

Provisional. Not to be quoted without reference to the writer

R.V. CORELLA

Report for Cruise 7/67

Staff

Duration

R. B. Mitson	20 October-1 November
C. R. Hood	
I. L. Davies	
B. K. Clarke (part-time)	
E. Allison - W.F.A. (part-time)	

Aims

1. To carry out trials of the high power 100 kHz echo sounder, together with measurements of target strengths.
2. Trials of the modified acoustic arch system on ground and mid-water trawls.

Narrative

CORELLA left Lowestoft 24 hours late due to a steering defect. With a following wind, good progress northwards was made. The trawl was shot off Aberdeen on the afternoon of the 21st to obtain fish for echo targets. A further haul was made near the entrance to Loch Torridon on the afternoon of the 22nd, and CORELLA moored in the loch just before darkness.

Work began immediately and a number of records were taken of target strength from single fish. However, the large numbers of fish rising in the loch prevented further work that night. On the 23rd the fish had settled down to the loch bed, which was 34 fathoms below the ship's hull. Unfortunately a 40 knot wind was blowing, making the surface of the loch very rough, and it was not easy to get targets into the beam and keep them there. Underwater television was used at night to look at the loch bed and the fish.

The wind increased steadily and on the 24th no fish target work was possible. Some underwater TV observations were made and excellent pictures of the bottom taken. Very few fish were seen.

Weather conditions were severe on the 25th, with wind gusting to 77 knots it was impossible to pick up Mr. Allison as arranged. On the 26th some improvement was evident and it was possible to launch the rubber boat. Mr. Clarke went ashore and Mr. Allison joined.

The acoustic arch units were assembled on a frame and lowered into the loch. Excellent results were obtained, single fish of the order of 25 cm length being detected at a range of 15 fathoms.

On the 27th weather conditions had improved considerably and further target measurements were tried but without success.

CORELLA left Loch Torridon at 1200 hours and steamed towards Stornoway. The trawl was shot in 65 fathoms at 1600 hours with no units fitted and later with the acoustic arch units mounted. Four baskets of blue whiting were caught on each tow. After 2230 hours CORELLA anchored off Stornoway to use underwater television. A slight swell and the behaviour of the fish in the vicinity of the camera made it impossible to use the equipment. The trawl was shot at 0730 hours

on the 28th and hauled two hours later with a catch of twenty baskets of blue whiting. During this tow reception from the acoustic arch unit was intermittent at first and then failed. On hauling it was found that the main cable was damaged inside the towing block. As the wind was making steadily and the forecast was bad, CORELLA went to Stornoway and docked at 1500 hours. Water was taken on board and the cable joint repaired. It was also found that water had penetrated the front face of the transducers, so these were cut out and re-encapsulated. After leaving Stornoway early on the 29th, CORELLA anchored in sheltered water whilst tests were carried out with the equipment. After this the trawl was shot again in 65 fathoms of water and some individual fish detected going into the net. The trawl was found to be badly torn on hauling.

During the night CORELLA moved round to the Moray Firth and whilst a new trawl was fitted some tests of the high power 100 kHz equipment were made. An incorrect depressor made the towed transducer rather unstable in the heavy swell but good signals were obtained. When the trawl was shot rather poor signals were obtained from the acoustic arch units. On 31 October CORELLA arrived at the Farne Deeps. The trawl was shot and towed for an hour, signals were fair from one of the acoustic arch units, but the trawl in use had a headline height of only five feet and there may have been some misalignment of the other units. CLIONE joined CORELLA for an exchange of information by radio for a short time. With the worsening weather conditions, it was decided that no further useful information could be obtained and CORELLA steamed towards Lowestoft, docking at 0715 hours on 1 November.

R. B. Mitson

1 November 1967

Initialled: AJL

Seen in draft: WC  
CNS

Distribution

Dr. Cole	Mr. Mitson	Skipper Snowling
Mr. Lee	Mr. Tungate	British Trawlers' Fed. Ltd.
Captain Aldiss	Mr. Williams	Mr. Buchanan Wollaston
Dr. Cushing	Mr. Wood	Mr. Baird, D.A.F.S.
Mr. Burd	Mr. Adams	Director, Dublin
Mr. Garrod	Mr. Mills	Mr. Glover
Mr. Hill	Mr. Kay	Hydrographic Department
Mr. Bolster	General Lab.	Dr. Lucas
Mr. Cattley	Lab. Registry	Director, N.I.O.
Mr. Corlett	Library (2)	Dr. Peachey
Dr. Harden Jones	Mr. Whiting	Mr. Shelbourne
Mr. Margetts	Mr. Simpson	W.F.A.
Mr. Trout	Dr. Reynolds	Director, IJmuiden
Mr. Iles	Chief Inspector	
Mr. Holden	All D.I.s	Mr. Hood
Dr. Jamieson	Fisheries Registry	Mr. Davies
Dr. Purdom	Captain Craig	Mr. Clarke
Mr. Bridger	Mr. Revell	Mr. Allison