INTERNATIONAL COMMISSION

FOR THE

NORTHWEST ATLANTIC FISHERIES

ANNUAL PROCEEDINGS

Vol. 22

for the year

1971-72

Issued from the Headquarters of the Commission

Dartmouth, N. S., Canada

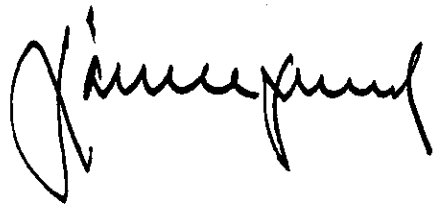
December, 1972

Letter of Transmittal

The Chairman of the International Commission for the Northwest Atlantic Fisheries presents his compliments to the Governments signatory of the International Convention for the Northwest Atlantic Fisheries signed at Washington under date of 8 February 1949, and to the Commissioners and Observers representing those Governments and has the honour to transmit herewith annual proceedings of the International Commission for the Northwest Atlantic Fisheries for the year 1971-72.

This is the 22nd annual report of proceedings of the Commission and is an authoritative record of its activities and achievements from 1 July 1971 to 30 June 1972. The report contains an account of the activities of the Commission's Secretariat; an account of the 22nd Annual Meeting; an account of a Special Meeting on Herring; and summaries of research carried out in each of the five Convention subareas and on seals.

This report is prepared and transmitted in conformity with the requirements of Article VI(1)(f) of the International Convention for the Northwest Atlantic Fisheries and Rules 3.2 (g) and 9.1 of the Rules of Procedure of the Commission.



K. Løkkegaard,
Chairman,
International Commission for the
Northwest Atlantic Fisheries.

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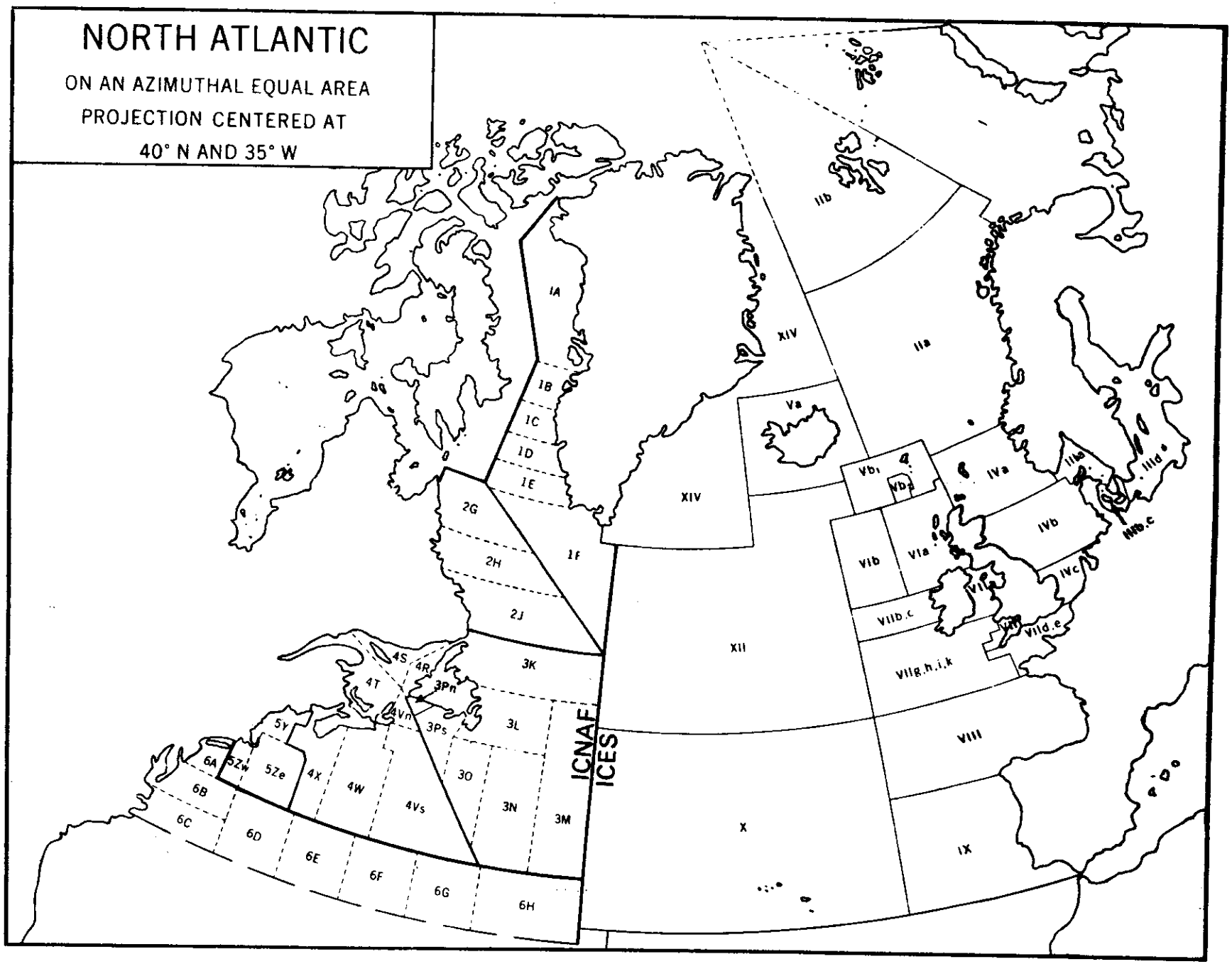
NORTH ATLANTIC
ON AN AZIMUTHAL EQUAL AREA
PROJECTION CENTERED AT
40° N AND 35° W
ICNAF
ICES
1A
1B
1C
1D
1E
1F
2G
2H
2J
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3Pn
3Ps
4R
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4Vn
4Vs
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4X
5Y
5Ze
5Zw
6A
6B
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6H
IIa
IIb
IIIa
IIIb,c
IIId
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Va
Vb1
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VIa
VIb
VIIa
VIIb,c
VIId
VIId,e
VIIg,h,i,k
VIII
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X
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PART 1

Administrative Report for the Year Ending 30 June 1972

1. The Commission's Officers

Chairman of Commission	–	Mr K. Løkkegaard (Denmark)
Vice-Chairman of Commission	–	Mr R. Lagarde (France)
Chairman of Panel 1	–	Mr G. Möcklinghoff (Fed. Rep. Germany)
Chairman of Panel 2	–	Captain T. de Almeida (Portugal)
Chairman of Panel 3	–	Mr A. Volkov (USSR)
Chairman of Panel 4	–	Captain J. C. E. Cardoso (Portugal)
Chairman of Panel 5	–	Mr F. Suzuki (Japan)
Chairman of Panel A (Seals)	–	Mr O. Lund (Norway)

These officers, with one exception, were elected at the 1971 Annual Meeting to serve for a period of 2 years. At the 1970 Annual Meeting, Mr O. Lund was elected Chairman of Panel A to serve for a period of 2 years.

Chairman of Standing Committee on Research and Statistics (STACRES)	–	Dr A. S. Bogdanov (USSR)
Chairman of Standing Committee on Finance and Administration (STACFAD)	–	Mr Wm. L. Sullivan, Jr (USA)
Chairman of Standing Committee on Regulatory Measures (STACREM)	–	Mr J. Graham (UK)
Chairman of Standing Committee on International Control (STACTIC)	–	(to be elected)

The Chairman of STACRES has been re-elected annually since 1970. The Chairman of STACFAD was elected at the 1971 Annual Meeting to serve for a period of 1 year. The Chairman of STACREM was elected at the first meeting of the Committee on 30 January 1968. The STACTIC was established at the 1971 Annual Meeting. The terms of reference to be adopted at the 1972 Annual Meeting are in Comm. Doc. 72/10.

