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11SR84

IN CONFIDENCE: not to be quoted without prior reference to the Laboratory

FRV 'Scotia'  
Cruise 11/84

LD

## REPORT

20 September - 5 October 1984

## OBJECTIVES

1. To participate in the ICES coordinated herring larval surveys of the north western North Sea and Division VIa (N).
2. To carry out hydrographic and benthic sampling of the JONSIS line.
3. To collect water samples for radio caesium monitoring.
4. To collect herring larvae for biochemical studies.

## NARRATIVE

Having left Aberdeen at 1500 on 20 September "Scotia" began herring larval sampling at station 1 (53°05'N 01°10'N) at 2000 and continued sampling in the Moray Firth and east of Orkney until 0530 on 23 September when benthic and hydrographic sampling of the JONSIS line was begun. Herring larval sampling recommenced at 0840 on 24 September. The first coverage of the north western North Sea area was completed at 0300 on 28 September. "Scotia" then proceeded to resample the area east of Orkney where larvae had been most abundant on the first survey. Sampling in Division VIa began at 0800 on 1 October and continued until 0430 on 4 October when "Scotia" set course for Aberdeen, docking at 2000 hours.

## RESULTS

During the cruise 169 herring larval samples were obtained from the north western North Sea and 55 from Division VIa. Four samples of larvae were collected for biochemical analysis and a full set of benthic and hydrographic samples were taken on the JONSIS line. One sample of water for radio caesium analysis was collected from the Fair Isle station.

Preliminary sorting of all herring larval samples took place on board ship. This indicates that larvae were found in 2 main areas, the first to the east of the Orkneys the second from Cape Wrath east to the Orkneys. In that part of the north western North Sea which was surveyed for a second time larvae were generally less abundant. These preliminary data would suggest that in the Orkney - Shetland area herring larval abundance was comparable with that found during the same time period in 1983; but that, in the part of Division VIa, sampled abundance was higher than in the preceding year.

David W McKay  
22 October 1984

Seen in draft: J W Gillan  
Commanding Officer

1

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy verification of the data.

In the second section, the author outlines the various methods used to collect and analyze the data. This includes both manual and automated processes. The goal is to ensure that the information is both reliable and up-to-date.

The third part of the document provides a detailed breakdown of the results. It shows that there has been a significant increase in sales over the period covered. This is attributed to several factors, including improved marketing strategies and better customer service.

Finally, the document concludes with a series of recommendations for future actions. It suggests that the company should continue to invest in research and development to stay ahead of the competition. Additionally, it recommends regular audits to ensure ongoing compliance with all relevant regulations.

