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CHARTER VESSEL MV "MIRFAK"

REPORT

12-15 December 1988

Personnel

M Heath	PSO
G Urquhart	PSO
R Mitchell	SSO (Transferred from "Clupea")
J Dunn	HSO (Transferred from "Clupea")
C Shand	SO (Transferred to "Clupea")
F Armstrong	SO
J Turriff	Visitor
A MacDonald	HPTO
W Gray	PTO
D Stuart	PTO
N Collie	PTO
C Stewart	Craftsman

Objectives

1. To carry out instrumented trials on the LOCHNESS sampler.

2. To carry out trials of the use of single warp trawling gear.

3. In conjunction with FRV "Clupea" (cruise 12/88), to obtain underwater video of the LOCHNESS sampler.

Narrative

After loading gear and installing a winch, "Mirfak" sailed from Aberdeen at 1700 on 12 December. Initial trial deployments of LOCHNESS were carried out in Aberdeen Bay, and the vessel then steamed north, and met "Clupea" off Wick at 0830 the following day. Personnel were exchanged between the vessels at sea, and underwater filming was then carried out during daylight hours on 13 December. "Clupea" left at 1600 to tie up in Wick and "Mirfak" continued working through the night with instrumented trials on the LOCHNESS. Fishing trawl trials were carried out during 14 December, and two personnel were transferred back to "Clupea" during the afternoon. "Mirfak" then steamed towards Aberdeen, carrying out further trawl and LOCHNESS trials en route, docking in Aberdeen at 0740 on 15 December.

Results

1. LOCHNESS trials

During the initial tows, the heel and pitch sensors on the sampler indicated that the gear was stable in the water but towing nose down at approximately 20° to the vertical. This was confirmed from the RCTV video films. Net triggering and data transmission using the IOS acoustic command system was extremely unreliable but, nevertheless, good underwater video of the net closing sequence was successfully obtained. The IOS command system was replaced with the Seametrix telemetry unit, and this was very reliable at releasing the nets and for data transmission throughout the remaining trials. Several

tows with the tail fin of the sampler in different positions were carried out, but the most dramatic improvement in the pitch of the gear was achieved by removing the floatation tanks, thus allowing a clean flow of water under the tail fin. Under these conditions the nose down pitch was reduced to approximately 7°. A total of 11 instrumented tows were carried out with the sampler.

2. Single warp trawling

Trawling was attempted with two fishing gears to determine the feasibility of their use from non-fishing vessels. In both cases the plan was to tow from a single warp divided into two at 100 m above the trawl doors. The first gear was a light bottom trawl, and this was successfully handled from the vessel. Three tows were carried out with slightly different rigging, and wing spread and headline height sensors attached. Reasonable catches, mainly of flatfish, were obtained. The second gear was the International Young Gadoid Pelagic Trawl (IYGPT). This gear was successfully deployed and recovered, but the trawl doors were slightly too large and heavy for comfortable handling from the deck of "Mirfak". The overall results of the trials were that sampling with a light bottom trawl from a vessel such as "Mirfak" was relatively straightforward, but that a scaled down version of the IYGPT should be considered.

M Heath

11 January 1989