2. Panel Memberships for 1971-72

Member Country	Panel 1	2	3	4	5	A	Total
Canada	–	1952	1951	1951	1951	1966	5
Denmark	1951	–	1969	–	–	1966	3
France	1953	1953	1953	1953	–	–	4
Germany, Fed. Rep.	1957	1960	–	1970	1971	–	4
Iceland	1956	–	–	–	–	–	1
Italy	–	–	1960	1960	–	–	2
Japan	–	–	1971	1971	1971	–	3
Norway	1952	1970	1968	–	–	1966	4
Poland	1962	1962	1962	1968	1968	–	5
Portugal	1953	1953	1953	1953	–	–	4
Romania	–	1970	1970	–	1967	–	3
Spain	1952	1954	1952	1952	–	–	4
USSR	1958	1958	1958	1962	1962	–	5
UK	1951	1960	1951	–	–	–	3
USA	–	–	1952	1951	1951	–	3
TOTAL	10	10	13	10	7	3	53

3. The Commission's Office Accomodation

Since 1 August 1963, the Office of the Commission has been located in the Bedford Institute under a lease arrangement with the Canadian Government's Department of the Environment, Department of Fisheries and Forestry, and Department of Energy, Mines and Resources. The present 1,420 sq ft of heated and lighted office accommodation was authorized for a period of 3 years to 31 July 1973 inclusive.

On 19 January 1972 a formal request was made to the Director of the Institute for additional space to

accommodate the economic and efficient application of automatic data processing to statistical and biological needs, the printing, collation, and mailing of five of the seven major annual publications of the Commission and the documentation requirements for an increase in mid-year meetings. Present Institute plans call for an additional 220 sq ft of space to be allocated for the Secretariat's use from limited space being made available for office accommodation in the Institute. Meantime, the Secretariat's operations have expanded of necessity into the corridor.

4. The Commission's Secretariat

Present staff of the Secretariat includes:

Executive Secretary	–	L. R. Day
Assistant Executive Secretary	–	V. M. Hodder (from 4 September 1971)
Administrative Assistant	–	W. H. Champion
Senior Secretary	–	(Mrs) V. C. Kerr
Clerk Stenographer	–	(Mrs) E. R. Cornford
Clerk	–	G. M. Moulton

Additional help was provided by:

(Mrs) J. Slater – 5 July to 30 September 1971 (Library and Publications)

R. Smith – 13 December 1971 to 12 May 1972 (Statistical Bulletin and Annual Meeting Documentation)

Mr Vincent M. Hodder, formerly Investigator-in-Charge of the Pelagic Fish Investigations at the St. John's Station of the Fisheries Research Board of Canada, joined the staff of the ICNAF Secretariat in the position of Assistant Executive Secretary, effective 4 September 1971.

Mr Hodder holds a Bachelor of Science Degree (First Class Honours, 1956) from McGill University, Montreal, Canada, a Master of Science Degree (1962) from Memorial University of Newfoundland, St. John's, Newfoundland, and has completed his residence requirements for a Doctor of Philosophy Degree from the University of British Columbia, Vancouver, B.C. with the preparation of his thesis on computer simulations involving the efficiency of fishing on various types of hypothetical fish populations.

Mr Hodder was employed by the Fisheries Research Board of Canada from 1952. During that time he has published about 40 scientific papers on haddock, redfish, cod, herring, and mesh selectivity. Highlight of his many years of involvement in the ICNAF program of research was as co-editor with Mr R. J. H. Beverton of the "Report of the Working Group of Scientists on Fishery Assessments in Relation to Regulation Problems" which was published as a supplement to the ICNAF Annual Proceedings, Volume 11, 1961.

Mr Hodder's background in ICNAF research, his training in population dynamics and stock assessment work, his knowledge of the data processing field and his natural disposition for hard work is ample evidence of the contribution he can make to the ICNAF program.

As Assistant Executive Secretary, Mr Hodder discussed automatic data processing of fisheries statistics (4-7 October 1971, FRB, St. Andrews, N.B.); participated in the work of an *ad hoc* CWP Working Group on Automatic Data Processing (8-9 November 1971, FAO, Rome) and the 7th Session of the FAO/ICES/ICNAF /ICCAT Coordinating Working Party on Atlantic Fishery Statistics (CWP) (10-16 November 1971, FAP, Rome); discussed automatic data processing of US fishery statistics (10-12 January 1972, NMFS, Woods Hole); participated in Mid-Term Assessments Meeting (24-31 January 1972, FAO, Rome); discussed automatic data processing of fishery statistics (1 February 1972, ICES, Charlottenlund); participated in the ICES/ICNAF Working Group on Cod Stocks in the North Atlantic (8-14 March 1972, ICES, Charlottenlund) and discussed automatic data processing with Fisheries Service and Bureau of Statistics personnel (5 April 1972, Ottawa).

The Executive Secretary discussed with Depositary Government the presentation to Member Governments of the 1971 Commission proposals for international regulation of the fisheries: (1) for Atlantic salmon in the Convention Area; (2) for yellowtail flounder by catch quota in Subara 5; (3) for cod, haddock, and yellowtail flounder in Subarea 5; (4) for haddock by catch quota in Subarea 5; (5) for haddock by catch quota in Division 4X of Subarea 4; (6) for haddock by catch quota in Division 4W of Subarea 4; (7) for cod, haddock, redfish, halibut, witch, American plaice, and Greenland halibut in Subarea 1; (8) for cod, haddock, redfish, halibut, witch, American plaice, and Greenland halibut in Subarea 2; (9) for cod, haddock, redfish, halibut, witch yellowtail flounder, American plaice, Greenland halibut, pollock (saithe), and white hake in Subarea 3; (10) for cod, haddock, and flounders: witch, yellowtail flounder, winter flounder, and American plaice in Subarea 4; (11) for harp and hooded seals in the "Gulf" and "Front" areas of the Convention Area (15-16 June 1971, Washington); discussed research and statistics with Chairman of Assessment Subcommittee (17-18 June 1971, Woods Hole); conferred with FRB scientists on

ICNAF problems (28-29 June 1971, St. Andrews); discussed details of publication of the 1971 Environmental Symposium with the Chairman of the Environmental Subcommittee (7-8 September 1971, Ottawa); attended Special Meeting of Panel A experts (23-24 September 1971, Copenhagen); attended the 59th ICES meeting (27 September-5 October 1971, Helsinki); attended 4th Meeting of the ICES/ICNAF/IOC Joint Coordinating Group on Systematic Studies in the North Atlantic (30 September 1971, Helsinki); attended the Mid-Term Meeting of Panel A Member Countries (7-8 October 1971, Copenhagen); attended the Mid-Term Meeting of the Assessment Subcommittee and STACRES (24-29 January 1972, FAO, Rome); attended the Special Meeting on Herring (31 January-7 February 1972, FAO, Rome); held informal discussions on fish conservation in the Northwest Atlantic with fisheries officials of the German Democratic Republic (10-11 February 1972, East Berlin).

5. The Commission's Publications

Since June 1971 the Secretariat has issued 1,916 pages of printed material in eight publications.

The *1971 Meeting Proceedings* (126 p.) was distributed in August 1971. It contains the reports of the meetings of the Plenary and of the Panels, the Standing Committees on Finance and Administration and on Regulatory Measures.

The *Redbook 1971* was issued in three parts. Part I (83 p.) contains the proceedings of the 1971 meetings of the Standing Committee on Research and Statistics and its Subcommittees. It was distributed in September 1971. Part II (169 p.) contains the reports by Member Countries on research conducted in the Convention Area in 1970. It was distributed in November 1971. Part III (302 p.) contains selected scientific papers presented to the 1971 meeting. It was distributed in January 1972.

The *Statistical Bulletin* Vol. 20 for the year 1970 (115 p.) was distributed in April 1972. It presents statistical data on the commercial fisheries and the harp and hooded seal hunt in the Convention and Statistical Areas of ICNAF.

The *Annual Proceedings* Vol. 21 for 1970-71 (63 p.) was distributed in December 1971. It contains the Administrative Report with audited financial statements for the year ending 30 June 1971, the Report of the 21st Annual Meeting, 1971, and Summaries of Research carried out in each Subarea of the Convention Area in 1970.

The *Research Bulletin of ICNAF* No. 8 (92 p.), containing 11 scientific contributions, was distributed in January 1972.

The *Research Bulletin of ICNAF* No. 9 (ca. 100 p.), containing 12 scientific contributions, is in preparation. It will be distributed in October 1972.

The *Sampling Yearbook* Vol. 14 for the year 1969 (285 p.) was distributed in October 1971. It contained length and age data for the groundfish and flounder species and hakes and herring sampled by the research agencies of the Member Countries in the ICNAF Divisions in 1969. *Sampling Yearbook* Vol. 15 for the year 1970 (287 p.) was distributed in April 1972. It contained age and length data for the groundfish and flounder species and the hakes and herring sampled in 1970.

