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FRV *Clupea*

Cruise 1393C

REPORT

2-7 July 1993

### Personnel

P Balls	PSO
R Payne	HSO
R Adams	SO
C Needle	MSc student

### Objectives

1. To service instrumentation on four moorings.
2. To undertake a hydrochemical survey along the east coast of Scotland, Moray Firth to the Firth of Forth.

### Narrative

Scientific staff joined the vessel at Fraserburgh on the morning of the 2nd July, following loading *Clupea* sailed at approximately 1100. *Clupea* proceeded south and during the evening of the same day the surface buoy at mooring 1 was replaced and instrumentation serviced. Overnight *Clupea* anchored in St Andrews Bay.

Moorings work continued during the 3rd, position 2 was serviced during the morning and 6 during the afternoon. During the evening the whole mooring at position 4 was recovered and taken overnight to the St Andrews Bay anchorage for repair. This was the mooring from which a current meter and the sub surface buoy had been washed ashore during the previous cruise. The second current meter on this mooring was recovered intact.

The hydrochemical survey commenced on the morning of the 4th, two lines were completed, K by 1500 and M by 2030. During the course of the K line the mooring at position 6 was successfully relaid, the overnight anchorage was again in St Andrews Bay.

The hydrochemical survey continued throughout the 5th, four lines were completed, J by 1100, I by 1530, H by 1700 and S by 2300. The survey ended during the 6th with the completion of two further lines, F by 1000 and R by 1300. *Clupea* proceeded to Fraserburgh docking at approximately 1530, unloading took place on the morning of the 7th.

## Results

Data from the moored instrumentation recovered during this cruise awaits processing, an initial examination of raw data however indicates a high proportion of successful returns. Four moorings were serviced and all six are now in good condition with fresh instrumentation. The hydrochemical survey (67 stations) was the most extensive since February and results should provide an excellent picture of the nutrient status in summer.

Stratification of the water column was evident in both temperature and salinity profiles for nearshore stations off the Tay. Further offshore salinity was relatively constant with depth, a distinct thermocline was evident however. There was little evidence of freshwater inputs in the salinity structure of profiles from the northeast coast (lines S, F and R). The thermocline was well established however at the more offshore stations.

P Balls  
8 July 1993

SCOTTISH NORTH SEA COASTAL ZONE PROJECT 1993

