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SMR64(26,3)

In confidence: Not to be quoted without reference to the Laboratory.

CRUISE REPORT

F.R.S. "MARA"

3rd - 6th August, 1964

Personnel Mr. C. C. Hemmings and Mr. C. J. Chapman were joined by Mr. J. Main on 5th August for one day.

Narrative

Diving and scientific apparatus was loaded on the morning of 3rd August and "Mara" left for the two stations in Cullen Bay where work was done during the period.

Experimental Work

This work formed the North Sea counterpart to visibility studies on synthetic fibre drift nets carried out in Malta during the month of May.

Two sighting ranges were set up: outer station (Decca 13.12F, 39.68B, 60.15C) in 60 ft of water and inner station (Decca 13.6F, 39.6B, 60.15C) in 30 ft of water. These ranges consisted of a buoyed wire frame to hang a panel of netting ten feet above the bottom. A 100 ft tape was laid on the sea bed to determine the sighting distance.

Synthetic Drift Nets used

The panels of netting supplied by I.C.I. fibres division for the experiments were as follows:

- A - Melt-dyed green 'Ulstron'
- C - Natural white 'Ulstron'
- F - Orange dyed 'Ulstron'
- L - Tan dyed 'Ulstron'

In addition a panel of black 'Ulstron' was used. This colour was achieved by spraying a tan net with black paint.

Three different methods of measuring the optical nature of the water were used to give comparable readings of the beam attenuation coefficient and the diffuse attenuation coefficient. Plankton and water samples were taken to assess the nature of the turbidity of the water and its possible effect on the relative visibility of different colours of net.

Results

The preliminary result from daytime work was that the orange netting was the least visible. There was no significant difference between the green, black and brown, and the white was the most conspicuous.

The one attempt to determine relative visibility at night showed that the presence of luminescence in the water rendered each net as visible as the others; colour had no effect on visibility.

C. C. HEMMINGS
27th August, 1964