

Not to be cited without prior reference to the Laboratory

FRV "Scotia"

Cruise 1/90

1SR90

REPORT

4-24 January 1990

Personnel

P Hopkins	SSO (in charge)
M Mowat	SSO (4-15 January)
D Reid	SSO
P Copland	HSO
I Gibb	AO
Miss J Simpson	ASO

Objectives

1. To carry out an echointegration survey of herring and mackerel off the north and west coasts of Scotland.
2. To collect biological data from catches of herring and mackerel.
3. To collect water samples for radio-caesium monitoring.
4. To record sea surface temperatures and salinities in the survey area.

Narrative

"Scotia" sailed from Aberdeen at 1100 on 4 January. The echosounder equipment was calibrated overnight at Inaness Bay, and echointegration began at 1300 on 5 January. Gale force winds restricted the survey to the Minch from 6 to 9 January. The survey continued at Stanton Banks on 10 January, though the weather was too poor to allow fishing. From 11 to 14 January the survey progressed intermittently as weather conditions permitted. "Scotia" docked at Stornoway at 1000 on 15 January.

"Scotia" left Stornoway at 1000 on 16 January, but force 10-11 gales prevented echointegration. An attempt was made to calibrate the equipment at Loch Erisort, but no secure anchorage could be found. "Scotia" sheltered in Broad Bay 16-17 January, then headed towards Barra Head for another attempt to reach Stanton Banks on 18 January. Some echointegration was possible on the 18th, but 19 January was spent sheltering in Village Bay, St Kilda. Integration continued intermittently from 20 January and a second calibration of the equipment was successfully completed at Inaness Bay on 22 January. With little prospect of further work, "Scotia" headed for Aberdeen on 23 January, docking at 2230.

Results

The survey was severely curtailed by bad weather, and it is unlikely that it can be used to estimate stock size. A total of only nine hauls were made, three of which were foul and one of which had zero catch. Five hauls successfully sampled herring near the Flannan Isles (size range 22.5 cm-32 cm, mode 26 cm), the Butt of Lewis (21.5 cm-29.5 cm, mode 25.5 cm) and North Rona (22 cm-30.5 cm, mode 26 cm). Large fish marks were also seen south east of St Kilda and at Stanton Banks but no fishing was possible. Fishing was unsuccessful in sampling fish marks seen 20 miles east of Barra Head.

A total of 317 otoliths were taken and 200 fish were weighed to establish a weight length relationship.

Caesium samples were taken at the following positions:-

Cape Wrath	58°40'N 5°00'W
Pentland Firth	58°40'N 2°59'W
Fair Isle	59°30'N 2°00'W

The thermosalinograph was unavailable for the cruise so no surface temperatures or salinities were recorded.

The cruise track and trawl haul positions are shown on the attached chart.

P Hopkins

4 April 1990

Seen in draft: N E McInnes

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2. To collect biological data from catches of herring and mackerel.

3. To collect water samples for radio-caesium monitoring.

4. To record sea surface temperatures and salinities in the survey area.

"Scotia" sailed from Aberdeen at 1100 on 4 January. The echosounder equipment was calibrated overnight at Innes Ness Bay, and echosounding began at 1300 on 5 January. Gale force winds restricted the survey to the Minch from 8 to 9 January. The survey continued at Stanton Banks on 10 January, though the weather was too poor to allow fishing. From 11 to 14 January the survey progressed infrequently as weather conditions permitted. "Scotia" docked at Stornoway at 1000 on 15 January.

"Scotia" left Stornoway at 1000 on 16 January, but force 10-11 gales prevented echosounding. An attempt was made to calibrate the equipment at Loch Eribro, but no secure anchorage could be found. "Scotia" sailed in Broad Bay 16-17 January, then headed towards Barra Head for another attempt to reach Stanton Banks on 18 January. Some echosounding was possible on the 18th, but 19 January was spent sheltering in Village Bay, St Kilda. Integration continued intermittently from 20 January and a second calibration of the equipment was successfully completed at Innes Ness Bay on 22 January. With little prospect of further work, "Scotia" headed for Aberdeen on 23 January, docking at 2230.

The survey was severely curtailed by bad weather, and it is unlikely that it can be used to estimate stock sizes. A total of only nine hauls were made, three of which were foul and one of which had zero catch. Five hauls successfully sampled herring near the Lianan Isles (size range 22.5 cm-35 cm, mode 28 cm), the Butt of Lewis (21.5 cm-32.5 cm, mode 28.5 cm) and North Horn (22 cm-30.5 cm, mode 28 cm). Large fish were also seen south east of St Kilda and at Stanton Banks but no fishing was possible. Fishing was unsuccessful in sampling fish banks seen 20 miles east of Barra Head.

