

R1/3

Not to be cited without prior reference to the Laboratory

Charter cruise FRV *Lough Foyle*

0047H

REPORT

Cruise 8/91, 9-16 August 1991

Personnel

S Hay	HSO (in charge)
J Davies	SPSO (12-16 August)
R Mitchell	SSO
C Hall	SSO (9-12 August)
D Reid	SSO (12-16 August)
R Payne	HSO (9-12 August)
L Cargill	SO
F Brown	ASO
J Turriff	ASO
P Brennan	Student (12-16 August)
R Bellerby	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 vessel sailed from Oban at 1500 on 9 August, and completed all moored instrument recovery and redeployment, two fixed station sampling schedules and some of the ARIES tows before the staff changeover on 12 August, which took place in Oban. During the second part of the cruise the ARIES tow series was completed, two further fixed stations were sampled, one complete and one partial acoustic/surface towed CTD surveys were carried out and Mini-Methot net trawl sampling was completed down the centre line of the loch system. Some of the Mini-Methot stations were repeated to obtain day/night catch comparisons. The ROXANN acoustic sea bed definition system was given a thorough run and several grab samples were obtained to verify the acoustic discrimination noted.

The vessel docked in Oban at 0800 on 16 August. After unloading, SOAFD personnel returned to Aberdeen, stopping briefly at the Dunstaffnage Laboratory to collect the continuous light meter recordings for the previous month.

Results

All the moored instruments were safely recovered and new units deployed in their place. The data from the moored nitrate analysers indicated persistent low concentrations throughout the deployment period in the surface waters, and slightly higher levels in the deep layers. The distribution of chlorophyll fluorescence, noted during the towed CTD surveys in particular, was patchy with evidence of raised levels especially in the northern half of the outer basin of Loch Linnhe. These raised levels were associated with fluctuations noted in the levels of chemical nutrients.

