R1/6

Not to be cited without prior reference to the Laboratory

FRV *CLUPEA*

Cruise 1194C (Part II)

REPORT

3-6 June 1994

Ports: Loading: Fraserburgh
Unloading: Fraserburgh

Personnel

W R Turrell	PSO (in charge)
R D Adams	SO
H Ernstberger	Student

Objectives

1. To recover two coastal zone moorings.
2. To perform a limited coastal zone hydrographic survey.
3. To test the SEABIRD CTD.

Out-turn Days Per Project: BGE1 3.0

Narrative

FRV *Clupea* sailed from Fraserburgh, on the evening tide, at 2030 on Friday 3 June (all times are BST), and steamed directly for the first mooring position. This was recovered successfully into the vessel by 0910 on Saturday 4 June. *Clupea* then proceeded directly to the second mooring, which was recovered by 1115. Passage was made to the start of the K hydrographic section, which commenced at 1221 and was completed by 1717. *Clupea* then sailed to station 8 of the J section, which commenced at 1803. Survey work continued until 1930, when *Clupea* proceeded to an anchorage in St Andrews Bay, where she arrived at 2200.

FRV *Clupea* left the anchorage at 0800 on Sunday 5 June and proceeded to station 1 on the J section. The remainder of this section as completed by 0900, at station J4. The Seabird CTD system was used once in order to test it. During station J4 a problem occurred with the pressure sensor on the NBIS CTD. Despite efforts to repair this on board, hydrographic work was abandoned at 1145. FRV *Clupea* then proceeded directly north in order to enter Fraserburgh on the evening tide, at 2100.

Results

Objective 1 was attained completely. All instruments were recovered, and down-loaded on board. Initial inspection revealed all instruments performed correctly.

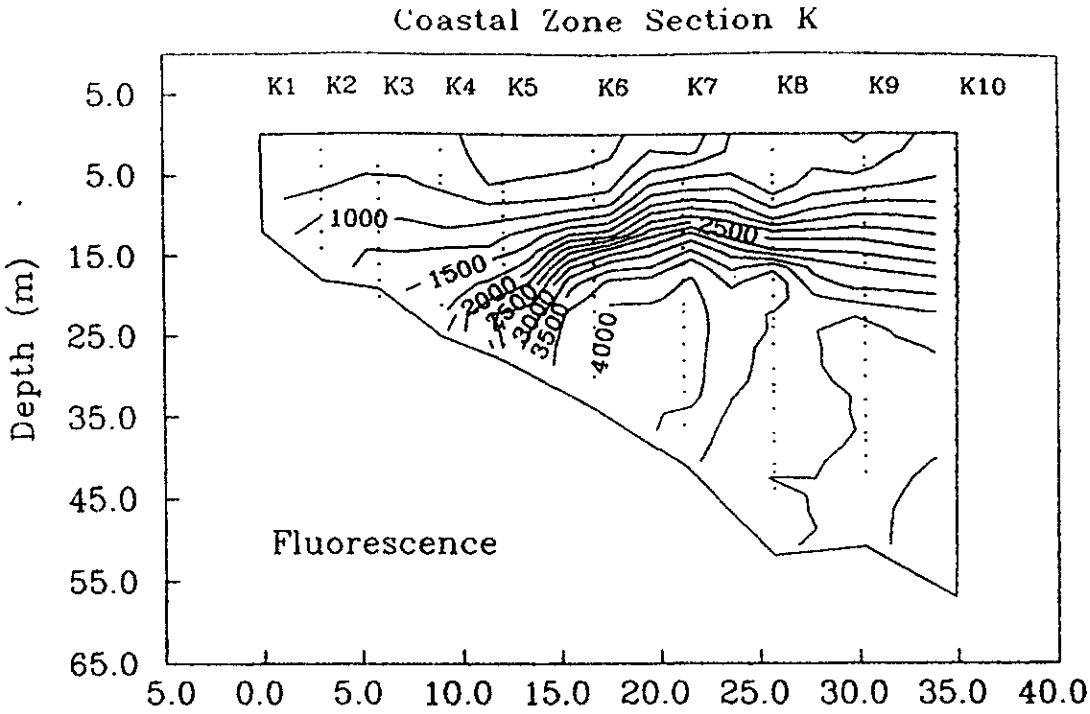
Objective 2 was partly completed, with sections J and K completed successfully using ROSIE and a CTD.

