

R1/6

Not to be cited without prior reference to the Marine Laboratory, Aberdeen

FRV *Clupea*

Cruise 1602C

REPORT

9–11 October 2002

Loading: Fraserburgh

Unloading: Fraserburgh

Personnel

A D McIntosh (in charge)

W Macdonald (Ms)

G Packer

K Bateman CEFAS

L Pearce SEPA East

Fishing Gear: BT 116 and beam trawl

Objectives

1. To collect samples of flounder by beam trawl at St Andrews Bay and between Port Edgar and Longannet in the Firth of Forth for biomarker and fish disease investigations.
2. Where possible to collect 150 fish (in total) from these sites for external disease assessment.

Estimated Days Per Project: 3 days AE11p

Programme

All scientific equipment and personnel joined *Clupea* on the evening of 8 October. *Clupea* sailed at 0700 hours on 9 October and made passage for St Andrew's Bay. Inclement weather, force 5–6 occasionally 7, precluded fishing in St Andrew's Bay and passage was continued into the Firth of Forth where *Clupea* anchored overnight in Largo Bay. The anchor was lifted at 0700 hours on 10 October and passage made to the upper Forth where trawling commenced at 1020 hours at Tancred. Trawling continued all day in the area delineated by Tancred and Longannet/Grangemouth. At 1930 hours, *Clupea* made passage out of the Firth of Forth with the intention of sailing north to Fraserburgh. However, the worsening weather conditions (by the time *Clupea* arrived at Fifeness) were such that the OIC took the decision to return into the Forth and anchor in Aberlady Bay. The weather on the morning of 11 October had not improved and it was decided to berth in Leith to allow the scientific staff and equipment to be unloaded. Staff and equipment arrived back in Aberdeen at 1600 hours. *Clupea* sailed at 1000 hours on 12 October and berthed in Fraserburgh at 1200 hours on 13 October.

Results

A total of 16 trawls were taken from the area described above. The fish caught provided the samples indicated in Table below.

Sample	Male Flounder	Female Flounder
Biomarkers:		
EROD	11	13
DNA Adducts	11	13
RNA	11	13
Metallothionein	11	13
Bile Metabolites	11	13
Plasma vitellogenin	11	13
Histopathology of tissues: liver, spleen, kidney, gill, gonad, skin and muscle	19	25
External disease	19	25
Fin clip for microsatellite markers	11	13

The above samples will be distributed to various laboratories for analyses and the results will be reported in January 2003.

A McIntosh
30 October 2002

Seen in draft: A Nicol, OIC *Clupea*

Supplementary

To provide a second sample site within the Firth of Forth, flounder were collected by stake nets from near Alloa and held in aquaria by Stirling University. On Monday 14 October, W Macdonald and G Packer travelled to Stirling and processed 137 fish as per Table below.

Sample	Male Flounder	Female Flounder
Biomarkers:		
EROD	16	34
DNA Adducts	16	34
RNA		
Metallothionein	16	34
Bile Metabolites	16	34
Plasma vitellogenin	16	34
Histopathology of tissues: liver, spleen, kidney, gill, gonad, skin and muscle	16	34
External disease	56	78
Fin clip for microsatellite markers	16	34