Special Publication No. 7 (ICNAF Environmental Survey: NORWESTLANT 1-3, 1963) (Part IV, Biological Data Record) (345 p.) was distributed in October 1971. *Special Publication* No. 8 (Symposium on Environmental Conditions in the Northwest Atlantic, 1960-69) (ca. 250 p.) will be distributed in August 1972.

The *ICES Cooperative Research Report, Series A*, No. 24, "Third Report of the ICES/ICNAF Joint Working Party on North Atlantic Salmon, February 1970" was distributed in July 1971. ICNAF shares the cost of publication equally with ICES. The *ICES Cooperative Research Report, Series A*, No. 25, "Report of the ICES/ICNAF Working Groups on Selectivity Analysis", was distributed in September, 1971. ICNAF and ICES share the cost of publication equally.

ICNAF International Inspection Scheme – Translations of Questionnaire (54 p.), containing translations in 12 languages of the Inspection Questionnaire, was distributed in November 1971.

The *1972 Special Meeting on Herring – Proceedings* (82 p.) was distributed in draft form on 20 March 1972. It contained the reports of January 1972 meetings of STACRES, the Plenary, Panels 4 and 5 and the Working Party on Subarea 4 and 5 Herring.

The *List of Vessels and Summary of Fishing Effort in the Convention Area, 1971* (ca. 200 p.) will be distributed in August 1972.

6. Cooperation with Other International Organizations and with Non-Member Countries

The Secretariat has continued to seek to establish and

maintain working arrangements with other public international organizations which have related objectives, in accordance with the requirements of Convention Article X. Close collaboration and cooperation was maintained, particularly with the Department of Fisheries of FAO and with ICES and NEAFC.

In the field of fishery statistics, the FAO/ICES/ICNAF/ICCAT Coordinating Working Party on Atlantic Fisheries Statistics (CWP) continued its cooperative effort, with Mr L. P. D. Gertenbach of FAO as Secretary, to improve the statistics on the fisheries in the Atlantic. Special consideration was given to automatic data processing (ADP) at a meeting by an ADP Working Group in conjunction with the 7th Meeting of CWP at FAO, Rome, November 1971.

ICES and ICNAF continue to work closely through the Joint Working Party on North Atlantic Salmon in order to provide sound advice for management of the North Atlantic salmon stocks. A joint salmon tagging experiment in the Labrador Sea-West Greenland area in the summer of 1972 has been approved.

North Atlantic cod stocks were examined by a joint ICES/ICNAF group with a view to assessing the effect of trans-oceanic shifts in fishing effort on the various stocks.

Plans and programs for environmental studies were exchanged with IOC and ICES through the IOC/ICES/ICNAF Coordinating Group for the North Atlantic.

Plans have been completed and papers received for a Symposium on the Biology of Seals to be held at the University of Guelph, Guelph, Ontario in August 1972, sponsored jointly by ICES/ICNAF and IBP with support from NRC, FAO, CNSS, FRB and WWF.

Symposia on Acoustic Methods in Fishery Research, Bergen, June 1973 and on the Early Life History of Fish, Oban, Scotland, 1973 are being prepared jointly by FAO, ICES and ICNAF, and IABO, FAO, ICES and ICNAF respectively.

ICNAF is cooperating with NEAFC in the development of practical procedures under international inspection schemes to ensure adherence to international fishery regulations in the North Atlantic.

Special mention must be made of the generosity and kind cooperation of the Department of Fisheries of FAO which provided meeting accommodation and secretarial and technical assistance during the Commission's Special Mid-Term Meetings on Herring.

As in past years, invitations were extended to other fishery commissions and international organizations concerned with fisheries and their management to participate in an observer capacity in the 22nd Annual Meeting of the Commission.

Commission publications and documents are forwarded regularly to the Governments of Cuba and Bulgaria. Both countries fish in the Northwest Atlantic and are interested in the work of the Commission and invitations to send observers to the Annual Meetings were extended to them.

7. Programs and Reports of Research

Reports on research carried out in the ICNAF Area in 1970 by 11 of the 15 Member Countries were reviewed at the 1971 Annual Meeting by the Standing Committee on Research and Statistics and were subsequently published in ICNAF Redbook 1971, Part II. Summaries of Research and Status of the Fisheries by subareas for 1970, based on reports prepared by the Chairmen of the Groups of Scientific Advisers to Panels, were published as an Appendix in ICNAF Annual Proceedings Vol. 20 for the year 1971.

Since the 1971 Annual Meeting the work of the Commission was enhanced by a large number of contributions by ICNAF scientists to Mid-Term Meetings. Twenty-nine substantial contributions to the January 1972 Mid-Term Assessment Meeting at Rome are reproduced as Research Documents for the 1972 Annual Meeting, and 21 significant contributions to the March 1972 Meeting of the ICES/ICNAF Joint Working Party on North Atlantic Salmon at Dublin are similarly reproduced. Also, in March 1972, several ICNAF scientists contributed to the preparation of the Report of the ICES/ICNAF Working Group on Cod Stocks in the North Atlantic at Charlottenlund.

At the time of writing this report, 12 countries have submitted programs of research to be carried out in the Convention Area in 1972, and 8 countries have submitted their reports on research undertaken during 1971.

8. Statistics and Sampling

The processing of statistical data underwent a significant change in the autumn of 1971, when the Secretariat employed automatic data processing methods (ADP) for the first time to facilitate the compilation and publication of the 1970 catch and effort statistics. The data were transferred from the STATLANT 21A and 21B submissions to 80-column punched cards and the major tables for the Statistical Bulletin compiled and

printed in formats suitable for reproduction directly from the computer printout. It was thus possible to prepare and print the Bulletin for 1970 in the Secretariat at a cost substantially less than that for previous issues of the Bulletin. In addition to the much lower cost of production, the use of ADP facilitates the earlier publication of the annual statistics and instant access to the data for assessment purposes. Changes in format have been kept to a minimum, the most significant being the use of code numbers for "tonnage class" in Tables 4 and 5, the elimination of the column "days on ground" as approved at the 1971 Annual Meeting, and the separate listing of catches for the groups "other fish" and "shellfish, etc.". Vol. 20 for the year 1970 was issued in April 1972 and it is planned that Vol. 21 for 1971 will be ready in December 1971 if Member Countries cooperate by submitting their statistics in accordance with the recommended deadlines.

Sampling data for the year 1970 were prepared as in the past, and Sampling Yearbook Vol. 15 was issued in April 1972. The application of ADP methods to the preparation of future issues of the Yearbook is planned.

Other statistical activities during the year involved: (a) the preliminary compilation of 1970 catch and effort data for distribution in November 1971 to scientists involved in the preparation of assessments for the Mid-Term Meeting in January 1972; (b) the compilation of catch statistics for the various cod stocks in the ICNAF Area for the March 1972 Meeting of the Joint ICES/ICNAF Cod Working Group; (c) the preparation of several documents for the 1972 Annual Meeting, *viz.* nominal catches of cod and American plaice for the years 1958-70 for use in the Commission's consideration of several 1972 proposals for the conservation of the cod and American plaice stocks in Subareas 2, 3, and 4; summaries of fishing effort for 1970 and 1971 from ICNAF Stat. 3 submissions; summaries of information on discards and industrial fish for 1970 from ICNAF Stat. 4 forms; summary of information on trawl materials and mesh size sampling in 1971; preliminary compilation of available data on nominal catches in 1971 by division, country and species from 1971 STATLANT 21A returns; and efficiency of sampling by Member Countries in 1969 and 1970.

The Secretariat is pleased to acknowledge the cooperation of national statistical offices for their timely reporting of statistical data, and the assistance of Mr L. P. D. Gertenbach, Secretary of CWP, Department of Fisheries, FAO, has been invaluable. The Secretariat is particularly indebted to the Canadian Government, whose computer facilities at the Bedford Institute, Dartmouth, Nova Scotia, were invaluable in compiling most of the tabular material in Statistical Bulletin Vol. 20.

9. Special Commission Meeting on Herring

In accordance with the requirements of the 1971 Annual Meeting of the Commission, a Special Meeting on Herring was convened, under the chairmanship of Mr K. Løkkegaard (Denmark) at FAO, Rome from 31 January-7 February 1972. The Commission had before it the reports of the Assessment Subcommittee on Herring (24-29 January 1972) as approved by a special meeting of STACRES (29 January 1972). In Plenary sessions, joint meetings of Panels 4 and 5 and sessions of a Working Group on Subarea 4 and 5 Herring, the Panels 4 and 5 on 7 February 1972 agreed to **recommend** that the Commission transmit to the Depositary Government four proposals for joint action by the Contracting Governments. The four proposals were for international quota regulation of the fishery for herring (1) from Georges Bank, (2) in Div. 5Y of Subarea 5, (3) in Div. 4X and part of Div. 4W of Subarea 4; and for international size limit regulation of the fishery for herring, (4) in Subareas 4 and 5.

