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Charter fishing vessel *Keila* K121

CRUISE REPORT

1-10 March 1991

Personnel

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W Leiper	Craftsman

Objectives

1. A twin trawl will be used to compare the catches in a standard 90 mm diamond mesh cod-end and a 90 mm diamond mesh cod-end with a 90 mm square mesh panel on the upper side.
2. A small mesh cod-end will be used on one side of the twin trawl, for as many hauls as necessary, to obtain selection parameters for both cod-ends.

Narrative

Staff joined *Keila* at Kirkwall on 1 March. Trawl gear and instrumentation was set up and fishing commenced west of Orkney early the next day. Fishing grounds were changed to east of Fair Isle, then to several locations west of Shetland and then to north west of Orkney. Five hours were spent dodging west of Shetland during bad weather on 5 March. The cruise ended in Kirkwall on 10 March and staff returned to Aberdeen the next day.

Results

A total of 26 hauls were obtained of which 7 were required to check that both trawls were fishing symmetrically. Two of the remaining hauls were invalid due to gear damage. All of the remaining hauls were used for objective 1. The cod-ends were changed from port to starboard once during the cruise. Because fish were scarce, long tows were necessary and there was no time to use the small mesh cod-end on one of the twin trawls to obtain selection parameters.

The catches comprised mainly whiting (16 hauls) and haddock (17 hauls) with incidental quantities of skate, cod and flatfish (dab, megrim, plaice). All the whiting and haddock from each cod-end on each haul were measured and the amounts of the incidental catches were recorded.

The aim of the experiment was to compare the catching performance of two different cod-ends using twin trawls. Major reductions in juvenile haddock and whiting were achieved with the 90 mm square mesh window cod-end. However, the same cod-end also substantially reduced the catch of marketable sizes of haddock and whiting. The following table gives the percentage reduction in catch of juvenile and marketable haddock and whiting which occurred when using a 90 mm square mesh panel in a 90 mm diamond mesh cod-end compared with the catch in a standard 90 mm diamond cod-end -

WHITING	% reduction young fish (9-26 cm)	% reduction marketable fish (27-49 cm)
	70	64

HADDOCK	% reduction young fish (16-29 cm)	% reduction marketable fish (30-62 cm)
	41	20

The percentage reductions of all marketable fish above minimum landing size are recorded in the left hand column. These percentages will depend on the structure of the population being fished. A greater proportion of large fish will reduce the percentages since all haddock and whiting above about 38 cm were caught by both cod-ends.

J H B Robertson:

18 April 1991