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FRV *Clupea*

Cruise 0992

REPORT

26 May-6 June 1992

Personnel

W R Turrell	SSO (in charge)
R Payne	HSO (26 -29 May)
R D Adams	SO
L Campbell	SO
M Lyons	Phd Student

Objectives

1. Recover six current meter moorings in the Scottish North Sea coastal zone. Two in Moray Firth, two off Aberdeen and two off Stonehaven.
2. Conduct hydrographic survey within Scottish North Sea coastal zone (Moray Firth-Firth of Forth).

Narrative

Scientific staff joined *Clupea* at 1015 on Tuesday 26 May at Fraserburgh. After setting up equipment, and awaiting a delayed piece of electronic equipment, *Clupea* sailed at 1400 and proceeded directly to the Inner Moray Firth. As the tide did not permit *Clupea* to enter the Inverness Firth, the outer stations were completed and an additional three performed in the outer Dornach Firth. Work stopped at about midnight and resumed again at 0700 the next day. Overnight the *Clupea* lay to anchor. This procedure was followed each day.

The survey of the inner Inverness Firth resumed at 0800, and this and the Spey Bay section were completed by 1500. *Clupea* then proceeded to the first mooring position north of Cullen, and by 1930 both Cullen moorings had been successfully recovered. The hydrographic section north of Kinnairds Head was then completed, and *Clupea* lay between 0000 and 0300 on Thursday 28 May in Fraserburgh Bay.

In the early hours of Thursday 28 May, *Clupea* proceeded to the inner Aberdeen Bay mooring. This was recovered by 0845 and *Clupea* proceeded into Aberdeen Harbour to unload the three moorings it now carried. By 1130 *Clupea* sailed from Aberdeen to the two moorings off Stonehaven, which were retrieved by 1500. The Aberdeen Bay Outer mooring was then recovered and *Clupea* again entered Aberdeen harbour to unload three moorings. As chemical analysis was still being performed on collected samples, *Clupea* lay in harbour until the early hours of the following day.

During the remaining four days *Clupea* proceeded south, completing all of the hydrographic/chemical sections of the Scottish Coastal Zone survey, from the northerly Dee line to the inner Firth of Forth line, by 1030 on Sunday 31 May.

As by this time a significant amount of chemical samples had been taken, and the weather had deteriorated so as to prevent analyses while underway, *Clupea* sailed overnight to Fraserburgh, where she arrived during the morning of Monday 1 June. Chemical analyses continued until 1000 that night.

Results

Approximately 90% data recoverage was obtained from the moored instrumentation, despite the heavy fishing and vessel activity in the coastal zone. Data loss occurred from one mooring being fouled by an unknown vessel near to the end of the deployment period, and due to leaking of two aluminium bodied tide gauges.

Generally the coastal zone survey revealed results consistent with low runoff conditions. While the inner Moray Firth and Inverness Firth where stratified by both temperature and salinity, the section off Kinnairds Head was well-mixed, and there was little evidence of freshwater off the Dee and Don estuaries. Nutrient depletion was evident in the surface waters of the Moray Firth, and the east coast generally. The Firth of Forth again demonstrated low freshwater discharge conditions. Nutrient-salinity ratios await processing.

W R Turrell

28 August 1992

SCOTTISH NORTH SEA COASTAL ZONE PROJECT

