

CRUISE REPORT

FRV "CLUPEA"

6-10 December 1971

Objectives

- 1) The slipping of the vessel and installation of a substantial hull-mounted transducer array for a Digital Sonar.
- 2) The inboard installation of the electronics and display system followed by preliminary sea trials on fish or artificial targets.

Narrative

The vessel slipped in Aberdeen on 6 December and installation was started. It became necessary to modify the original mounting plans and once appropriate approval was obtained the hull unit was welded in position aft of the ship's sonar housing. At this stage various difficulties were encountered but these were soon overcome. "Clupea" sailed on the evening of 8 December and course was set for the Moray Firth. Unfortunately severe weather conditions in that area made it essential to work off Buchan Ness in relatively calm water. As no fish traces were located using the ship's sonar and echosounders, artificial targets were used for the trials of the digital sonar. A sub-surface buoy was shot initially and a series of test runs made with the buoy at different depths. Later, bunches of small floats were used as targets. It was not possible to lay a multi-level matrix of targets, which would have simplified operations. Although the buoy presented quite a large target it was not always possible to locate it on the approach run. Similar difficulties were encountered when using the ship's trainable sonar at the same fixed tilt as the Digital Sonar. Changing tidal conditions increased the problem and it was not possible to increase the range by working in deeper water. When the ship's sonar was operated on a shallower tilt, detection of the targets was greatly improved. As the tilt of the Digital Sonar is fixed it was not possible to compare the two systems on a reduced tilt. The initial results tend to confirm the belief that it may be necessary to reduce the tilt of the Digital Sonar.

As weather conditions made it impossible to land at Buckie the vessel proceeded to Aberdeen to land the Marconi Engineers on the evening of 9 December. Further equipment checks were completed in harbour and Mr Dunn was given instruction on the operation of the digital equipment.

Contractors' visits for "Clupea's" refit were carried out on 10 December in Aberdeen.

Comment

The full capabilities of the equipment cannot be assessed on the basis of the limited testing undertaken on this cruise, but some modifications to the equipment may be necessary after further more detailed work on fish shoals. However, an impressive display was obtained during the run into harbour, through the dock gates and past several ships.

R G Lawrie  
6 January 1972