

EXTRACT OF THE PROCEEDINGS OF THE ICNAF RESEARCH AND STATISTICS COMMITTEE

1. Landings

Total groundfish landings decreased in all sub-areas, except in Sub-areas 4 and 5. 1968 landings were about 2 800 000 tons, 1969 landings between 2 500 000 and 2 600 000 tons.

Herring landings decreased in Sub-area 5, increased in Sub-area 4, and were stable in Sub-area 3. 1968 landings were about 879 000 tons, 1969 landings about 786 000 tons.

2. General Conclusions concerning ICNAF Cod Stocks

The studies presented substantiate the earlier conclusions that fishing is beyond that required to secure the maximum yield per recruit. The high yields in 1967-68 have been achieved largely by exploiting and depressing accumulated stocks and a period of good recruitment. The total yield is now expected to decrease further from the 1969 level, and, at best, it is probable that over the long run, no more than the present total catch (1 200 000 tons) would be taken with increased effort, and there might well be a decrease in total catch.

R&S, therefore, believes that the Commission should give consideration to limitation of fishing on all cod stocks in the ICNAF Area.

3. Herring Scale and Otolith Comparisons

At its mid-term meeting the Assessment Subcommittee noted that considerable differences in ageing techniques between countries still exist (Res.Doc. 69/29), and proposed that a study group examine the material during this Annual Meeting.

Experts from Canada, USA and USSR examined material on the USSR R/V "Persey III". No major disagreement between experienced readers in interpretation of scales was found. An otolith exchange programme is now started with the Biological Station, St. Andrews, Canada being responsible for the co-ordination of the exchange.

4. Statistical Bulletin

New material in Statistical Bulletin Vol.18 for 1968 includes statistics on catches of harp and hood seals from 1937 to 1968, and data on catches and effort in Sub-divisions 5Ze and 5Zw, as well as Divs.6A, 6B and 6C.

5. Designation of Halibut and Greenland Halibut

USSR catches in 1969, and in previous years, where the two species are reported together, consist of Greenland halibut (Reinhardtius hippoglossoides) only.

6. ICNAF List of Vessels

It was noted that a draft version of a joint ICES/ICNAF list of vessels will be prepared by the CWP Secretary for consideration at the 1971 meeting of the Sub-committee. Meanwhile R&S reaffirms its conclusions of last year relating to preparation of Vessel Lists and recommends (11):

- (i) that the ICNAF List of Vessels for 1971 be prepared as in the past, and
- (ii) that a final decision concerning production of a Joint ICES/ICNAF list of vessels be made at the 1971 meeting of the Subcommittee.

#### 7. Discards

Recognizing the importance of improving information on fish used for industrial purposes, R&S recommends (12):

that countries make every effort to report quantities of fish used for industrial purposes, especially quantities of the major species individually, in addition to reporting quantities discarded.

#### 8. Environmental Conditions in the ICNAF Area

Off West Greenland (Sub-area 1), 1969 was one of the most severe ice years of this century. The upper layers were cooler especially in the southern areas but the deeper water was warmer than in 1968.

In southern Labrador (Subarea 2), in sections across Hamilton Inlet Bank in July and early August and November, temperatures in the upper 200 m were below the long-term average for the period. Temperatures in the 200-500 m layer were higher than average.

In Subarea 3, temperature conditions in July-August were variable: on the southern Grand Bank, temperatures near bottom were lower than in 1968.

In Subarea 4, temperatures on the Scotian Shelf were, on the average, higher than in 1969. Temperatures near bottom in the Scotian Channel were several degrees higher than in 1968.

The USSR reported for Subarea 5 that temperatures in the Fundian Channel and in the deep part of the Gulf of Maine were higher than in 1968. Water temperatures over the central part of the Georges Bank were close to the 1968 level and on southern Georges Bank lower than in 1968.

The US reported that water temperatures at 50 m were higher in 1969 than in 1968 in the south central Gulf of Maine; elsewhere temperatures were lower in 1969 than in 1968. The negative anomalies were greatest south of Georges Bank. At Boothbay Harbour the 1969 annual mean temperature was 0.8° higher than in 1968.

#### 9. Environmental Changes in Relation to Fisheries

Off Labrador (Subarea 2) cod usually pass to deeper water layers in cold years. They are then distributed in smaller areas and thus denser, whereas in warm years the isotherms and cod are more spread out and the catch per effort declines. The average catch of cod in February in the years 1965 to 1970 in Labrador was inversely related to the temperature in the 50-200 m layer on 1 November of the previous year (Res.Doc. 70/20).

The influence of the extreme ice conditions and of the colder waters in West Greenland in 1969 was partly physical with a decrease in effort due to the ice. Also, the survival of cod larvae was apparently reduced by the cold water. It may be possible in the near future to obtain important information on ice quantity through the use of satellites.

10. Symposium on Environmental Conditions 1960-1969

The Convenor of the Symposium, Dr. Neil Campbell (Canada) could not attend the R&S meeting, but it was reported that Dr. Campbell had arranged for nine speakers to cover the various aspects of environmental conditions outlined by the planning group last year (Redbook 1969, Pt.I, p.56). Two days will be devoted to the Symposium: one and a half days for the presented papers and one half day for general discussion.

