Dr. Wood

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CRUISE REPORT

F.R.S. "SCOTIA"

25th September-27th October, 1956.

OBJECTIVES

1) Productivity
2) Herring Larvae Survey

PRODUCTIVITY

Narrative:- "Scotia" sailed from Aberdeen on the evening of 26th September to work a North Sea grid. By 5th October about half the programme was completed and the ship went in to Lerwick for stores, sailing again on the morning of the 7th. Work was completed at mid-day on the 11th and "Scotia" docked in Aberdeen at 0700 on 12th October.

Hydrography

The cruise was carried out during the autumn breakdown of the thermocline. In inshore waters the breakdown was complete with a temperature of 10.8-11.5°C throughout the water column. On Fladen the breakdown had hardly started as shown by the bottom temperature of 6°C. The highest surface temperatures of 13°C were found in this area. Elsewhere conditions lay between these two extremes.

Plankton

A fairly rich plankton, typical of a mixed oceanic and coastal water, was present as usual at this time of year over most of the northern North Sea, the dominant species being C. finmarchicus, S. elegans and Limacina retroversa. Of these Calanus was most abundant in the subsurface waters to the east of the Moray Firth and Limacina more abundant to the north of this and east and north-east of Shetland. Oceanic water with Sulculeolaria, Lensia, etc. occurred to the north and north-east of Shetland and again north of 61°N and east of 2°E. Sagitta setosa was present east of 0° in the surface waters overlying the Calanus/elegans community. Pleurobrachia occurred, though not in excessive numbers, in the area east of the Moray Firth.

HERRING LARVAE SURVEY

"Scotia" sailed from Aberdeen at noon on the 17th. Two stations were completed before a gale suspended work. The ship hove to until the morning of the 18th when a further deterioration in the weather and an unfavourable forecast made it expedient to return to Aberdeen. "Scotia" sailed again at mid-day on the 19th and proceeded to the vicinity of the Devils Hole where the indicators released on the preceding cruise had last been reported. The next eighteen hours were spent carrying out a search in this area for indicators and a herring larvae concentration. No indicators were sighted but the larvae appeared to be most abundant at 57°N 0°40'E. However, if this was the same concentration as was sampled on the preceding cruise it had undergone a very heavy reduction in abundance. A twenty mile square grid with stations five miles apart was then worked over this concentration and was completed by the evening of the 21st, progress having been considerably reduced by strong to gale S.W. winds. Catches of herring larvae having proved disappointing on this grid it was decided to begin a search over a wider area for a denser larval concentration. A search was made in the area between 57°N and 56°N and between 0°30'W and 1°30'W. This was completed by the morning of the 23rd without encountering any major larval concentration. Gale force S.W. winds and a heavy swell made further work offshore out of the question so it was decided to work a line of stations down the coast where the swell would be less heavy. Four stations were completed before conditions even there became unworkable and at 0200 hours on the 24th anchor was dropped in St. Andrews Bay. In the afternoon of the

same day an attempt was made to resume work in the entrance to the Firth of Forth but the swell proved too heavy and the ship returned to St. Andrews Bay. In view of the forecasts of the continuance of bad weather, "Scotia" returned to Aberdeen on the evening of the 25th.

The heaviest concentration of herring larvae encountered over the whole area was situated to the west of Aberdeen Bank. Between this patch and that found in the Devils Hole region, larvae were very sparse. Over the area as a whole herring larvae appeared to be much less abundant than is usual at this time. The plankton complex was fairly uniform over the area as a whole. The volume of the collections was fairly large with S. elegans, Calanus, Limacina and Pleurobrachia being the dominant organisms. Pleurobrachia was particularly abundant to the west of Aberdeen Bank where the herring larvae were also concentrated; whilst Limacina was scarce here but was widespread and abundant to the south and east. S. setosa was noted in two collections - one from the Eastern Hole and one from the eastern edge of Berwick Bank.

J. H. STEELE.
ALAN SAVILLE.

1st November, 1956.

CIRCULATION

Mr. Wall
Mr. Graham
Dr. Carruthers
Mr. Leonard
Captain MacCallum
Mr. Russell
Mr. Rae
Dr. Reay
Dr. Leloup
Dr. Ancellin
Dr. Furnestin
Professor Bückmann
Dr. Havinga
Dr. Höglund
Dr. Tåning
Dr. Graham
Mr. T. C. Jones
Mr. Gault
Fishery Officers
Captain Bruce
Captain Finlayson
Mr. Jappy
Dr. Lucas
Dr. Wood
Dr. Tait
Dr. Fraser
Dr. Rae
Mr. Parrish
Mr. Saville
Mr. Steele
Mr. Seaton
Mr. Baird
Mr. Gordon (2)
Library (2)
File
Spare (4)