



GEAR AND BEHAVIOUR COMMITTEE

Chairman: Prof. A. von Brandt
Rapporteur: Dr. Herbert W. Graham

Proceedings

Two meetings were held, on October 1 at 9.30 and on October 3 at 9.30.

Agenda item 1: Opening

Prof. A. von Brandt announced that the President of the Council had appointed him Chairman of the Committee for this session to replace Mr. Steinar Olsen, who had resigned. The Chairman expressed his appreciation for the work that Mr. Steinar Olsen had done on this Committee over the past years.

Agenda item 2: Membership

The list of members was checked and changes were noted.

Agenda item 3: Administrative Report

This report was reviewed by the Chairman who noted with pleasure particularly the work now being conducted in Iceland where a new laboratory has been established for gear research. Canada reported that work is being conducted on fish behaviour in relation to gear.

Agenda item 4: Gear and Selectivity

a) ICES/ICNAF Joint Working Group on Selectivity Analysis

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The Committee noted the invitation from ICNAF to join a Working Group to examine all available data on selectivity and to study the reliability of such data. It also noted that Mr. Treschev of USSR had agreed to convene such a joint committee, and that Mr. Holden of U.K. would serve as Secretary.

① [The Committee recommends that ICES accept the ICNAF invitation to participate in such a joint working group.

All countries represented at the session agreed to make available to the Working Group any data they had on selectivity and several countries designated persons who might serve as experts to the working party.

② *Annex 1*
The question of whether the form of ICNAF summaries of selectivity data was suitable to ICES was referred to the Joint Working Group on Selectivity Analysis. An informal meeting of this group was held on October 4, 1968. || A report of this meeting is appended.

b) Selectivity and Trawling

Five papers on this subject were presented. Two French papers were concerned with extensive trawl experiments with models of

trawl nets. These experiments demonstrate that the flow of water through the net is influenced by the shape and type of trawl, the kind of twine, the speed of the trawl through the water, and the fishing conditions. Tests were made with full covers, top-side covers, and trouser cod-ends. An important conclusion is that the amount of water passing through the net is a function of the length of the net and therefore the longer the net the less possibility for escapement of fish. Another French paper reported on the selection of hakes. The selectivity for hake is affected by ~~the~~ ^{the} size of the catch.

A German paper compared results of experiments on cod off the south-west coast of Bear Island. In these experiments the selectivity was not affected by the form of polypropylene twine whether continuous, monofilament or split. This paper points out that the selection factors used for assessment of north-east Arctic cod (i.e. 3.7 for manila and 4.1 for polyamide) may be too high. ① ②

A shrimp sieve has been developed in the Netherlands that is now replacing the shakers presently in use. It consists of two concentric rotating cages constructed of parallel bars. It effectively releases fish in good condition and sharply separates marketable from unmarketable sizes of shrimp, increasing the retained portion of the catch from 30 to 100 per cent.

c) Selectivity and Salmon Fishing

Three papers were presented by Denmark, Sweden, and Germany concerning the drift net and drift line salmon fishing in the Baltic. Experiments showed that the length of strop is important to the size of catch; the nets with shorter strops giving the higher yields. However, the length of strop seems to have little influence on the percentage of undersized (<60 cm) fish taken.

There is considerable difficulty in hanging the net so that the triangular meshes near the float line are of specified size. Further work needs to be done on this problem.

In respect of measuring the meshes, the attention of the Baltic Salmons Fisheries Convention should be drawn to the mesh gauge used by the Lake of Constance Fishery Convention, which has developed a very satisfactory gauge for measuring mesh size in the nets used in the Lake of Constance.

The Committee further noted the need for standardising the terms for the parts of nets as well as for the nets and other gear themselves.

d) Future Activities off the NW-African Coast

The Committee noted the Council's continued interest in this area and that the Chairman of the Demersal Fish (Southern) Committee will contact member countries planning research in the area.

Agenda item 5: Standardisation and Classification

a) Net Materials

Two papers dealt with the technical aspects of standardisation of terms and classification of fishing gears and reported on the meeting of the Sub-Committee of Textile Products for Fishing Nets of the International Standard Organisation. There are still many problems relating to fishing gear that require solution. Standardisation of drawings of fishing nets is an example. Mr. de Wit has agreed to prepare a standard set of drawings.

Insistence, at the Council.

b) Fishing Vessels

Stock, the evolution and fleet (numbers, tonnage)

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The Committee considered the question of assessing the effectiveness of different kinds of fishing vessels. In order to decide on which characteristics are important the Committee proposes a Working Party be set up to study the problems of evaluating the various characteristics of fishing vessels in terms of their effect on the fishing effort.

