



Serial No. 3079
(B.g.1)

ICNAF Res.Doc. 73/114

ANNUAL MEETING - JUNE 1973

Measurement of Fishing Effort

(as discussed by ICES Gear and Behaviour Engineering and Statistics Working Groups, 5-8 May 1973, IJmuiden, Netherlands)

1. Discussion centred around the Treschev "swept volume" method. Engineering aspects were discussed on 5 May 1973 by the Engineering Working Group (26 delegates, J.G. deWit chairman) and the statistical aspects were discussed on 7-8 May 1973 jointly by the Engineering and Statistical Working Groups (26 delegates, J.A. Pope chairman). Only 12 of the delegates attended both sessions.

 2. Papers discussed were:
 - Treschev (A.I.): Fishing unit measures (the second supplemented revised report). ICES Gear and Behaviour Committee, Document C.M. 1971 (B:9).
 - Treschev (A.I.): Engineering aspects of swept volume method (SVM), definition parameters of fishery. - for this working group meeting.
 - Treschev (A.I.): Fishery parameters assessment methods (additional comments and clarifications). - the paper requested by ICES.
 - van den Broucke (G.), Hovart (P.), and Cleeren (G.): An application of the Treschev method on fishery effort measurement. - for this meeting.
 - Sichone (W.A.M.) and de Veen (J.F.): Comparison of horsepower, propeller thrust, and water volume filtered as fishing power parameter of a beam trawl. - for this meeting.
 - Guichet (R.): Relations entre le pouvoir de pêche déterminé expérimentalement, la puissance utilisée en pêche et le volume d'eau filtré par unité de temps. - for this meeting.
 - Adam (P.): Comments on concepts used for fishing effort measurement. - for this meeting.
- There is a copy of each of these papers in St. Andrews.

3. The summary report adopted by the joint session read:

The Treschev swept volume method for measuring fishing effort was discussed thoroughly by the Working Group.

This method was generally recognized as a fundamental approach with good scientific potential. It seemed most applicable to those trawl fisheries in which the gear is standard. It specifically considers a major factor in the measurement of effort for such gear, but other factors also apply with this and other gears and should be brought into consideration. In the extreme, applicability to passive gears was questioned; in such gears effort must be determined from catches, as is done by traditional methods.

The definition of swept volume and methods for its calculation require further development with due consideration to the fish capture process. In some cases it may be necessary to estimate rather than measure swept volume.

Experience with the method is limited but at the present time it does not seem to be better than methods now in use for purposes of fisheries assessments, and its value for mixed (with respect both to gear and to species) fisheries was not generally accepted.

There is a need for further experimental results from all participating countries as a means for comparing methods for fishing effort measurement.

4. The resolution passed by the joint session read:

The Working Group recommends that member countries study the results of applying the swept volume method of effort measurement to their own fisheries and report their findings to ICES.

5. Fairly intensive notes of the proceedings of both sessions were taken for subsequent reference.

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16 May 1973