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FRV *Lough Foyle*

Cruise 51H

REPORT

13-20 December 1991

Personnel

J Dunn	HSO (in charge)
D MacLennan	DCSO (16-20 Dec)
R B Mitchell	SSO
R Payne	HSO (13-16 Dec)
J McKie	HSO
F Armstrong	SO (16-20 Dec)
E Macdonald	SO
S Heaney	ASO
J Hunter	PTO (13-16 Dec)
A Rees	Visitor Plymouth Marine Laboratory

Objectives

1. To deploy and service instruments on moorings in Loch Linnhe.
2. To carry out a programme of physical, chemical and biological sampling in Loch Linnhe.

Narrative

The scientific equipment was loaded and set up in Oban on 13 December and the vessel sailed at 1430 and headed for the Lismore mooring. On arrival at the mooring site, the spar buoy which had been laid in November was found to be missing, the Glen Sanda launch *Lady Claire* subsequently reported the buoy to be on the shore just north of the quarry. The instruments were recovered and serviced and a new heavy duty marker buoy was laid. The tide gauge at Glen Sanda was recovered before the vessel made its way to the inner mooring site to start the fixed station at 0400. During the fixed station weather conditions had deteriorated sufficiently that it was deemed unwise to try to recover the instruments on the mooring so the tide gauge at Fort William was recovered instead. The weather having moderated a little the inner mooring was serviced, sediment traps and analysers adjusted to sample until February 1992. The thermistor chain was recovered but was in a poor condition, the repair carried out on the October trip having failed completely. An ARIES tow was abandoned due to a mechanical problem with the water sampler so four Methot net tows were completed. The outer fixed station was completed by first light on the morning of Sunday the 15th and the mooring was serviced before the surface current meter was put in at the Lismore mooring site and the tide gauge at Glen Sanda replaced. Two ARIES tows were carried out but faults developed with the net

sampler and the logger on the first tow. These were repaired and the next tow down to Lismore was successful. The fixed station at Lismore was completed by 0830 on the morning of Monday 16th and an ARIES tow out to the seawarde end of the Loch and two Methot nets were completed in freshening conditions before breaking off to go to Oban for staff change. On leaving Oban the ARIES tow which had given problems was repeated successfully before the vessel anchored at Craignure to carry out sonar calibration and prepare equipment for the Firth of Lorne fixed station. This was started at 0300 on the morning of Tuesday 17th, but keeping position in poor weather conditions proved impossible so the station was abandoned. As the local forecast was southerly 9 to 10 the vessel proceeded to Fort William to complete the ARIES tows before the weather broke. Three ARIES and three Methot net tows were completed successfully before the vessel was forced to break off and anchor at Craignure in worsening weather conditions. On the morning of Wednesday 18th a Methot net tow was completed before the vessel proceeded to Fort William to start the tow CTD survey. On deployment the CTD unit failed almost immediately and was found to be flooded on recovery and beyond repair in the time available. Accordingly an alternative instrument was rigged on the CTD frame. When this was recovered at 1700 to change the battery pack, however, it had not functioned properly. Testing of the unit on deck failed to find any fault so it was put back into the frame and the survey completed but did not function properly.

Severe weather conditions on the morning of Thursday 19th forced the vessel to dodge in the Sound of Mull. During a lull in the weather, the vessel proceeded up the Loch to look for the missing buoy but weather conditions were too bad to allow recovery. The surface current meter at Lismore was recovered in winds gusting up to 60 mph before the vessel was forced to break off and make a passage to Oban where it docked at 1400 to offload scientific gear.

Results

The major survey objectives were all achieved except for the fixed station at the Firth of Lorne. The moored instrumentation was adjusted to allow data to be stored and sampling to continue until recovery in February 1992. Ten Methot net tows and a complete set of ARIES tows were completed. At the three fixed stations which were completed live material was collected and experimental incubations performed to measure phytoplankton primary production, nitrogen assimilation, zooplankton excretion and microzooplankton grazing.

A zig zag survey with the towed CTD/optical plankton counter was carried out but flooding of the CTD unit and the subsequent problems with the Chelsea logger were disappointing.

J Dunn
22 January 1992