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FRV 'Clupea

Cruise 6/78

REPORT

12-30 June 1978

Objectives

- a) To investigate the engineering performance of standard scallop dredges and two dredges modified to reduce the amount of trash in the catch.
- b) To obtain underwater TV films and photographs of the above gears in operation.

Gear tested

- a) Standard 1.219 m (4 ft) scallop dredges.
- b) 1.219 m scallop dredge with V shaped tooth bar.
- c) 1.219 m scallop dredge with trash vent, approx. 200 mm (8") between tooth bar and chain bag.

Narrative

The scientific staff joined CLUPEA at Aberdeen on the morning of 12 June when scallop dredging and scientific equipment was loaded. CLUPEA sailed that day at 1500 hours and proceeded to the Brora area. Instrumented scallop dredging trials commenced the next day in this area. After three hauls CLUPEA sailed for the Lossiemouth area to rendezvous in the evening with the diving team based on MARA. Mr Booth was taken to Lossiemouth by rubber boat to pick up a heel and pitch meter for use on the dredges. He rejoined CLUPEA that evening.

The next morning a crew member who was ashore for medical reasons was picked up from Buckie by the divers' rubber boat to join CLUPEA. CLUPEA then worked in the Buckie area until the evening tide that day when she went to port at Buckie and Mr D McKay returned to Aberdeen. CLUPEA sailed from Buckie the next morning for Spey Bay where the trials continued until the evening of 15 June, when CLUPEA returned to Buckie on the late evening tide. The next morning, Friday 16th, diving and television equipment and divers' vehicle were transferred from MARA to CLUPEA. Scientific staff returned to Aberdeen for the weekend.

On 19 June Mr P Barkel transferred from MARA to CLUPEA at Buckie. CLUPEA sailed from Buckie at 1150 hours for the Lossiemouth area where she rendezvoused with MARA and the diving team. Instrumented trials continued that week and the diving team recorded underwater TV observations of the gear in operation. At 0100 hours on 23 June CLUPEA tied up in Buckie. Before the scientific staff returned to Aberdeen for the weekend all diving and TV equipment and the divers' vehicle were transferred back to MARA.

Mr P Barkel rejoined MARA on 26 June and CLUPEA sailed from Buckie at 1450 hours for the Dornoch /Brora area and worked in this area until the evening of 27 June when she sailed for the Buckie area to await the early morning tide before berthing in Buckie at 0600 hours on 28 June.

At 1100 hours on 28 June the Imperial Service Medal was presented to Mr D Campbell, a recently retired member of CLUPEA'S company, by Captain Horsburgh, after which ship's hospitality was provided for the guests. CLUPEA sailed that evening at 1830 hours to continue working in the Spey Bay area.

The cruise terminated in Buckie at 1930 hours on 29 June. On 30 June all scientific and dredging equipment was unloaded and diving and television equipment and divers' vehicle were again transferred from MARA to CLUPEA for CLUPEA's next cruise before the scientific staff returned to Aberdeen.

Results

A total of 33 instrumented hauls were made in water depths varying from 10-25 fathoms over grounds that varied from smooth sand to boulder strewn hard ground at speeds ranging approximately 1-4 knots. Measurements of loads and angles of declination at the ship end of warp, dredge loads and their fore and aft angle of declination were obtained. Underwater observations of the gear in operation were recorded on TV tape during eight of the hauls.

As the trials progressed most of the dredges required some attention after each haul, eg bolts required tightening or replacing, repairs to netting covers. Two standard dredges were damaged beyond available means to repair them and another was lost during a haul on rough ground.

Although the trials were conducted on grounds where commercial quantities of scallops were not expected, a few scallops were caught in many of the hauls. The largest number of scallops caught in each area fished with a four dredge array was 23, 5 miles ESE of Brora; 45, 3 miles N of Stotfield Head; 47, 5 miles N x W of Buckie. Those caught off Stotfield Head and Buckie were noticeably larger than those caught in the Brora area.

Although catches of scallops and trash were small, during the third week when the two modified dredges and a standard dredge with fixed tooth bar were fished as a three-dredge array for comparison, the standard dredge caught more stones than the modified dredges. Catch per dredge per haul of scallops and stones are tabulated below.

Haul	S		T		V	
	Scallops	Stones	Scallops	Stones	Scallops	Stones
25	3	7	23	4	11	7
26	6	2½ baskets	10	7	9	0
27	3	4	10	3	2	0
28	20	½ basket	4	0	5	0
29	0	½ basket	0	0	1	0
30	3	12	7	0	16	0
31	10	6	16	0	1	0
32	5	7	12	2	9	4
33	4	5	2	1	0	4
Total	54	3½ baskets + 41	84	17	54	15

S = Standard dredge.

T = Dredge with trash vent.

V = Dredge with V shaped tooth bar.

E S Strange
14 July 1978

Seen in draft: G Geddes