In addition, two resolutions (1) relating to 1972 proposals for the conservation of herring stocks in Subareas 4 and 5, and (2) re Commission's herring research program, were recommended for adoption by the Commission.

The proposals were adopted by a 2/3 majority of the Commission's Member Countries by telegraphic vote on 7 March 1972 and the proposals transmitted to Depositary Government the same day. The proposals were transmitted to Contracting Governments by Depositary Government on 17 March 1972.

Draft proceedings of the Special Meeting were approved by the Commission at its 1972 Annual Meeting (see Part 3 of this Annual Proceedings).

10. Status of Commission Proposals

a) For changes in the Convention

The 1969 Protocol Relating to Panel Membership and to Regulatory Measures which establishes a more appropriate basis for the determination of representation on the Panels and provides for greater flexibility in the types of fisheries regulatory measures which may be proposed by the Commission, respectively, entered into force on 15 December 1971.

The 1970 Protocol Relating to Amendments to the Convention which would establish quicker and smoother working procedures for amending the Convention Articles, still (30 June 1972) requires ratification,

approval or adherence by Canada, Portugal, Romania, Spain, and USA.

b) For international regulation of the fisheries

Of the 1970 proposals, (1) for conservation of salmon became effective for all Contracting Governments, except USSR, on 8 March 1971; (4) relating to an increase in mesh size to 130 mm in Subarea 2 came into effect for Poland, Portugal, and Spain on 1 January 1972 (for other Contracting Governments on 7 January 1971); (5) relating to an increase in mesh size to 130 mm in Subarea 3 came into effect on 15 April 1971 for all Contracting Governments, except Canada, Poland, Portugal, and Spain for which the effective date was 1 January 1972.

Of the 1971 proposals (2) to (11) came into effect 1 January 1972 while proposal (1) relating to salmon came into effect for all Contracting Governments on 1 March 1972, except that the applicability of the proposal to USSR and to Portugal is under study.

Of the 1972 proposals for catch quota for herring, (1) in Div. 5Z; (2) in Div. 5Y; (3) in Div. 4XW; (4) for size limit regulation for herring in Subarea 5 and part of Subarea 4; were adopted by the Commission on 7 February 1972 and transmitted to Depositary Government on 7 March 1972 and transmitted by Depositary Government to Contracting Governments on 17 March 1972.

11. Status of Quota Regulations

a) For haddock

In Div. 4W, the 1971 proposal for a total quota of 4,000 tons in 1972 entered into force on 1 January 1972. To date (30 June 1972), a total of 2,273 tons has been reported against this quota. *In Div. 4X*, the 1969 proposal for a total quota of 18,000 tons in 1970 and 1971, and closure of Browns and LaHave Banks to demersal fishing in March-April 1970 and 1971, resulted in catches of 18,139 tons in 1970 and 17,630 tons in 1971. The 1971 proposal for a total quota of 9,000 tons in 1972 and closure of the above-mentioned Banks to demersal fishing in March, April and May of 1972 entered into force 1 January 1972. To date (30 June, 1972), a total of 4,514 tons has been reported against this quota. *In Subarea 5*, the 1969 proposal for a total quota of 12,000 tons and closure of the northeast section of Georges Bank and of the area from Stellwagen Bank to Nantucket Shoals to demersal fishing in March and April of 1970 and 1971 resulting in catches of 12,852 tons in 1970 with Subarea closure when 80% of the quota was reached on 13 October 1970, and 12,214 tons in 1971. The 1971 proposal for a total catch of 6,000 tons and closure of the same two areas to demersal fishing in March, April and May of 1971 entered into force on 1 January 1972. To date (30 June 1972), a total of 3,194 tons has been reported against this quota.

b) For yellowtail flounder

In Subarea 5 in 1970, yellowtail flounder was added to the list of regulated species effective 7 January 1971. At the same time, catch quotas of 16,000 tons *east of* 69°*W* and 13,000 tons *west of* 69°*W* were set for 1971. Catches against these quotas were 15,668 tons with closure at 80% of the quota on 1 November 1971, and 10,925 tons, respectively. The 1971 proposals for a 130-mm mesh size and a catch quota of 16,000 tons *east of* 69°*W* and 10,000 tons *west of* 69°*W* became effective 1 January 1972. To date (30 June 1972), totals of 5,819 tons and 5,819 tons have been reported, respectively.

12. Scheme of Joint Enforcement

The Commission's Scheme of Joint Enforcement came into effect on 7 January 1971, subject to reservations for USSR, Poland, and Romania. Application of the Scheme started 1 July 1971. All Contracting Governments, except Canada, Denmark, Iceland, Italy, Poland, and Romania, were, as at 26 February 1972, participating in the Scheme. Designated US inspection personnel submitted Reports of Inspections carried out on 35 fishing vessels of Contracting Governments (1 – Spain, 2 – Japan, 23 – USSR, and 9 – USA) between September 1971 and March 1972. Reports of Inspections have not been received from any other Contracting Government to date (30 June 1972).

Terms of reference for the new Standing Committee on International Control (STACTIC) set up at the 1971 Annual Meeting were drafted by Captain Cardoso (Portugal), Mr Sullivan, Jr (USA), and the Executive Secretary and approved by the 1972 Annual Meeting.

A standard or uniform logbook sheet prepared by STACRES at the request of the 1971 Annual Meeting of the Commission was circulated to Member Countries on 22 October 1971. Comments received were studied by an ICNAF Working Party on International Inspection in Lisbon, 24 March 1972. Recommendations were presented to the 1972 Meeting of the Commission (Comm. Doc. 72/26).

13. Financial Matters

The Executive Secretary was advised by the Secretary of the International Fisheries Commissions Pension

Society on 13 April 1972 of the intention of the Sun Life Assurance Company of Canada to increase premium rates for the pension plans of the International Fisheries Commissions with effect from 1 October 1972. The new rate schedules are not yet available. The amount budgeted for 1972-73 in the superannuation primary will cover the increased cost. There will be no increase in the existing basis of policy charge or expense adjustment.

The Executive Secretary has been advised that the Commission is exempt from Federal Sales Tax (12%) and Nova Scotia Hospital Tax (7%) under the provisions of Section 3 of the Privileges and Immunities (International Organizations) Act of 1947 and 1965 by authority of PC 1967-2313, dated 14 December 1967.

14. Financial Statements for the Fiscal Year Ending 30 June 1972

The accounts of the Commission for the year ending 30 June 1972 show that Can. $136,000 was appropriated by the Commission for ordinary expenditures.

Obligations incurred during the fiscal year totalled Can. $129,369 which was Can. $6,631 less than the total of Can. $136,000 appropriated by the Commission.

An audit of the Commission's finances was completed in August 1972 by the Office of the Auditor General of Canada, in accordance with the Financial Regulations.

