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FRV *CLUPEA*

Cruise 0893C

## REPORT

27 April-3 May 1993

### Personnel

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J Fraser	ASO

### Objective

To investigate the population dynamics of *Alexandrium tamarense* in the Firths of Forth/Tay.

### Narrative

*Clupea* sailed from Fraserburgh late in the afternoon of 27 April and proceeded southwards towards St Andrews Bay, dropping anchor on a set station at 0200 on 28 April.

Sampling commenced at 0800 using the hose sampling device, Chelsea dip frame, and a Day grab at each of five stations in the St Andrews Bay area. The tow CTD frame was deployed but the power unit on the ship failed after only 17 minutes.

*Clupea* proceeded to Dundee to allow detailed microscopy and analysis of phytoplankton samples taken during the day and repairs were also carried out on the tow CTD. On 20 April *Clupea* carried out a grid of 10 stations towing the CTD and using the hose, DIP CTD and Day grab before anchoring in Aberlady Bay at 2044, to allow analysis of the day's phytoplankton samples.

The same pattern of work was carried out at five further stations on 30 April, very thick fog making operations difficult. Six cores were obtained at a suitable site in southern part of the Firth using a Craib corer, and six more sampling stations were completed before anchoring at 2045 in Largo Bay.

Sampling at a series of set stations on the south side of the Firth continued on Saturday 1 May and the coring station sampled on the 30th was requested. Five further stations were completed before the ship carried out a rectangular grid towing the tow CTD at full speed. The vessel anchored in St Andrews Bay at 2200.

The following day, Sunday 2 May five stations were completed in the St Andrews Bay area before the vessel started to make a passage north arriving in Fraserburgh at 2130.

Staff and gear were off-loaded on Monday 3 May.

### Results

During the cruise 28 stations were sampled with Chelsea CTD integrated hose water sampling device and Van Doorn water bottle samples to calibrate the CTD.

Fifteen stations were re-sampled using the hose with a pump attached to sample discrete water depths for chlorophyll, CHN, phytoplankton, nutrients, salinity and CTD dip.

Sediment samples are being examined for the presence of dinoflagellate cysts and also evidence of toxin producing bacteria.

J Dunn  
20 July 1993

Seen in draft: S Clark, OIC *Clupea*

Cruise track "Clupea" Cruise 0893C

