlers' Federation

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Mr. Blacker  
Mr. Bedford  
Mr. Moggett  
Mr. Storeton-West  
Mr. Tucker