The report of the Auditor General reads, in part, as follows:

EXHIBIT I

Statement of Budget Appropriations, Obligations Incurred, and Balances of Appropriations for the year ended 30 June 1972

(Expressed in Canadian Dollars)

Purposes of Appropriation	Appropriated by Commission	Obligations Incurred	Surplus or Deficit (–) Balances of Appropriations
GENERAL FUND			
Personal services –			
Salaries	$ 71,000	$ 67,840	$ 3,160
Salary contingencies	5,000	3,772	1,228
Forecast increase	4,000	3,684	316
Superannuation and Canada Pension Plan	4,000	2,778	1,222
Additional help	4,000	3,285	715
Group medical and insurance plans	500	617	–117
Travel	6,500	6,260	240
Transportation	500	437	63
Communications	4,500	5,204	–704
Publications	18,000	11,618	6,382
Other contractual services	6,000	8,790	–2,790
Materials and supplies	4,000	5,511	–1,511
Equipment	1,000	844	156
Annual meeting	6,000	7,610	–1,610
Contingencies – Selectivity report	1,000	1,119	–119
Totals, ordinary budget	$ 136,000	$ 129,369	$ 6,631
WORKING CAPITAL FUND			
1971 Environmental Symposium	$ 5,000	$ 4,200	$ 800

EXHIBIT II – GENERAL FUND

Statement of Income and Expenditure
for the year ended 30 June 1972
(with comparative figures for the year ended 30 June 1971)

(Expressed in Canadian dollars)

		1972		1971
Income (and Source of Funds):				
Members' contributions assessed –				
Canada	$ 9,771		$ 10,285	
Denmark	6,065		6,382	
France	7,918		8,333	
Germany, Federal Republic	7,918		6,382	
Iceland	2,359		2,479	
Italy	4,212		4,430	
Japan	6,065		–	
Norway	7,918		8,333	
Poland	9,771		10,285	
Portugal	7,918		8,333	
Romania	6,065		6,382	
Spain	7,918		8,333	
Union of Soviet Socialist Republics	9,771		10,285	
United Kingdom	6,065		6,382	
United States of America	6,065		6,382	
		$ 105,799		$ 103,006
Transferred from Miscellaneous Fund		30,201		21,494
		136,000		124,500
Obligations incurred (Exhibit I)		129,369		102,754
Amount carried to Working Capital Fund (Exhibit 2)		$ 6,631		$ 21,746

EXHIBIT III

Statement of Assets and Liabilities as at 30 June 1972
(with comparative figures as at 30 June 1971)

(Expressed in Canadian dollars)

Assets			Liabilities		
	1972	1971		1972	1971
GENERAL FUND					
Cash on hand and in bank (Appendix 1)	$ 6,465	$ 2,484	Unliquidated obligations	$ 3,156	$ 6,859
Accounts receivable	516	1,322	Credit due to Member Government	3,825	596
Due from Member Government	—	3,649		$ 6,981	$ 7,455
	$ 6,981	$ 7,455			
WORKING CAPITAL					
Cash on deposit	$ 3,397	$ 12,392	Principal of Fund (Appendix 2)	$ 24,521	$ 35,025
Certificates of deposit	20,000	20,000			
Accounts receivable	1,124	2,633		$ 24,521	$ 35,025
	$ 24,521	$ 35,025			
MISCELLANEOUS FUND					
Cash on deposit	$ 35,541	$ 30,201	Principal of Fund (Appendix 2)	$ 35,541	$ 30,201

APPENDIX 1

General Fund Cash Flow for the year ended 30 June 1972

Cash on hand and in bank 30 June 1971			$ 2,484
Add: Member Government contributions –			
Assessments 1971-72		$ 105,799	
Advance payment for 1972-73		3,825	
		109,624	
Less: Advance payment for 1971-72		596	
		109,028	
Decrease – Accounts receivable		806	
Decrease -- Due from Member Government		3,649	
			113,483
Funds from Miscellaneous Fund for 1971-72 appropriations			30,201
			146,168
Deduct: Obligations liquidated –			
Unliquidated obligations, 30 June 1971	6,859		
Obligations incurred 1971-72	129,369		
	136,228		
Less: Unliquidated obligations 30 June 1972	3,156		
		133,072	
Balances 1971-72 appropriations transferred to Working Capital Fund		6,631	
			139,703
Cash on hand and in bank, 30 June 1972			$ 6,465

APPENDIX 2

WORKING CAPITAL FUND

Balance, 30 June 1971			$ 35,025
Add:	Balances 1971-72 appropriations	$ 6,631	
	Sales of publications	2,854	
	Bank interest	2,640	
	Interest on Certificates of Deposit	1,571	
			13,696
			48,721
Deduct:	Appropriation to Environmental Symposium	5,000	
	Less: Balance of appropriation	800	
		4,200	
	Transfer to Miscellaneous Fund	20,000	
			24,200
Balance, 30 June 1972			$ 24,521

MISCELLANEOUS FUND

Balance, 30 June 1971			$ 30,201
Deduct:	Appropriated for 1971-72 obligations		30,201
Add:	Staff assessments 1971-72	$ 12,524	
	Ex gratia grant – 1970 provincial income taxes	3,017	
	Transfer from Working Capital Fund	20,000	
			35,541
Balance, 30 June 1972			$ 35,541

PART 2

Report of the 22nd Annual Meeting of the International Commission for the Northwest Atlantic Fisheries, Washington, D.C., 25 May–2 June 1972

BY THE CHAIRMAN, MR K. LØKKEGAARD

1. Introduction

Under the terms of a Convention signed in 1949, the International Commission for the Northwest Atlantic Fisheries (ICNAF) is responsible for the investigation, protection, and conservation of the fisheries of the Northwest Atlantic in order to make possible the maintenance of a maximum sustained catch from these fisheries. Based on the results of scientific investigations promoted and coordinated by the Commission and on economic and technical considerations, measures to ensure wise use of the stocks of commercial fish are recommended to member governments.

The Commission has six panels, five of which review the fisheries and recommend conservation measures in geographic subareas of the Convention Area (Subarea 1, off West Greenland; Subarea 2, off Labrador; Subarea 3, off south and east Newfoundland; Subarea 4, the Gulf of St. Lawrence and Nova Scotia Banks; and Subarea 5, the Gulf of Maine). The sixth panel has jurisdiction respecting harp and hooded seals in the Convention Area.

The Commission has Standing Committees on Research and Statistics (STACRES), on Finance and Administration (STACFAD), on Regulatory Measures (STACREM), and on International Control (STACTIC).

2. Time and Place of Meeting

The 22nd Annual Meeting of ICNAF was convened at the International Conference Suite, Department of State, Washington, D.C., from 25 May to 2 June 1972, under the chairmanship of Mr K. Løkkegaard (Denmark). Earlier in the year, from 31 January to 7 February 1972, the Commission held a Special Meeting at FAO, Rome to consider the deplorable state of the herring stocks in the Northwest Atlantic and the measures required for their conservation. The Report of the Special Meeting (see Part 3 herein) was adopted by the 22nd Annual Meeting of the Commission in Plenary Session on 2 June 1972.

The Commission's Standing Committee on Research and Statistics (STACRES) met, daily except Sunday, from Thursday, 18 May to Tuesday, 23 May 1972, and again on Thursday, 1 June, under the chairmanship of Dr A. S. Bogdanov (USSR). The Assessments Subcommittee and a Herring Working Group met between Tuesday, 16 May and Friday, 19 May 1972, under the chairmanship of Mr R. C. Hennemuth (USA) and Mr D. Iles (Canada), respectively; the Working Group on Coordinated Groundfish Surveys on Monday, 22 May, under Dr M. D. Grosslein (USA); the Statistics and Sampling Subcommittee on Saturday, 20 May, under Dr A. W. May (Canada); and the Environmental Subcommittee on 23 May, under Dr N. J. Campbell (Canada).

Plenary sessions of STACRES were held daily to allocate items for consideration, to coordinate the work, to receive reports and recommendations of the Subcommittees and Working Groups, and to prepare its report on the state of the fish stocks and the effects of exploitation and various other factors on these stocks.

Scientific Advisers to each of Panels 1-5 and Panel A (Seals) met on Wednesday, 24 May.

From 25 May to 2 June, Commission agenda items were considered in Plenary Session or assigned to committees and panels for study and reporting. Reports and recommendations from meetings of STACRES, STACFAD, and STACTIC, from meetings of each of the six Panels, from joint meetings of Panels 2 and 3, 4 and 5, and 1-5, as well as from an *ad hoc* Committee on Quota Allocation, were received at the Third Plenary Session of the Commission for consideration and approval.

3. Participants (Appendix I)

Commissioners with their Advisers and Experts were present from all 15 Member Countries. Observers attended from the Food and Agriculture Organization of the United Nations (FAO), the International Council for the Exploration of the Sea (ICES), the International Pacific Halibut Commission (IPHC), and the Governments of Bulgaria and Cuba. Meeting participants are recorded at Appendix I. The organization and officers of the Commission for the year 1972-73 are recorded on the inside front cover of these Proceedings.

