

G e a r a n d B e h a v i o u r C o m m i t t e e

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1969

Belgium
(P. Hovart)



Comparative experiments on the drag between beam-trawl nets with different taper ratios were carried out.

Some selectivity experiments on semi-pelagic nets were also undertaken.

Work on standardization of net materials and netting was continued in co-operation with ISO. The following aspects were studied: terms and definitions, cutting rates, drawing of nets, testing of netting yarns and netting.

A preliminary theoretical study was carried out in the field of the electro-fishing in view of substituting the tickler chains by a system of electrical impulses for shrimp and flatfish fisheries.

Experiments with the pair trawl fixed to the booms of a double beam trawler were started.

Canada
(J.M. Anderson)

Salmon drift nets of different mesh sizes and of different twine material were used in 1969 in Canadian waters, and in West Greenland, to compare their efficiency in catching salmon and in providing fish in suitable condition for tagging. Best catch rates in each area using twisted Ulstron (polypropylene) nets were obtained with stretched mesh sizes of 5 to 5 1/2 inches (127 to 140 mm). However, nets of monofilament nylon (polyamide) with 6 inch mesh (152 mm) equalled best catch rates of the Ulstron nets in Canada and gave catch rates of 2.3 times that of the next best Ulstron mesh sizes in Greenland. Viability of the salmon taken, and proportion of the catch that could be tagged, increased with mesh size used and were best for the monofilament nets. Overall return rates in the Canadian experiment were 36% of the tags supplied; though monofilament nets gave a return of 47%.

Experiments to determine whether fish attempt to avoid or escape from noises produced by fishing gear continued in 1969 using sonic stomach tags (in cod) and tracking receivers, and with the recording of ship and trawl noise. The recordings were made with the gear approaching the hydrophone on the bottom as it would approach a fish. The equipment used was a hydrophone, 500-ft. cable, and a portable FM instrumentation tape recorder. Real-time spectral analysis equipment to analyse the recordings and to measure the noise in terms of frequency, level, and temporal pattern, has been started.

A computer programme has been developed to reduce the field data to a more usable form on the performance of the east coast otter trawl. The research programme is now moving strongly into its theoretical phase. This includes the application of known principles of fluid mechanics, and of stress analysis, to reveal further specific information on the trawls from the field data already collected, and the evolution of generalised engineering principles for trawl design which are demonstrably valid for Canadian east coast trawls. In preparation for a detailed engineering study of trawl door performance, an instrument package is being developed for use on the doors to measure door spread, tensions in the towing warps and in the ground warps at the doors, and the three angles (attack, pitch, and heel) required to define the attitudes of the doors. This package includes echo-sounder and transponder units for measuring door spread,