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In Confidence: Not to be quoted without reference to the Laboratory

3MR7C

Cruise Report

FRV MARA

8-26 March 1976

Staff:	A D F Johnstone	HSO I/C	8-26 March
	C Robb	SO	8-26 March
	C W Shand	SO	8-26 March
	A D Hawkins	PSO	11-21 March
	R G J Shelton	PSO	11-21 March

OBJECTIVES:

To observe the responses of fish to sections of long-line baited with natural and artificial baits using the low light level television system. To collaborate with a local fisherman and conduct comparative fishing trials using artificial baits. To obtain stomach samples from fish captured by lines and also from predatory birds such as the shag, Phalacrocorax aristotelis.

GENERAL:

'Mara' arrived at Kyle of Lochalsh on 9 March and experiments were confined to the areas around Kyle and the Inner Sound of Ràrsay for the first part of the cruise. During the second week observations were made at dawn and dusk in addition to daylight while 'Mara' was anchored in Loch Torridon. The latter part of the cruise was carried out to the south of Kyle until 'Mara' entered the Caledonian canal at Corpach on 23 March.

RESULTS:

1. TV Observations. 51 experiments were carried out at 33 different stations using the low light level camera. Fish were seen during 29 experiments and the responses cod, whiting, saithe, dabs, dogfish and small roundfish to various natural and artificial baits observed. Experiments were restricted to depths of less than 90 metres since the ambient light level was too low at greater depths to allow detailed observation without the attachment of auxiliary lights. Observations were carried out in Upper Loch Torridon to supplement earlier results obtained at a relatively shallow site within the loch.

'Artificial' baits prepared by Torry Research Station and the Marine Biochemistry Institute were tested. Fish were caught on white fish alginate and herring offal alginate baits prepared by TRS. Gelatin baits tested did not have the required mechanical properties unless fibre was incorporated within the bait. No fish were caught on gelatin baits.

2. Comparative fishing trials. Due to a bait shortage (fresh herring bait was not available) only one great line trial was carried out in collaboration with the "Curlew". Herring offal alginate provided by TRS was compared with frozen herring bait. The artificial bait proved to be as successful as natural bait although the catch was lower overall than expected.

3. Stomach samples. Small lines were fished at several stations and the stomach contents of the fish captured were preserved for examination in the laboratory. Seven specimens of P. aristotelis were collected and their stomach contents preserved. Several small gadoids were found in one stomach. More detailed analysis should provide further information on predation by shags on gadoid fish species.

A D F Johnstone

7 April 1976

Seen in draft -- W T Mair