4. Ceremonial Opening (Agenda Item 1)

The Ceremonial Opening of the 22nd Annual Meeting of the Commission was convened in the Main Conference Room of the International Conference Suite of the Department of State, Washington, D.C. at 1000 hrs on 25 May 1972. The Chairman of the Commission, Mr K. Løkkegaard, Head of Department, Ministry of Fisheries for Denmark, welcomed the Commissioners, Advisers, Observers, and Guests. He thanked the Government of the United States of America for hosting the meeting and providing such ideal working conditions and arrangements. He expressed pleasure to call upon the Honorable James T. Lynn, Under Secretary, Department of Commerce, who addressed the meeting on behalf of the Government of the United States of America as follows:

"The Government of the United States is honored that the International Commission for the Northwest Atlantic Fisheries has accepted its invitation to hold the 22nd Annual Meeting in Washington, D.C., and extends to the Commissioners, and other participants a very warm welcome. We are very pleased to be your host, and find it particularly fitting that the Commission should return again to Washington where it held its First Annual Meeting in 1951, 21 years ago, and where it met in 1961, 11 years ago. Washington was the birthplace of the Commission; it gives us special satisfaction to receive the Commission again at a time when it may be said to have come of age.

"At that First Annual Meeting, 21 years ago, the participants faced the delicate task of launching a new experiment in international fisheries cooperation. They went about their work with confidence and skill, creating ICNAF – an organization that has become known throughout the fisheries world as one of the most sophisticated of international management bodies. The pioneer work of ICNAF in scientific assessment of stocks and regulatory techniques stands as a model for newer commissions. You have demonstrated that scientists from many different nations through intensive study, effort, and cooperation can provide the scientific foundation for international conservation programs. In the regulatory and enforcement field, your strength has been an innovative approach to changing problems. It is especially noteworthy that only last February ICNAF became the first multilateral fisheries commission to recommend national catch quotas in a major international fishery.

"Yet, the complex fisheries of the Northwest Atlantic have been a stern testing ground, and we have gained no measure of security with age. Problems have grown faster than solutions, and fisheries have expanded faster than our conservation programs. Thus, I believe, it no exaggeration to say that the future of the Commission, the future of our resources, and the future of our fisheries is now more precarious than ever. We might ask ourselves if this young adult is up to the task.

"For perspective, it might be helpful to look back for a moment at the intervening years since the Commission was formed. We have seen expansion of fishing effort that was not dreamed of in 1951. Since that time, country after country has turned to the Northwest Atlantic with great new fishing fleets seeking rich harvests – often as substitutes for declining yields elsewhere. At the 1951 ICNAF Annual Meeting there were participants from 5 member countries. Today, we have with us delegates from 15 member countries and still others participate in the fisheries. In 1951, a little over a million tons of fish were harvested in the Northwest Atlantic; three times that amount has been taken in some recent years.

"At that first Annual Meeting there was a spirit of optimism noted in the Chairman's Closing Statement when he said:

> "We have with us in the area healthy fisheries for the most part, with some limited problems requiring attention."

"He also said:

> "This is the first time in the history of international cooperation in fisheries that an international body has been established in advance of serious crises in the resources."

"We are not so fortunate now. Our conservation problems are no longer limited, and crises in the resources have burst upon us.

"We have seen massive fisheries develop in the space of a brief period, taking enormous yields from one fish stock after another, only to be confronted with the collapse of the resources supporting these fisheries.

From the vantage point of the Commission's early years, it must have been hard to imagine that the great schools of herring, haddock, and other groundfish could ever be exhausted. Yet, now the haddock have all but disappeared in an economic sense; the most stringent controls on herring fisheries are required because of serious depletion, at least of those stocks off the coast of the United States; and no less than seven other species of marine resources are named on the agenda for this meeting as being in need of conservation.

"Our scientists tell us that the fishing capacity or effort deployed in the Northwest Atlantic is out of proportion to the resources. For years they have been telling us that there are far more vessels present than are needed to maximize harvests. More recently, they have been warning us that this enormous capacity is so mobile that it can move easily from resource to resource depleting and destroying each in turn. We spoke of the seriousness of this problem in our opening address to ICNAF at the last meeting in the United States in Boston in 1967. Fishing effort has continued to grow since then and the term "serious problem" which we used in 1967 is totally inadequate to describe the crisis we are facing now.

"We in the United States are convinced that the fisheries in the Northwest Atlantic can survive only if there is a well-nigh revolutionary change within the Commission equaling the revolutionary change in fishing, or alternatively, if the Commission and the international cooperative approach, which it symbolizes, are abandoned in favor of another approach.

"Many nations seek now a change in approach to fishery management through change in international law. Although we, in the United States, favor the international cooperative approach, I must say that the United States is ready to accept another solution involving juridical changes before it will tolerate the destruction of U.S. fisheries because of widespread depletion of the resources of the Northwest Atlantic. We have said as much on earlier occasions in this Commission. We have made new proposals recently in the United Nations Law of the Sea Preparatory Committee in New York earlier this Spring.

"There are signs that ICNAF, in its work on national catch quota schemes, is moving to offer a meaningful alternative. Although only a start has been made, it has attracted much attention and many will be watching to see how you carry through. No one will be watching with more anxiety than the American fishermen who fish the Northwest Atlantic. They are not overwhelmed with the success of ICNAF. Their opportunities, always limited to fish stocks within relatively short range of the coast, have diminished as stock after stock has been reduced in abundance. With the imposition of regulatory control on those resources, American fishermen have turned to others in coastal waters only find them already the objective of massive fishing effort.

"These American fishermen are also less than enthusiastic about the Commission's first efforts in the allocation of catch quotas, for they feel that the Commission has not adequately taken into account their unique position. Their attitude is reflected in the action taken by the Committee established pursuant to Article V of the Convention to advise the U.S. Commissioners to ICNAF, when it recently voted formally in support of immediate U.S. withdrawl from ICNAF. This Government has taken their recommendation under advisement and will make a decision on it next month, taking into account Article XVI of the Convention. Your success or failure in bringing about the necessary changes will have an important bearing on this decision.

"With so much at stake for fishermen, for the resources, and for the entire "ICNAF" concept, I hope that you will approach these tasks with the same dedication displayed when the Commission was created 21 years ago. The problems of setting quotas, determining national allocations, and arranging enforcement procedures will obviously be difficult. The technical capacity and necessary authority to act has been built into the Commission. It remains only for you to use this mechanism to its full capacity. Can it be made to work? This may be the last real chance to try.

"At this meeting, you will be absorbed with an unusually long agenda of immediate problems. These are pressing matters and the Commission will be judged on the way in which it deals with them. However, I would also urge you to give some attention to the basic cause of our difficulties -- the excess fishing effort found everywhere in the North Atlantic. Solutions to this fundamental problem will obviously involve long-range planning. Nevertheless, until we do find solutions, interim protection for one species will simply divert the threat of resource depletion without lessening it, and we will continue to experience one crises after another. We can no longer afford that luxury.

"Perhaps some have thought that as one resource disappeared there would always be others. For the small coastal fishing vessels in the historic fish ports of New England, this has never been the case. There is no future for our fishermen if the rest of the fish off New England go the way of the haddock. We intend to see that this does not happen. I cannot overemphasize this. My Department is close to our fishermen in New England. I understand their feeling of desperation. They have no future, unless we find a better way than the one ICNAF follows now. That is why we speak to you with a feeling

of urgency.

"From the broader standpoint, however, I question whether there is a future for any of us in fisheries if we do not halt the resource disasters coming now with such frequency. I have spoken of the problems facing our coastal fishermen, but where will those of you with distant water fleets turn if these disasters continue. Where will anyone turn?

"I have spoken frankly to you of these problems because we in the United States believe that the situation is grave, and because at the same time, we are hopeful that there is yet opportunity to correct it through the regional international approach; but there must be the will to make the approach work. There must be hard decisions, and they must be made now.

"We are happy to have you here in Washington again and offer you a most sincere welcome."

The Chairman thanked the Under Secretary, on behalf of the Commission, for his welcoming remarks. He assured him that all Member Countries of ICNAF were fully aware of the increased demands on the efficiency of the agency and that they would do their utmost to live up to those demands. The Chairman thanked the meeting for its attention and declared the 22nd Annual Meeting of the Commission recessed to 1200 hrs.

Following the opening ceremonies, the First Plenary Session was convened by the Chairman. Second and Third Plenary Sessions were convened on 27 May and 2 June. Between 25 May and 2 June inclusive, the following business of the Commission was concluded.

5. Agenda (Appendix II)

In accordance with Commission Rules of Procedure 4.2(b), a provisional agenda for the Annual Meeting was transmitted to all Contracting Governments and Commissioners not less than 60 days in advance of the meeting. The agenda was adopted at the First Plenary Session.