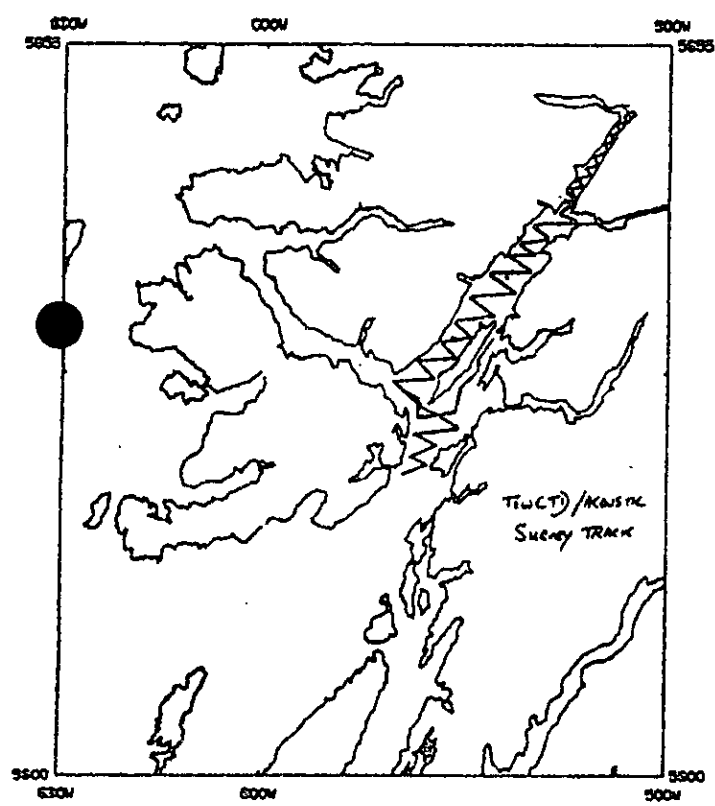
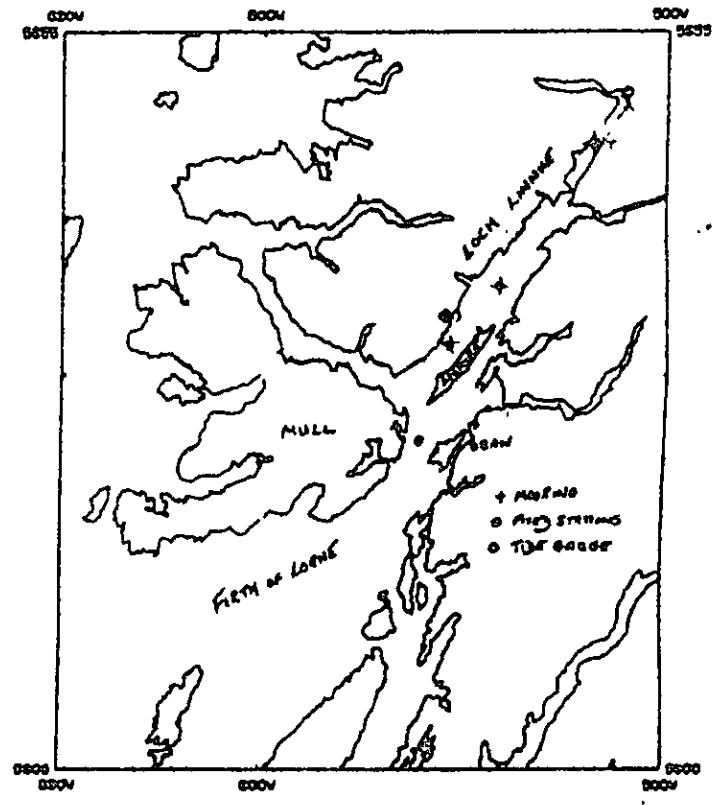
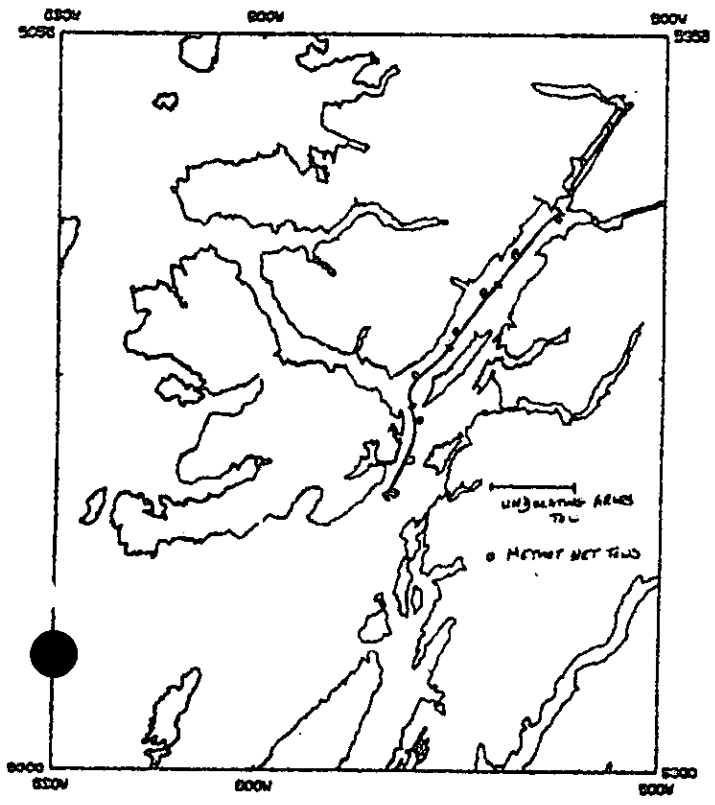
Considerable numbers of the scyphomedusan *Aurelia aurita* were caught in the net sampling, although these species were heavily parasitised with many specimens in poor condition. Sampling indicated distinct vertical stratification in the thermohaline structure and strong variations in the density distributions and species assemblages of the zooplankton community particularly with depth but also between areas of the loch system. Large amounts of acoustic data were obtained and experimental work on live phyto/zooplankton was conducted at each fixed station.

As in the previous survey poor weather seems to have spoiled attempts to arrange a remote sensing overflight by an NERC aircraft.

The ROXANN system was given a successful trial.

S Hay

30 September 1991



Lough Foyle CRUISE 8/91
 9-16 AUGUST 1991