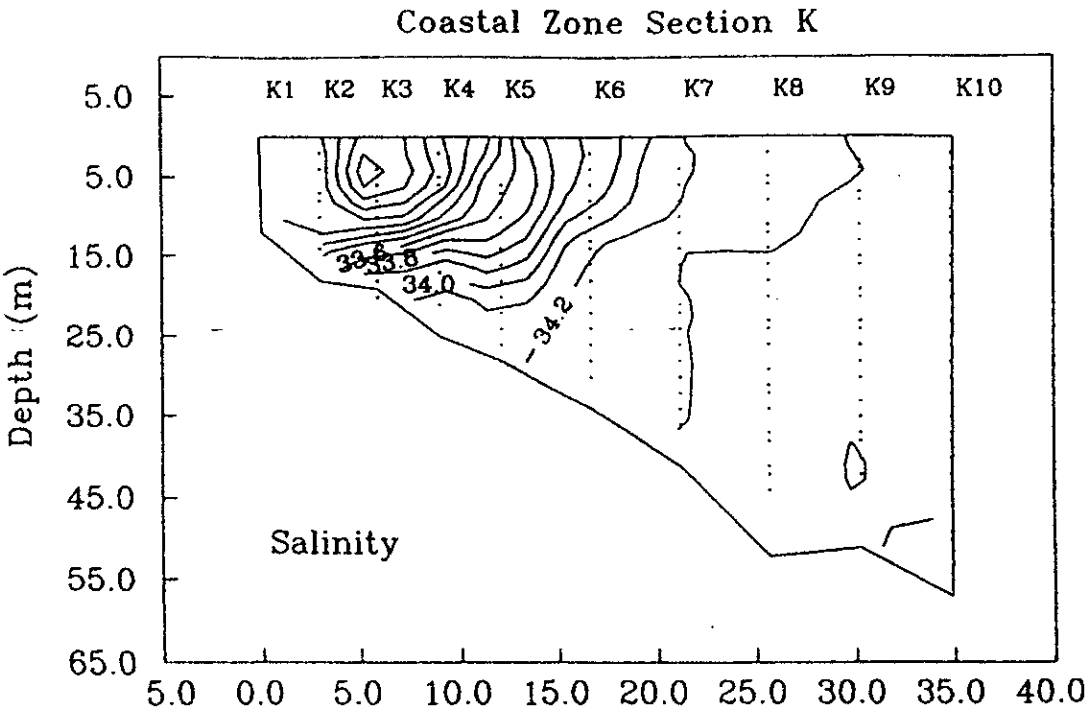
Objective 3 was completed. It would appear that there may be a problem with the time constants involved in the computation of salinity with the new Seabird. This will be checked in the Laboratory.

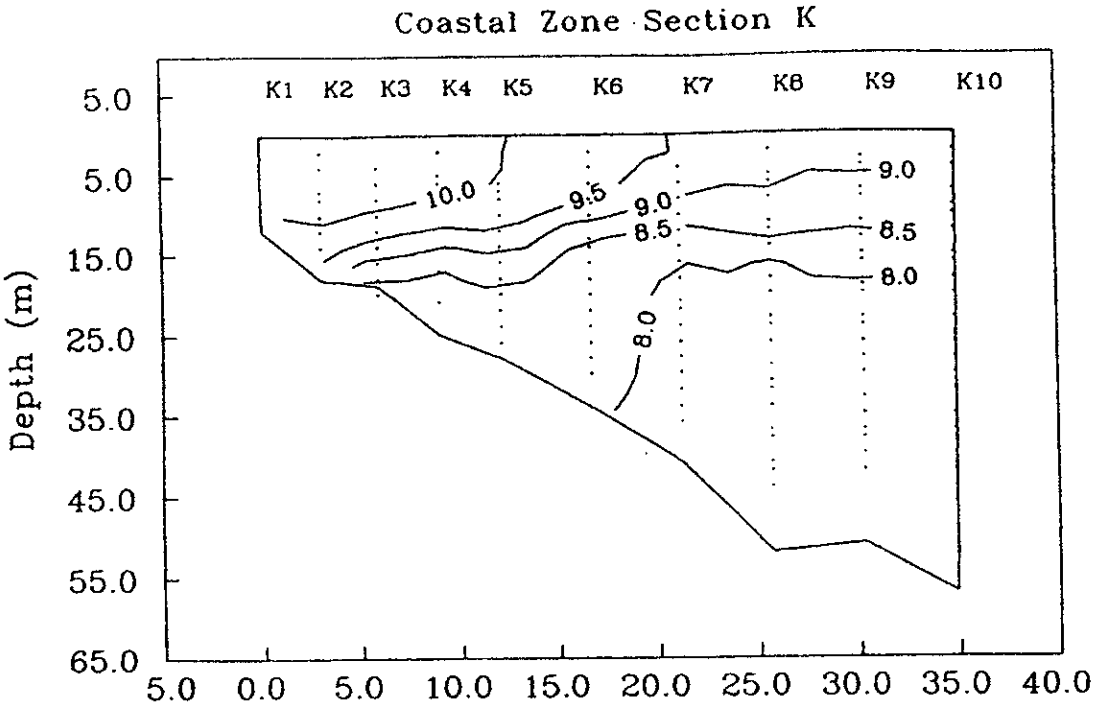
The sections revealed stratified conditions off the Tay. Surface temperatures approached 10.5°C inland, while temperatures less than 8.0°C were found in the bottom water offshore. Salinity was most stratified, with lowest values at the surface at K3. Fluorescence showed very high levels beneath the pycnocline. These exceeded the working range of the fluorimeter. Nutrient values await analysis ashore.

W R Turrell
27 June 1994

Seen in Draft: A Simpson


Coastal Zone Section K
K1 K2 K3 K4 K5 K6 K7 K8 K9 K10
Depth (m)
5.0 5.0 15.0 25.0 35.0 45.0 55.0 65.0
1000
1500
2000
2500
3000
3500
4000
Fluorescence
5.0 0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0


Coastal Zone Section K
K1 K2 K3 K4 K5 K6 K7 K8 K9 K10
Depth (m)
5.0 5.0 15.0 25.0 35.0 45.0 55.0 65.0
33.6
34.0
34.2
Salinity
5.0 0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0


Coastal Zone Section K
K1 K2 K3 K4 K5 K6 K7 K8 K9 K10
Depth (m)
5.0 5.0 15.0 25.0 35.0 45.0 55.0 65.0
10.0
9.5
9.0
8.5
8.0
9.0
8.5
8.0
5.0 0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0

SCOTTISH NORTH SEA COASTAL ZONE PROJECT