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Not to be cited without prior reference to the Laboratory.

FRV "SCOTIA"

CRUISE 5/88 PART 2

5pt2SR88

REPORT

21-31 May 1988

Personnel

A McVicar	PSO (in charge)	21-31 May
D Bruno	SSO	21-31 May
D Moore	SSO	21-31 May
C Fraser (Miss)	ASO	21-31 May
R Bray	Visitor (BM)	21-31 May
M Spencer-Jones (Miss)	Visitor (BM)	21-31 May
J McHenery	HSO	21-27 May
D Saward	SSO	21-25 May
P Copland	SO	21-25 May
C Shand	SO	21-25 May
M Costello	Visitor (Napier)	21-25 May
C Francis (Miss)	Student	25-31 May
M Walker	Visitor (UKAEA)	25-31 May
A McIntosh	HSO	25-27 May

Objectives

To perform a check monitoring survey on sewage sludge dump grounds off the Forth, integrating environmental and fish disease studies, and to carry out comparative fish disease surveys in the Moray Firth and vicinity of Orkney and Shetland.

Narrative and Results

"Scotia" left Aberdeen at 1000 hr on 21 May and proceeded to sample sewage sludge dump grounds and adjacent reference areas off the Forth. Eight trawls provided material for fish disease studies at the Bell Rock area and twelve similarly at St Abb's Head. TV surveys of benthic communities and substrate were made and the dispersion of two dumps of sewage sludge at St Abb's Head (on 24 and 25 May) was studied for several hours by use of transmissometer and echo sounders. Sea bed TV surveys were made at the principal point of impact.

"Scotia" briefly called at Aberdeen on the evening of 25 May to exchange part of the scientific staff and to collect spare fishing gear. The vessel then continued fishing for fish disease study samples in the vicinity of the Beatrice oil field (5 trawls), inner Moray Firth (4 trawls), east of Orkney (5 trawls), West of Orkney (4 trawls) and east of Fair Isle (3 trawls). Hydrocarbon and heterotrophic mineralisation studies were carried out at four single well sites in the northern Moray Firth. Samples of invertebrates were taken from trawls in the Forth and Moray Firth areas for blood enzyme analysis in relation to pollution. When the opportunity

permitted between trawls and overnight, 22 grab, sediment core and/or water samples were taken by a member of the United Kingdom Atomic Energy Authority staff in the Moray Firth and to the east and west of Orkney. A field trial was undertaken by a member of the University of Aberdeen to determine possible genotypic effects of pollutants using the sister chromatid exchange technique in plaice. Parasitological surveys and specimens were collected by staff of the British Museum (Natural History) for host specificity and taxonomic studies.

A wide ranging and intensive study programme was followed thanks to the good weather prevailing throughout and to the excellent co-operation of the captain and crew of "Scotia".

The results will become available after the material collected has been analysed and the data evaluated.

A H McVicar

3 June 1988

Seen in draft: N E McInnes