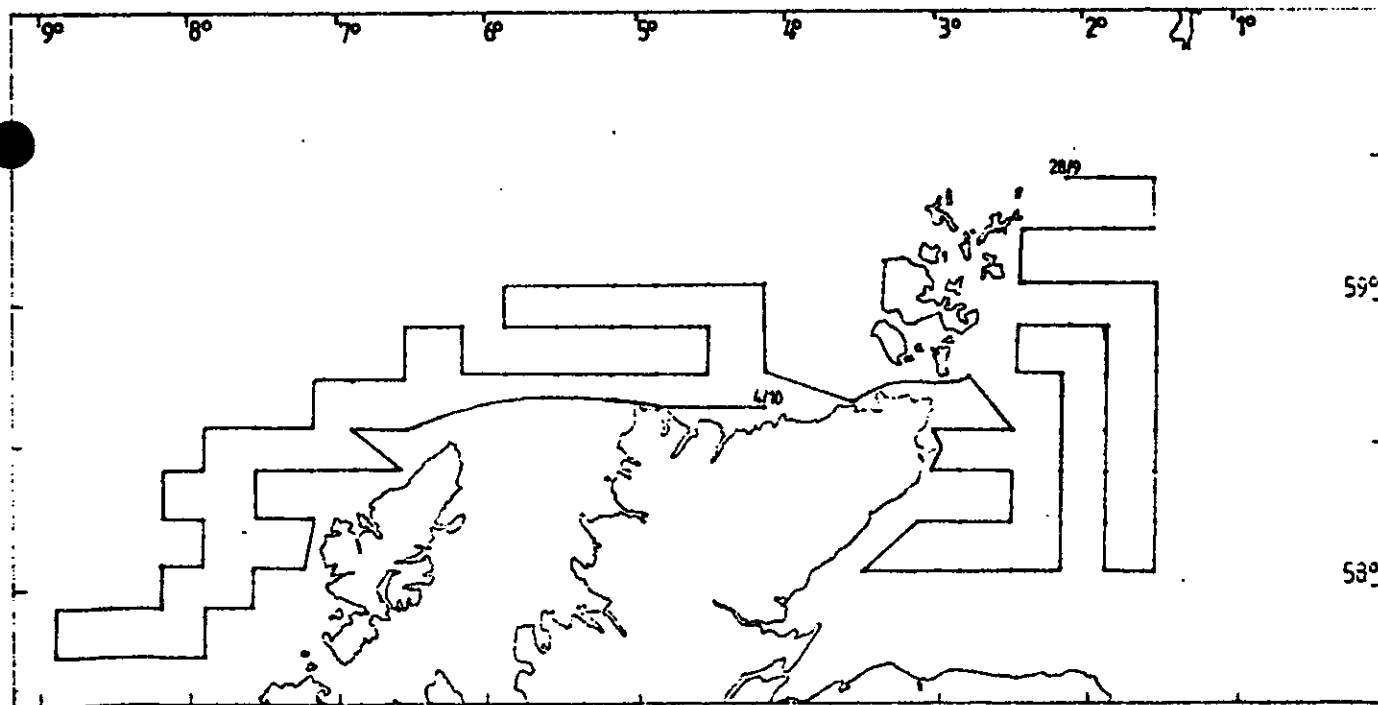
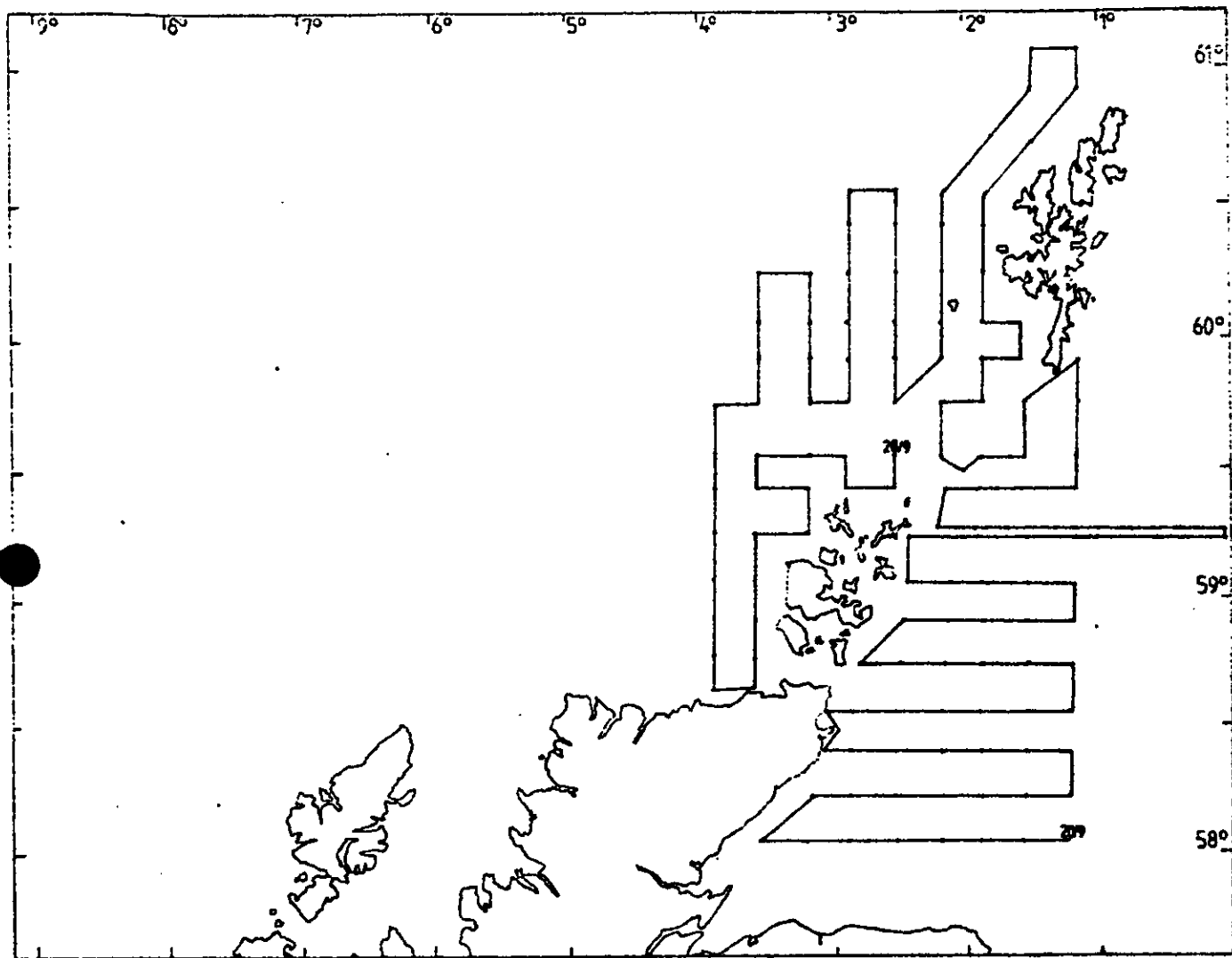


The following table summarizes the key findings from the analysis. It shows a clear upward trend in revenue, which is a positive indicator for the company's financial health.

Category	Q1	Q2	Q3	Q4
Sales	120,000	135,000	150,000	165,000
Expenses	80,000	85,000	90,000	95,000
Profit	40,000	50,000	60,000	70,000

Based on these results, it is clear that the company is on a strong growth trajectory. However, it is important to remain vigilant and continue to monitor the market closely. Any changes in consumer behavior or economic conditions could impact these trends.

In conclusion, the data presented here provides a comprehensive overview of the company's performance. It highlights the areas where the company has excelled and identifies the challenges that remain. By following the recommendations provided, the company can continue to achieve its long-term goals and maintain its competitive edge.



FRV SCOTIA

20/9 - 5/10/1984

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