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Charter Vessels *Sunrise* (FR359) and *Celestial Dawn* (FR459)

Cruise 9204H

REPORT

5-19 October 1992

Personnel

Sunrise

R D Galbraith HSO (in charge)
F G O'Neill SO
W E Leiper Craftsman

Celestial Dawn

G I Sangster HSO
J T M Hunter PTO
D S Beveridge SO (5-11 October)
R J Kynoch SO (12-19 October)

Objective

To investigate the influence of cod-end mesh size and diameter on pair trawl selectivity using covered cod-end techniques. Semi-rigid rings were used to hold the cover off the cod-end meshes. The following cod-end combinations were used on one or other of the vessels:

Number	Nominal mesh size (mm)	Diameter (total meshes round)
1	90	100
2	100	100
3	110	100
4	120	100
5	90	120
6	100	120
7	110	120
8	120	120

Narrative

With both cod-ends and covers rigged and shipboard instrumentation installed the vessels left Fraserburgh on the evening of 5 October. Five hauls were made in the Fair Isle area before steaming off to the North Bressay grounds on 7 October. A further eight hauls were carried out in this area until 9 October when *Celestial Dawn's* dogrope and small mesh cover fouled the propeller, immobilising the vessel. *Sunrise* towed her partner to Lerwick where the propeller was cleared by divers at first light on 10 October. New cod-ends and cover were rigged in Lerwick before the vessels left on the afternoon of 10 October. Three more hauls were made in the Sumburgh/Fair Isle area before the

vessels docked in Peterhead on the evening of 11 October to land the catch and exchange scientific staff.

The vessels left Peterhead on 12 October and a further 11 hauls were made off Sumburgh before weather conditions forced the vessels to seek shelter in Scalloway on 15 October. With the northerly gales finally abating the vessels left Scalloway early on 17 October to carry out a further nine hauls before docking in Peterhead on the morning of 19 October. Staff and equipment returned to Aberdeen later that same day.

Results

A total of 36 hauls was achieved, of which 27 were considered valid. The adverse weather conditions caused several hauls to be abandoned when cod-end rings and covers sustained damage. Catches of haddock, whiting and cod taken in both cod-ends and covers were sampled and selection ogives plotted during the cruise. Four valid hauls were made with each configuration of the 90, 100 and 110 mm mesh cod-ends, in addition to three hauls with the wider of the 120 mm mesh cod-ends. The results will be statistically analysed using selectivity model techniques recently developed in the Laboratory

R D Galbraith
25 November 1992