

W. Wardle

RL/7

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REPORT

CRUISE 13/79

10 December - 21 December 1979

Personnel	C S Wardle	PSO
	J A Morrison	HSO
	C W Shand	SO

- Aims
1. To develop the use of the towed remote vehicle to make TV observation of the Gourock (PT 140) midwater trawl and to observe reaction behaviour of sprats.
 2. To measure the amount of winter bioluminescence present and measure the visibility of the netting in the dark.

Results

A preliminary echo survey of the waters between Buckie, Invergordon and Inverness showed that sprats were not in any large concentration but scattered throughout the Firth. The net samples with 11 mm codend showed 0, 1 and 2 year group sprats together with 0 group sand eels were all present as well as Pleurobrachia pilius off Buckie. Use of the vehicle with TV camera showed that very poor visibility towards Inverness became much better towards the east. Day light for the camera disappeared at 50 ft depth off Fort George but was sufficient to 130 ft off Buckie. It was found essential to have a depth gauge on the vehicle in order to find the pelagic net using intermittent netzonde readings. The vehicle controllers interfered with the netzonde. It was also found essential to arrange that the camera could swing from looking straight down through an arc of 180° to straight up. With this arrangement the net was quickly located by approaching from below in between the weights and boards. To achieve this the vehicle must be launched beneath the warps on the stern.

Using this arrangement successful observations were made of the Gourock net on the 12 December for 5 hours in Nairn Bay, but no sprats were seen. On the 13th the weather was bad but improved later however one rotor guard was broken while launching on heavy swell and repairs were organised in Buckie. On the 14th a minor fault in the TV cable became worse and observations were abandoned and the cable changed in Buckie.

Bioluminescence measurements were made off Lossiemouth and in deeper water off Buckie. Hardly any bioluminescence was detected in surface water down to 9 fathoms but between 9 fathoms and the sea bed at 20 fathoms off Buckie considerable bioluminescence was measured similar to July levels measured on the CLUPEA and show to be sufficient to show up netting in the dark at 1 - 2 knots towing speed. Weather prevented observation of netting panels in the dark.

Gale and storm force winds prevented any work in the second week.

Seen in draft W T MAIR

C S WARDLE
27 December 1979