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8MR72CRUISE REPORTFRV "M A R A"3 August-2 September, 1972Objectives

- (i) Environmental survey (hydrography, chemistry and plankton) of the Firth of Clyde.
- (ii) Collection of plankton for pollution investigations.
- (iii) Beam trawl survey of juvenile plaice populations from selected bays in the Firth of Clyde and Kilbrannon Sound.
- (iv) Macrofauna and meiofauna survey of the Firth of Clyde.

Narrative

"Mara" sailed from Buckie on 3 August and arrived in Ardrossan on 6 August where she was joined for three days by Mr J Pirie (instead of Dr Topping) and Mr Conway.

The first three (7-9 August) and last two days (28-29 August) of the trip were devoted to the pollution and environmental survey. Stations listed in the programme were sampled in the first part and repeated during the last part of the cruise.

Messrs McIntyre, Murison and Basford joined "Mara" at Ardrossan on the evening of 9 August for the benthos and juvenile plaice surveys. Mr McIntyre left "Mara" on the evening of 11 August.

Priority was given to beam trawl work, and when weather conditions were favourable sampling was carried out in suitable inshore areas. More than 20 areas (see chart) were investigated in the Firth of Clyde and Kilbrannon Sound shores. The 2 metre beam trawl used was operated from "Sprat" powered by a 6 H.P. outboard engine, and in conjunction with this work "Mara" was used mainly for transport of equipment and processing of samples.

Grab sampling ($1/10 \text{ m}^2$ Van Veen) was carried out during periods when weather conditions were unsuitable for small-boat work and thus no working days were lost. A grid of 31 stations (see chart) was sampled between Arran and the Ayrshire coast. In addition, grab samples were collected from 3 stations on the Garroch Head sewage sludge dumping ground and from these meiobenthos subsamples were taken.

Messrs Murison and Basford left "Mara" at Ardrossan on 25 August and were replaced by Mr J Adams and Mr Conway who arrived on the evening of 27 August. The pollution and environmental survey was completed during the next two days and "Mara" departed for Buckie on the afternoon of 29 August.

RESULTS

Pollution and Environmental Survey

All items listed in the objectives above were successfully completed, though difficulties were experienced in eliminating contamination (i.e. paint chippings) during collection of pollution samples with the Topping heavy metal net. Analysis has not yet been carried out on these samples.

Beam trawl survey

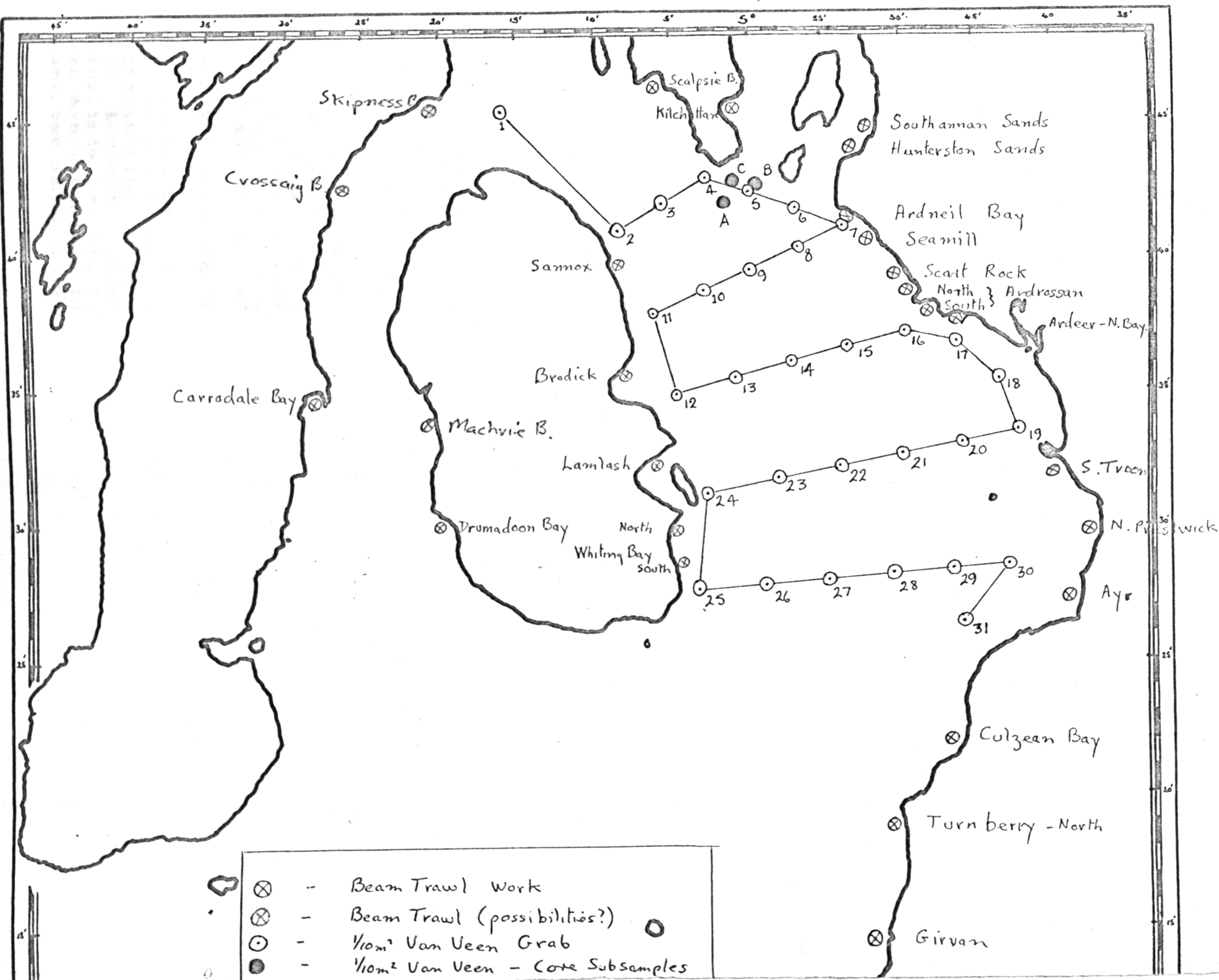
Juvenile flat-fish were found in all areas where the trawl could be operated, but were found in larger numbers only in weed-free regions where the bottom sediment was a fairly homogeneous medium to fine sand. Detailed analysis of data has not yet been carried out, but maximum densities (approx. 800 individuals/10 min. haul) of flat-fish were found in areas bordering on the north and south of Irvine Bay. (Previous sampling in July this year revealed even greater densities in Irvine Bay.) Very few juvenile flat-fish were found below a depth of 5 metres and plaice were concentrated mainly in the region of low water mark.

Macrobenthos and Meiobenthos

At present no sorting has been carried out on the Van Veen grab samples.

D J MURISON
5.9.72

Part Bannatyne Is. →
 ← Etterick B. →
 ← Rothesay B. →



- ⊗ - Beam Trawl Work
- ⊗ - Beam Trawl (possibilities?)
- ⊙ - 1/10m² Van Veen Grab
- - 1/10m² Van Veen - Core Subsamples