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## CRUISE REPORT

FRV MARA

5-24 May 1969

Objective

The cruise was directed towards sampling pre-recruit flatfish, especially plaice, in the bays of the Moray Firth and the east coast of Scotland. All samples were taken in depths of less than 10 fm.

Narrative

The scientific staff joined MARA at Buckie at 10 a.m. on 5 May. The first week of the cruise (5-9 May) was devoted to sampling the Moray Firth bays with the exception of Aberdour Bay. The latter, Aberdeen Bay and the region between Montrose and Milton Ness were sampled in the period 12-16 May. The remainder of the cruise (19-22 May) was spent in sampling Largo Bay, Aberlady Bay and St Andrews Bay.

Dense fog prevented work on 13 May while strong NE winds and adverse weather forecasts prevented work on 19 May. Because of these delays no sampling was undertaken in Rattray Bay, Strathbeg Bay and Lunan Bay.

MARA called in at Aberdeen on the afternoon of 22 May to allow unloading of equipment and samples before the Laboratory closed for the Whitsun holiday. MARA then steamed overnight for Buckie.

Otoliths were taken from plaice, flounders, common dabs and long rough dabs in all areas. All cod were examined for worms. Other fish were treated according to standing instructions. Stomach samples were taken from plaice and common dabs in the Moray Firth bays. In each bay hauls were made with a small otter trawl, used with and without a tickler chain.

Resultsi) Plaice

Catch rates of plaice in the Moray Firth bays (except Aberdour Bay) and in Aberlady Bay were very low. Mean numbers of plaice per half hour haul were as follows:

	<u>Mean no./half hr</u>	<u>No. of hauls</u>
Dornoch Firth	13.5	8
Nairn Bay	4.6	4
Burghead Bay	28.1	6
Spey Bay	23.2	5
Cullen Bay	18.5	4
Aberdour Bay	117.1	6
Aberdeen Bay	257.0	12
Montrose-Milton Ness	154.7	4
St Andrews Bay	351.1	8
Largo Bay	98.0	4
Aberlady Bay	12.7	4

There was no significant difference between the catches with and without a tickler chain, and the mean numbers per half hour above have been calculated from the combined hauls.

Examination of the length frequency distributions of the plaice captured indicates that the 1968 year class is probably a weak one. At all events, no size mode corresponding to I group fish can be detected in the length frequencies for any region.

For Aberdeen Bay, the region Montrose-Milton Ness, St Andrews Bay and Aberdour Bay a size mode was apparent in the length frequencies corresponding to II group fish. A more detailed analysis of the age composition of the catches will be made from otolith samples taken during the survey.

The length composition data for hauls with and without a tickler chain indicated that a greater proportion of small fish were caught with a tickler chain present than without it.

ii) Flounders and Common Dabs

Mean numbers of flounders and common dabs per half hour haul for all hauls combined were as follows:

	<u>Flounders</u>	<u>Common Dabs</u>	<u>No. of hauls</u>
Dornoch Firth	1.5	1.0	8
Nairn Bay	1.3	2.6	4
Burghead Bay	2.5	+	6
Spey Bay	3.2	3.0	5
Cullen Bay	3.0	3.0	4
Aberdour Bay	2.5	27.5	6
Aberdeen Bay	99.9	66.3	12
Montrose-Milton Ness	14.2	2.2	4
St Andrews Bay	4.6	48.1	8
Largo Bay	3.0	23.2	4
Aberlady Bay	2.5	11.7	4

iii) Other flatfish

Seventeen long rough dabs (10-19 cm), one lemon sole (26 cm) and one brill (23 cm) were also caught.

iv) Roundfish

Haddock (17-25 cm) and whiting (9-17 cm) were caught in small numbers in Nairn Bay, St Andrews Bay and Largo Bay. Small numbers of cod were caught in Aberlady Bay and Largo Bay.

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