6. Publicity (Agenda Item 3)

The Chairman and Vice-Chairman of the Commission, with the Chairman of STACFAD and the Executive Secretary, were appointed by the Commission to a committee to determine policy regarding publicity.

A press release covering the major items of interest and importance from the 22nd Annual Meeting is at Appendix III.

7. Report of STACFAD (Agenda Item 32)

STACFAD met on 29 May and considered items on its agenda and financial and administrative items (Items 5 to 10, and 36) assigned from the Plenary agenda. The STACFAD report with recommendations was presented to the Third Plenary Session on 2 June 1972.

a) Panel memberships

Panel memberships were reviewed as required by Article IV (2) of the Convention. Application by Spain for membership in Panel 5, effective 1 July 1972, was approved by Panel 5 and STACFAD and adopted by the Commission. Panel memberships for 1972-73 total 54 and are distributed among the 15 Member Countries as follows:

Panel	1	2	3	4	5	A	Total
Canada		+	+	+	+	+	5
Denmark	+		+			+	3
France	+	+	+	+			4
Germany, Fed. Rep.	+	+		+	+		4
Iceland	+						1
Italy			+	+			2
Japan			+	+	+		3
Norway	+	+	+			+	4
Poland	+	+	+	+	+		5
Portugal	+	+	+	+			4
Romania		+	+		+		3
Spain	+	+	+	+	+		5
USSR	+	+	+	+	+		5
UK	+	+	+				3
USA			+	+	+		3
TOTAL	10	10	13	10	8	3	54

b) Reports by the Secretariat

The Executive Secretary presented the following reports on administrative and financial matters:

i) Auditor's Report for the fiscal year ending 30 June 1971 (1971 Annu. Pro. Vol. 21, p. 10-15);

ii) Administrative and Financial Report for the fiscal year ending 30 June 1972 (estimated from 1 May 1972) (Comm. Doc. 72/2);

iii) Budget estimate for the fiscal year ending 30 June 1973 (Appendix I to the 1972 STACFAD Agenda);

iv) Budget forecast for the fiscal year ending 30 June 1974 (Appendix II to the 1972 STACFAD Agenda).

c) Recommendations on finance and administration

The Commission adopted the following recommendations:

i) that the Auditor's Report showing appropriations of Can $124,500 and obligations incurred of Can $102,754 for the fiscal year ending 30 June 1971, be adopted;

ii) that the provisional Administrative Report with the financial statements for the fiscal year ending 30 June 1972 (estimated from 1 May 1972) be adopted;

iii) that the Commission note the appointment of Mr V. M. Hodder, formerly fishery scientist with the Fisheries Research Board of Canada at St. John's, Newfoundland to the position of Assistant Executive Secretary W.E.F. 4 September 1971 and the valuable contribution he has already made to the Commission's statistical program;

iv) that the Commission note the authorized exemption of Federal Sales Tax (12%) and Nova Scotia Hospital Tax (7%) on items purchased by the Commission;

v) that the Commission approve filling an additional position of Clerk-Statistician in the Secretariat;

vi) that a Document Series to be known as Summary Documents (abbreviated "Sum. Doc.") with a distinctive colour be instituted for future Annual Meetings, the new series to contain mid-term meeting reports, joint working party reports, reports of scientific advisers to panels, reports on the status of fisheries, special statistical documents, prepared by the Secretariat and any other scientific documents considered important for the attention of Commissioners;

vii) that the Commission adopt the use of "8 1/2 × 11" paper for meeting documents;

viii) that Rule 6 of Commission Rules of Procedure be amended by the addition of Rule 6.5 as follows:

"6.5. There shall be a Standing Committee on International Control consisting of one representative from each Contracting Government, which would wish to be represented, and who may be assisted by advisers. The Committee shall: (a) review the results of national and international measures of control; (b) develop inspection methodologies; (c) consider the practical problems of international measures of control; (d) review reports of inspections and violations; (e) promote exchanges and cooperative efforts of inspectors in international inspection; (f) make appropriate recommendations to the Commission. The Committee shall choose its own Chairman. The Executive Secretary shall be an *ex officio* member of this Committee without vote."

ix) that Can $20,000 be declared in excess of present and anticipated needs in the Working Capital Fund and that it be transferred to the Miscellaneous Fund immediately in accordance with Financial Regulation 4.7;

x) that the Commission appropriate a sum of Can $150,425 from Contracting Governments and from the Miscellaneous Fund to meet ordinary expenditures and Can $5,000 from the Working Capital Fund to support the ICES/ICNAF/IBP Symposium on the Biology of the Seal, Guelph, August 1972, for the fiscal year ending 30 June 1973, the appropriations to be used for the following purposes:

1.	Personal Services	
	a) Salaries	$ 85,000
	b) Superannuation	1,800
	c) Additional help	–
	d) Group medical and insurance plans	825
	e) Contingencies	3,000
	f) Forecast increase	6,000
2.	Travel	6,500
3.	Transportation	500
4.	Communications	6,000
5.	Publications	12,000
6.	Other Contractual Services	10,500
7.	Materials and Supplies	5,000
8.	Equipment	1,000
9.	Annual and Mid-Year Meetings	10,000
10.	Contingencies	2,300
	Total Ordinary Expenditures	$150,425
	Special appropriation WCF	
	i) Transfer to Miscellaneous Fund	20,000
	ii) Seal Symposium, 1972	5,000

xi) that the Contracting Governments be billed by the Commission for payments due under

the 1972-73 administrative budget, in accordance with Article XI of the Convention, on 15 August 1972;

xii) that the Contracting Governments give consideration at the 1973 Annual Meeting to authorizing appropriations of Can $168,500 for the ordinary expenses of the Commission and Can $5,000 from the Working Capital Fund to support the ICES/ICNAF/FAO Symposium on Acoustic Methods in Fishery Research, Bergen, June 1973, for the fiscal year ending 30 June 1974, the appropriations to be used for the following purposes:

1.	Personal Services	
	a) Salaries	$ 91,000
	b) Superannuation	2,200
	c) Additional help	1,300
	d) Group medical and insurance plans	1,000
	e) Contingencies	6,000
	f) Forecast increase	–
2.	Travel	7,000
3.	Transportation	1,000
4.	Communications	7,500
5.	Publications	14,000
6.	Other Contractual Services	10,000
7.	Materials and Supplies	6,000
8.	Equipment	5,500
9.	Annual and Mid-Year Meetings	10,000
10.	Contingencies	6,000
	Total Ordinary Expenditures	$168,500
	Special appropriation WCF	
	i) Acoustic Symposium, June 1973	5,000

xiii) that the Executive Secretary solicit the views of the Contracting Governments regarding increase of the US $500 Commission membership fee;

xiv) that the Chairman of the Commission and the Executive Secretary arrange the time and place of the mid-term meetings, having in mind the possibility of again holding them at FAO, Rome over the same time period at the end of January-early February in 1973;

xv) that the 1973 Annual Meeting be held in Copenhagen, Denmark between 5 and 13 June inclusive, with associated scientific meetings to be held from 28 May to 2 June at the same location; that the 1974 and 1975 Annual Meetings be held at the Commission Headquarters at a date to be agreed later, if no other invitation is extended;

xvi) that the Commission note the unanimous re-election of Mr Wm. L. Sullivan, Jr (USA) as Chairman of STACFAD for the year ending 30 June 1973.

8. Status of Commission Proposals
(Agenda Item 11)

The Commission reviewed the status of proposals for changes in the Convention and for international regulation of the fisheries.

a) Changes in the Convention

The Commission **noted** that the 1969 Protocol, which proposes change in paragraphs 2 of Articles IV and VII of the Convention in order to establish a more appropriate basis for determining representation on the Panels and to provide for greater flexibility in the types of fisheries regulatory measures which may be proposed by the Commission, respectively, entered into effect 15 December 1971 for all Contracting Governments.

It also **noted** that the 1970 Protocol, which proposes that Article XVII of the Convention be renumbered Article XVIII and a new Article XVII be added in order to establish quicker and smoother working procedures for amending the Convention, still required ratification by the Governments of Canada, Portugal, Romania, Spain, and the United States of America before it could enter into force.

b) International regulation of the fisheries

The Commission **noted** that the *1970 130-mm mesh size proposal* for Subarea 2 entered into force for Poland, Portugal, and Spain on 1 January 1972 (for other Contracting Governments on 7 January 1971), and for Subarea 3 entered into force for Canada, Poland, Portugal, and Spain on 1 January 1972 (for other Contracting Governments on 15 April 1971).

