

IN CONFIDENCE: NOT TO BE QUOTED WITHOUT REFERENCE TO THE LABORATORY

CRUISE REPORT

FRV "MARA"

10-22 May 1971

OBJECTIVES

1. A survey of selected sea lochs and inshore areas with Multi-depth Plankton Indicators associated with temperature and salinity observations.
2. A survey of selected sea lochs and inshore areas for euphausiids and other crustaceous plankton, using 1 m 60 and WP3 nets, fitted with TSK flowmeters.
3. A survey of the area off Loch Ewe for planktonic and pelagic stages of plaice and other flatfish, using a 1 m 60 net, a Gulf III and a modified Gourcock Number 1 midwater trawl.

NARRATIVE

The scientific staff joined "Mara" at Buckie during the morning of Monday 10 May, and the vessel sailed about mid-day and proceeded to the Caledonian Canal. Passage through the canal was completed by the early evening of Tuesday, 11 May. The vessel worked in the Loch Linnhe and Mull area on Wednesday 12th, in the area from Mull to Mallaig on the 13th, and in Loch Nevis on the morning of the 14th. "Mara" then proceeded to Kyle of Lochalsh for the weekend of 15-16 May. On Monday 17th the Inner Sound was surveyed and on the 18th the area from Raasay Sound to Gairloch. The vessel then made a passage to the region of Loch Broom where sampling was carried out on the 19th.

Following a visit to Aultbea during the morning of Thursday 20th to collect mail, the survey of the area off Loch Ewe commenced about 1200 hrs. Mr Adams left the ship at Aultbea later the same day.

Further work was completed in this area during the morning of 21 May in deteriorating weather conditions. The vessel then made passage to Stornoway for the weekend of 22-23 May.

RESULTS

Temperature and Salinity

The surface salinity over most of the area for which reliable observations were obtained (from Loch Nevis to Loch Broom) ranged from only 34.0 to 34.7‰ and bottom salinities from 34.1 to 34.8‰.

In very general terms, the surface temperature was less than 10°C north of the latitude of Applecross, and greater than 10°C south of that latitude.

Plankton

Multi-depth plankton indicator hauls were completed at 31 stations. The samples are being analysed by the Oceanographic Laboratory, Edinburgh.

No concentrations of adult euphausiids were found, only two Thysanoessa inermis being obtained during the whole cruise. Hauls made for other crustaceous plankters were contaminated at many stations with medusae (Aurelia, Cyanea, Cosmetira, Laodicea and Obelia) and Pleurobrachia. In the area of the Inner Sound and off Gairloch, however, fairly rich samples (120-380 cc settled volume) of Pseudocalanus, Calanus and euphausiid furcili were obtained without an abundance of other species.

Planktonic and pelagic stages of flatfish

All the fish eggs and larvae obtained in the WP3 hauls during the cruise have been extracted and have been, or are being analysed. In the area off Loch Ewe samples were obtained with a modified Gourcock Number 1 midwater trawl and with a WP3 net (this was used in place of a 1 m 60 net). No Gulf III hauls were obtained.

The catches of flatfish were as follows:

Species	Midwater Trawl		WP3 net	
	Number per haul Range	Average size mm	Number per haul Range	Average size mm
Dab	0-1	18	0-4	12
Long Rough Dab	0-13	21	0-1	19
Lemon Sole	0-8	15	0-3	13
Witch	0-2	23	-	-
Norwegian Topknot	0-1	10	0-4	8
Topknot	0-1	9	0-1	7

No plaice were obtained. Of the early stages of other fish caught in the midwater trawl, sprats - at 11 to 245 per haul - were the most important. In the WP3 hauls, rockling - at 10 to 372 - were the most important, but sprat (4 to 32 per haul) and whiting (10 to 22 per haul) were also important.

Pelagia noctiluca were present in some of the trawl catches.

J A ADAMS
6 September 1971