11. Reports of the ICES/ICNAF Working Group on Selectivity Analysis

Although some recommendations concerning mesh size equivalents and a new standard material were passed by the Working Group after its first two meetings, after considering data presented at its third meeting the Working Group felt that given the variability of the results, it could not recommend any departure from the present system of mesh differentials, which are based on the chemical nature of the twine, insofar as it affects the ICNAF Convention Area, except that it considered that there is no basis for the differential now given to Danish Seines and that this should be abolished. Differentials should be based solely on the chemical nature of the twine used in the cod-end.

Considering, however, that the reports of the Working Group contain valuable information on selectivity data, R&S recommends (17)

that after editorial consideration by members of the ICES/ICNAF Working Group on Selectivity Analysis, the reports, summarized for publication, be published as an ICES Cooperative Research Report, if ICES so agrees. The published report should include the tables of basic data and the bibliography.

During consideration by R&S of the report of the ad hoc Committee on Gear and Selectivity, USER scientists informed the R&S that they cannot agree with the conclusions brought forward from the third meeting of the ICES/ICNAF Working Group to the effect that it could not recommend any departure from the present system of mesh size differentials for ICNAF.

With reference to the ICES/ICNAF Working Group's recommendation that a new polyamide material be introduced to replace manila as the selectivity standard, R&S was in some doubt about the implications of the adoption of this new Standard, although it agrees that the new Standard should be adopted and recommends (18)

that the Subcommittee on Assessments examine the requirements for further selectivity experiments in relation to adoption of the polyamide standard as described in ICNAF Comm. Doc.70/14, p.49-50.

12. Topside Chafers

The R&S recommends (19)

that member countries be encouraged to undertake commercial trials of cod-ends made with thick twines in order to evaluate their durability and practicability because it views this as a step towards the elimination of topside chafers.

13. Adequacy of Sampling

R&S discussed this item further at the present meeting and was informed that following recommendation of the mid-term meeting of the Subcommittee on Assessments, the Executive Secretary had written appropriate authorities in those member countries in which the level of catch sampling for age and length data was considered to be inadequate for part of or all of their fisheries.

R&S recognized that the minimum level of sampling recommended by the Subcommittee on Assessments was indeed a minimum rather than an adequate requirement and, as a first step in approaching the problem of inadequate sampling, R&S recommends (22)

that the Commission adopt as a minimum sampling requirement for commercial fisheries the measurement by each country of 200 fish for every quarter of the year and division for each 1 000 tons of each species caught.

#### 14. Salmon Discussion in R&S

In the discussion following the presentation of the Working Party's report, the USSR delegation informed R&S that during the decade 1961-70, the USSR salmon catches in home waters on the Kola peninsula were 31% lower than in the decade 1951-60.

R&S further reviewed three documents on salmon research and fisheries presented to this ICNAF meeting but no available when the Working Party met.

Res.Doc.70/56 reports further progress in study of regional salmon populations by means of serum analysis.

Res.Doc.70/42 analyses samples from drift-net catches at West Greenland in the autumn of 1969. The paper confirms statements in reports from the Working Party concerning age-length frequencies of West Greenland salmon caught by drift nets, and also confirms the former suggestion that the inshore stock is similar to that fished offshore in the fishing area close to West Greenland.

Res.Doc.70/65 contains new information of a small-scale fishery by long-lines in January-April 1970, in the southern part of the Davis Strait. It was noted that long-lines seem to be more efficient in this fishery than drift nets, while the opposite is the case in the autumn fishery off West Greenland.

In the light of the new age-length-weight data presented in the paper, R&S considers that it would be appropriate for the Joint Working Party to re-examine the parameters, especially growth rate between Greenland and home waters, used in assessing the effects of the West Greenland fishery on home-water stocks and yields.

R&S further considered the Working Party's recommendation concerning an international salmon tagging experiment at West Greenland in 1971. While recognizing that a large-scale cooperative programme should achieve the desired objective of ensuring a wide distribution of a sufficiently large number of tags, some reservations concerning the proposed timing of the experiment were expressed. Before recommending ICNAF participation, R&S also considers that the Working Party should prepare a more detailed outline and evaluation of the proposed programme, especially in relation to the efficiency of reporting of recaptures at West Greenland and the viability of tagged fish. Generally supporting the idea of an international programme and in order not to delay a possible programme, R&S, therefore, recommends (28)

that the Joint Working Party on North Atlantic Salmon meets in conjunction with the 1970 Annual Meeting of ICES to elaborate a proposal for a programme for an international tagging experiment on salmon at West Greenland, if possible in 1972, and an evaluation of the possible results from such an experiment. These proposals and the evaluation should be presented to the 1970 ICES meeting and the 1971 ICNAF meeting.

Subject to revision of the Working Party's recommendation for an international tagging programme in 1971 as set out above, R&S adopted the Working Party's report. R&S asks the Working Party to list documentation (papers) available to the Working Party in future reports.

R&S decided that it would be appropriate to consider publication of the latest report of the ICES/ICNAF Joint Working Party on North Atlantic Salmon, and would support such a recommendation from the Working Party. R&S, therefore, recommends (29)

that at the next meeting of the ICES/ICNAF Joint Working Party on North Atlantic Salmon, consideration be given to publication of the 1970 report of the Working Party, including material from the 1969 report as appropriate, and that if publication is recommended, and agreed by ICES, it be as an ICES Cooperative Research Report.

15. The Proposed ICES/ICNAF/IBP Symposium on Seal Biology

The Commission agreed to collaborate with ICES and IBP in the arrangement of the proposed Symposium, accepted the University of Guelph as a venue, and ~~suggested~~ August 1972 as a suitable time. It agreed to appoint a Canadian as the ICNAF representative on the scientific organising committee.

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