The Working Group shall also consider whether the ICES/OECD/FAO fleet register needs amendments to improve its value for fishing effort studies. *Naval architects, economists, and gear technologists + biologist*

Mr. de Wit agreed to act as Convener of such a Working Party. The Committee recommends that all member countries be invited to designate experts to serve on this Working Party, these experts to be in the fields of naval architecture, technology, and biology.

Agenda item 6: Acoustic Methods: Fishing Counting and Training Course

Three papers were discussed under this topic.

A paper was presented on counting fish with an echo-integrator. With this equipment single fish can be detected, and in some cases species as well. The method promises to be useful in making surveys of species abundance.

The training course in the Use of Acoustic Methods in the study of fish stocks was explained. Plans are complete and the brochures are ready for distribution.

The time and place have been changed in order to assure a reliable source of fish for demonstration in the field. The place is Svolvær, Lofoten, Norway; the time is 2nd - 15th March, 1969.

The Committee suggests that the Council request a report of the Course so that the question of possible repetition of the Course might be considered.

with 2 staff
The Committee noted that it is hoped that research vessels from Norway, England, and Scotland will be made available for the field work. Other countries are invited to contribute vessel time so that the students may have a broader range of experience.

will accept
FAO is preparing a training manual for acoustic studies that will be used in conjunction with the course.

Agenda item 7: Fish Behaviour

a) FAO Conference on Fish Behaviour

Dr. Boerema summarised the report submitted to the Council on the recent meeting held in Bergen. He reported that FAO is planning more specialised meetings in the future but has no immediate plans for another meeting on the general subject of gear research.

The Committee requests the Bureau to express its appreciation to FAO for sponsoring the recent Congress and to express interest in future meetings on more specialised subjects. However, the Committee recommends that the Bureau urge FAO to continue holding general Fishing Gear Congresses even though they may not be able to hold them as often as every 6 years.

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b) Diurnal Variation in Trawl Catches

Two Dutch papers were presented on this subject, both dealing with flatfishes. Variation in catch is due to variation in the activity of the fish and this in turn is dependent upon the natural behaviour pattern of the species in relation to food and feeding habits.

Agenda item 8: Any other business

There is some interest in installing temperature recorders on fishing gear to obtain temperature information of immediate value to the fisherman.

Agenda item 9: Election of Chairman

In accordance with the Rules of Procedure and established practice the General Secretary conducted an election for Chairman. Mr. A.R. Margetts of U.K. was elected.

ICES/ICNAF Joint Working Group on Selectivity Analysis

1. Following the discussions at meetings both of ICES and ICNAF on the problems of selectivity analysis it was decided at the 1968 meeting of ICNAF to form a Working Group on Selectivity Analysis and to invite ICES to participate. Mr. Treschev (USSR) was appointed Convenor of the Group and Mr. Holden (U.K.) its Secretary.
2. This invitation was made to the Gear and Behaviour Committee at the 1968 meeting of the Council and was accepted.
3. A preliminary meeting of the Working Group was held on October 4, 1968 at which the following were present:-

Belgium	Mr. R. Pottillius
France	M. Cl. Nédélec
Germany	Prof. A. von Brandt, Dr. H. Bohl
U.K.	Mr. M.J. Holden (Secretary)
U.S.S.R.	Mr. A.I. Treschev (Convenor)
ICNAF	Mr. L.R. Day
	Mr. H.W. Graham
	Mr. Sv.Aa. Horsted

4. The following terms of reference were agreed:
 - i) Comparison of the properties of net materials of trawls used in the North Atlantic and investigation of the effect of trawl construction on selectivity. *Netherlands, Denmark, France, Spain*
 - ii) Theoretical analysis of the validity of marine experiments on selectivity.
 - iii) Compilation of the selectivity data for cod, haddock and redfish including a tabulation of equivalents for different materials.

Mr. Nédélec, Prof. von Brandt and Mr. Bohl agreed to compile data for section (i), and Mr. Treschev and Dr. Stepanov (USSR) for section (iii), Mr. Pope (U.K.) will be asked to undertake section (ii).

- Netherlands, Denmark, France, Spain*
5. Further nominations of specialists were requested. Mr. Pope and Dr. Stepanov have already been nominated.
 6. [An invitation from Mr. Treschev to hold the first meeting of the Working Group in Moscow was accepted, and it was agreed that this be held from 26th to 29th March, 1969, both dates inclusive.
 7. Dr. Treschev called for preliminary reports by the specialists appointed for each term of reference by February 25, 1969.