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Cruise Report

FRV 'Mara'

19 April - 2 May 1977 (Pt 1)

Objectives

1. To conduct hydro-biological surveys of Sullom voe and neighbouring areas.
2. To measure currents in Sullom voe using two current meter moorings, parachute drogues and a window blind.
3. To assess the oxygen demand of the sediments in the upper basin of Sullom voe.

Narrative

Mara made passage during a brief, fair weather interlude and arrived at Sullom voe at 1800 on 20 April. Survey work in Sullom voe continued from then until 29 April except for short periods on 21 April and 25 April when severe gales caused ship handling problems, and also on 24 April for the weekend break. Mara proceeded to Lerwick on 30 April and to Buckie on 1 May where she arrived at 0300 on 2 May.

Results

1. The axial hydrobiological section was worked on 3 occasions. Because of the stormy weather, considerable variability was observed, including the renewal of the deep water at the head of the voe which increased the oxygen saturation from 85% to 100%.

The distribution of plankton was similar in each of the surveys. A rich, mixed phytoplankton population dominated by Thalassiosira nordenskioldii was present at all sampling stations. Crustaceans plankton was sparse throughout the area. On the other hand small Aurelia aurita (diameter 1-1.5 cms) were extremely abundant. Near the head of the voe terrigenous material mainly peat fragments, was a substantial component of the sample material.

2. Current meters which were deployed at the entrance to the basin at the head of the voe throughout the period of the cruise revealed a fairly active wind driven circulation showing that exchange between the basin and the voe can be fairly rapid. Another mooring was deployed adjacent to Sullom church and this will be recovered in July.
3. An attempt to disturb the sediments was made in the area where the results of last years sedimentation trips suggested considerable resuspension of fine particles. This was unsuccessful mainly because of a thick layer of seaweed.

H D Dooley
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7 June 1977

Seen in draft - James A Calder O.I.C. Mara