

In Confidence: Not to be quoted without reference to the Laboratory.

CRUISE REPORT

FRS "CLUPEA"

10 June - 5 July, 1974

Objective

To assess the efficiency of an electric tickler system on flat fish by conducting a comparative fishing experiment using a 9 m electrified beam trawl.

Procedure

Equipment was loaded in Buckie on 10 June, and the gear was tested and inspected by divers in the Dornoch Firth. Comparative fishing was carried out at Clythe Ness, in Burghead Bay and on Turbot Bank. "Clupea" returned to Aberdeen for three days during the cruise for new echo-sounding equipment to be installed. The cruise terminated in Aberdeen.

The 9 m beam trawl was rigged with a divided net and two cod-ends. Each side of the net had a set of electric ticklers in contact with the bottom. During each haul one side, chosen at random, was electrified and the catches in the two cod-ends were recorded separately. Tows lasted for one hour, and the towing speed was generally between 3 and 4 knots.

Results

41 hauls were made of which 18 were considered to provide a valid comparison between the electrified and non-electrified catch rates. Hauls were invalidated mainly by gear damage and electrical problems. The catches consisted mainly of plaice (Platessa platessa), lemon sole (Microstomus kitt) and dab (Limanda limanda). The catch ratios, for fish under 20 cm long, and for fish 20 cm long and over were as follows: (The catch in the non-electrified side is indicated thus " $\overline{34}$ ".)

	<u>20 cm</u>	<u>20 cm</u>
Lemon sole	43: $\overline{34}$ \equiv (1.27:1)	107: $\overline{75}$ \equiv (1.43:1)
Plaice	141: $\overline{112}$ \equiv (1.26:1)	285: $\overline{182}$ \equiv (1.56:1)
Dab	964: $\overline{683}$ \equiv (1.41:1)	83: $\overline{60}$ \equiv (1.38:1)

For all sizes of these species the overall catch ratio was 1.42:1.

To increase the percentage of valid comparative hauls in subsequent cruises it will be necessary to use a heavier net, to strengthen the electrical cable terminations and to provide new deck equipment on "Clupea" to simplify the shooting of a beam trawl.

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19 July 1974