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FISHERIES LABORATORY, LOWESTOFT, SUFFOLK, ENGLAND

1970 RESEARCH VESSEL PROGRAMME

REPORT: RV CLIONE: CRUISE 8
PART A

STAFF

- A C Burd
- C T Macer
- J W Ramster
- P R Winslade (NERC)
- W L Huggins
- B K Clarke
- A R Folkard (8 & 9 June) only
- J W Read (8 & 9 June) only

DURATION

Left Lowestoft 11.15 hours 8 June
 Arrived Lowestoft 09.10 hours 17 June.
 All times are British Standard Time

LOCALITY

Dowsing Shoal and Well Bank Flat

AIMS

1. To investigate the diurnal behaviour of sand eels
2. To make current measurements on the Dowsing Bank and also off the Bank in deeper water.
3. To observe the operation of sand eel trawls with the ARL Scanner

NARRATIVE

CLIONE sailed at 11.15 hours 8 June with Mr Ramster and the hydrographic staff and proceeded to the Dowsing shoal where two current meter rigs were laid. She entered Grimsby at 0900 hours 9 June in order to fit the dome as had previously been successfully accomplished in the dock. It was found, however, that insufficient water was being kept on the dock sill for safety of the dome. Arrangements were made to berth in Middlesborough for dome fitting.

The rest of the staff having joined the ship in Grimsby and Messrs. Folkard and Read having left the ship, she sailed at 2100 hours for Middlesborough. Thick fog prevented CLIONE entering Middlesborough at the arranged time on 10 June. Finally, she moored up at 1052 hours. With the dome fitted she sailed for the Dowsing Bank at 1300 hours

CLIONE anchored at 0510 hours, 11 June on the southern tip of the Outer Dowsing Shoal. A shallow water current meter rig was placed on the bank. Continuous watch was kept on the ARL Scanner and large shoals of fish believed to be sand eels were observed. DRCM and photometer lowerings were made at about half hourly intervals until about 2230 hours. Many fish shoals were tracked moving past the anchored ship.

Light measurements were made from first light on the morning of 12 June until the anchor was weighed at 1000 hours. Observations were then made of the movement of fish shoals with respect to a free drifting target.

At 1340 hours the shallow current meter rig was recovered and course was set for the Well Bank Flat where the sand eel fleet was working.

A breakdown occurred in the Scanner control panel screen. This was repaired during the afternoon and evening. Work was commenced on the Well Bank Flat at 0430 hours 13 June. A fleet of about 40 sand eel vessels were working in the area. Good records were obtained of the trawls of a number of ships both Danish and vessels from Grimsby.

During the night course was set to the Hills where it was intended to examine the sand ridges. No work was possible with the Scanner on 14 June in this area owing to a fault in one of the hydraulic rams. Repairs were made during that day.

The sand eel vessels having moved ground to the Outer Dowsing Shoal the ship returned overnight to this ground. It appeared there had been a breakdown of the diurnal behaviour of the fish shoals previously observed. Presumably this was due to the activity of the sand eel trawler fleet. Catches of up to 25 tons per tow were being made. Further records were made of fish distribution and DRCM and photometer readings taken.

The programme was completed at 2100 hours and the ship proceeded to Hull to remove the dome. CLIONE entered Hull at 1130 hours 16 June, the dome removed and put on the Laboratory lorry and the ship sailed at 1500 hours.

The two current meter rigs were recovered by 0005 hours 17 June and CLIONE entered Lowestoft at 0910 hours that day.

RESULTS

1. Diurnal observations were made on sand eel shoals
2. Numerous shoals were tracked moving on the tide.
3. A shoal was observed avoiding a trawl
4. Records of dolphin signals were obtained.
5. Films for examining the characteristics of various sand eel trawls were taken

6. Tracks in the bottom made by trawl doors were observed on the top of the Outer Dowsing Shoals.
7. The dome cover was still in good condition at the end of the cruise having covered an additional 341.6 n miles. The sea conditions were excellent and the dome cover has now been used for a total of 1581.4 n miles.

Signed A C Burd

Date 6 July 1970

SEEN IN DRAFT:

M R Sutcliffe

AJL

REPORT: RV CLIONE: CRUISE 8
PART B

STAFF

C T Macer
P Winslade
A M Watson

DURATION

Left Lowestoft 0930 hours 19 June
Arrived Lowestoft 1430 hours 26 June
All times are British Standard Time

LOCALITY

North Sea (Southern Bight)

AIMS

1. To survey the Southern Bight for concentrations of sand eels suitable for commercial exploitation.
2. To collect live sand eels for laboratory use.
3. To make photometer readings.

NARRATIVE

CLIONE first proceeded to the Sandettie Bank area where an echo-survey of the bottom showed that the bank itself was deeply ridged but that suitable trawling areas occurred to the south. The ship anchored for the night but fog precluded work the next morning. When visibility had improved sufficiently, an echo-survey was made around the Fairy Bank but the bottom was again deeply ridged. The fog having now dispersed, a return was made to the Sandettie, where a ~~one-hour~~ tow with the sand eel trawl yielded 5 baskets of horse mackerel but no sand eels. The trawl was damaged by stones.

On 21 June, the Hinder and Thornton Ridge areas were surveyed and again the sea bed was characterised by strong ridges unsuitable for bridle gear. A one-hour tow off the West Hinder produced 7 baskets of mackerel and horse mackerel but the trawl was badly damaged and it was decided to change to a Granton trawl with sand eel codend. June 22 was spent surveying the Falls area and suitable ground was found between South Falls Head and North Falls Tail. Three one-hour tows produced small quantities (1-2 baskets) mainly of mackerel and horse mackerel, although some sand eels were also present (maximum 1/10th basket). Overnight an echo-survey between the Galloper and Schouwen was made and work continued in the Galloper-Gabbard area on 23 June. These banks were too shallow for CLIONE to work on but suitable trawling grounds were located around them. Three tows produced 1-2 baskets of mixed fish per haul but no sand eels; stones were picked up also.

The echo-survey was continued overnight between the Outer Gabbard and the Hook, and 24 June was spent working between the North Hinder and Brown Ridge area. Work was hampered by strong winds and an uneven bottom, though the latter improved in the north of the area. Two tows were made which yielded a few sand eels only. The Brown Ridge was surveyed on 25 June and found to be suitable for trawling. The first tow with the Granton trawl yielded an encouraging 3 baskets of sand eels and this was then changed for the second sand eel trawl. Two tows on the Ridge produced a maximum of $\frac{1}{2}$ ton per hour, while a tow in the deeper water resulted in one basket per hour and damaged gear. The ship then steamed overnight before anchoring in Gorleston Roads.

RESULTS

1. The survey showed that much of the Southern Bight is unsuitable for light bridle gear and that the sand eel population does not seem to be concentrated into particular areas. The most promising area was the Brown Ridge.
2. Photometer readings were made in most of the trawling stations.
3. Deep frozen samples of mackerel, horse mackerel, sand eels and sprat were collected.
4. Live sand eels and codling for Mr Bannister were brought back.

Signed C T Macer
Dated 6 July 1970

Seen in draft: AJL

Master M R Sutcliffe
Fishing Skipper AHB

DISTRIBUTION

Basic list
A C Burd
C T Macer
J W Ramster
P R Winslade (NERC)
W L Huggins
B K Clarke
A R Folkhard
J W Read
A M Watson