It **noted** that the *1971 salmon proposal*, mainly limiting high seas fishing to the 1969 level of catch and effort for 1972 and 1973, and subject to review in those years, entered into force for all Contracting Governments, except Portugal and possibly USSR, on 1 March 1972. The *1971 yellowtail flounder proposals* for catch quota (26,000 tons) for 1972 and for 130-mm mesh size in Subarea 5 entered into force for all Contracting Governments on 1 January 1972. The *1971 haddock proposals* for catch quota (6,000 tons), closed season (March, April, and May) and closed areas for Subarea 5; for catch quota (9,000 tons), closed season (March, April, and May) and a closed area for Div. 4X of Subarea 4; for catch quota (4,000 tons) for Div. 4W of Subarea 4

entered into force for the 1972 calendar year for all Contracting Governments on 1 January 1972. The *1971 mesh gauge proposals* for Subareas 1-5 inclusive entered into force for all Contracting Governments on 1 January 1972. The *1971 seal proposals* delimiting the hunting season in the "Gulf" and "Front" areas of the Northwest Atlantic entered into force for all Contracting Governments on 1 January 1972.

The Commission also **noted** that *1972 herring proposals* from the Commission's Special Meeting on Herring (see Part 3 herein) for national allocations of total allowable catches of adult herring on Georges Bank (150,000 tons); in Div. 5Y of Subarea 5 (30,000 tons); in Div. 4X and part of Div. 4W of Subarea 4 (65,000 tons); and for a 9-inch size limit in Subarea 4 and 5 excluding waters north of 44°52′N lat in Div. 4W and north of 43°50′N lat in Div. 4X were adopted by the Commission under Rules of Procedure 4.2 on 7 March 1972 and transmitted by the Depositary Government to Contracting Governments on 17 March 1972. Acceptances by Poland, Romania, and Portugal are still required before the proposals can enter into force.

9. Report of the Standing Committee on International Control (STACTIC)

(Agenda Items 12-16, 34)

The Standing Committee was established by the 1971 Annual Meeting. Terms of reference (Commission Rule of Procedure 6.5) were adopted by the Commission in Plenary Session on 25 May 1972. The Committee held its first meeting under the chairmanship of Captain J. C. E. Cardoso (Portugal). In addition to the STACTIC agenda items, consideration was given to Plenary Agenda Items 12-16 which were assigned to the STACTIC by the Commission at its First Plenary Session on 25 May 1972.

The Report of STACTIC was presented to the Commission for adoption at its Final Plenary Session on 2 June 1972. Major items adopted are summarized below:

1) that the Commission adopt the reports of the participation by the majority of Member Countries in the ICNAF Scheme of Joint Enforcement since it became operative 1 July 1971;

2) that the Commission adopt the Scheme of Joint Enforcement Questionnaire from Inspector to Skipper as redrafted by a Committee of NEAFC administrators and inspectors in Lisbon, March 1972 and including further revisions suggested by STACTIC to meet ICNAF needs, in order to improve the Scheme's effectiveness and standardize it for use in both the NEAFC and ICNAF Areas;

3) that the Commission adopt the STACTIC proposals for improving the ICNAF Scheme's Inspector's Report form;

4) that the Commission request all Member Countries to consider the judicial and practical aspects of the issue of whether there should be withdrawal of apparently improper nets from use by application of a seal by Inspectors in preparation for further discussion of the issue at the 1973 Annual Meeting;

5) that with the acceptance of national allocation of herring quotas calling for inspection of fish on board and with the possibility of other changes being required following the outcome of this Annual Meeting, any amendment of the form "Report of Inspection" should be postponed and the matter considered further at the 1973 Annual Meeting; meantime, inspectors can best report their findings on the form in the section entitled "Comments and/or Observations by Inspector";

6) that the Commission note that USSR is studying partial withdrawal of its reservation to the ICNAF Scheme of Joint Enforcement concerning inspection of fish on the deck and that Romania will withdraw her reservation beginning 1 January 1973 when she expects to fully participate in the Scheme;

7) that the Commssion adopt the reports of inspections, infringements and actions taken by each Contracting Government relating to mesh size in use, obstruction of mesh openings, landings in excess of legal limits, and closed area violations for the calendar year 1971;

8) that only the Reports of Inspection which indicate infringements be forwarded to the Executive Secretary;

9) that all countries participating in the ICNAF Scheme of Joint Enforcement consider the practical aspects of the following proposal for further discussion and possible adoption at the 1973 Annual Meeting: "that, in addition to the present Annual Returns of Infringements summary, each Contracting

Government to which an infringement report is sent originating from an Inspector of another Contracting Government, transmit to the Executive Secretary and to the reporting Inspector's Government a timely report of the specific judicial or administrative disposal of each infringement";

10) that the Commission urge all Contracting Governments to study all material available on the suitability of the standard logbook format developed by STACRES at its 1971 meeting (ICNAF Redbook 1971, Part I, p. 67-68) including the results of discussions at a meeting of an ICNAF Working Party on International Inspection held in Lisbon, March 1972 (ICNAF Comm. Doc. 72/26) and to forward any comments to the Executive Secretary for presentation to the 1973 Annual Meeting.

10. Report of Standing Committee on Research and Statistics (STACRES)

(Agenda Item 31)

The Standing Committee met, under the chairmanship of Dr A. S. Bogdanov (USSR) with Mr V. M. Hodder (ICNAF) as rapporteur, at the International Conference Suite, Department of State, Washington, D.C. from 18 May to 23 May (except Sunday, 21 May) and on 1 June 1972. Mid-term meetings of STACRES and the Assessments Subcommittee to consider herring problems were held 29 January 1972 and 24 to 28 January 1972, respectively, at FAO, Rome (see Part 3 herein). The ICES/ICNAF Working Party on Cod Stocks in the North Atlantic met at Charlottenlund, Denmark, 8-14 March 1972 under the chairmanship of Mr D. Garrod (UK). The ICES/ICNAF Joint Working Party on North Atlantic Salmon, under the chairmanship of Mr B. B. Parrish (UK), met at Dublin, Ireland, 21-24 March 1972 following a meeting of the Working Party's Planning Group for the International Tagging Experiment at Greenland in 1972 held at Charlottenlund, Denmark, 18-20 January 1972, under the chairmanship of Dr A. W. May (Canada).

The Report of STACRES, with subcommittee and working group reports as appendices, is published as ICNAF Redbook 1972, Part I. The Report was adopted by the Commission in Plenary Session on 2 June 1972. Items of major importance dealt with are summarized below:

a) Assessments

The Assessment Subcommittee reported

i) that the total nominal catch of 3,200,000 tons from the Convention Area was about the same as that reported in 1970; cod is still the most important species with herring next, then mackerel, redfish, and silver hake in that order; catches of cod, herring, American plaice, and yellowtail flounder declined from 1970 to 1971, those of mackerel, redfish, and silver hake increased, and haddock remained about the same;

ii) that cod and herring assessments were emphasized, new assessments were carried out for American plaice and yellowtail flounder in Subarea 3 and silver and red hakes in Subarea 5 and Statistical Area 6; previous assessments for haddock in Subareas 4 and 5 and yellowtail in Subarea 5, now under catch quota regulation, were updated;

iii) that, because all the cod stocks were being fished near the point of maximum sustainable yield, catch quotas were recommended for 1973;

iv) that a North Atlantic Cod Working Group considered assessments for selected major stocks in the North Atlantic, and the interaction between fisheries which occurred because of the mobile fleets; results indicate that the same total catch could be taken in the long run by about 50% of the present effort on cod; effects of division of fishing effort by partial regulation can now be developed;

v) that revised haddock assessments indicate no improvement in recruitment and that catches of haddock incidental to other fisheries may be greater than annual surplus production and that measures should be taken to reduce catches to the lowest possible levels;

vi) that fishing mortality on the yellowtail flounder stock in Divs. 3LNO is probably beyond the maximum sustainable yield point;

vii) that assessments of the American plaice stocks in Divs. 3NO indicate that to reduce the fishing mortality to more desirable levels and maintain the population size in 1973, recommended catch quotas for 1973 should be considered;

viii) that first assessments of the silver hake stock

indicate the need for catch quotas for 1973 in Div. 5Y, Subdivision 5Ze and in Subdivision 5Zw and Statistical Area 6 to achieve maximum yield-per-recruit;

ix) that levels of fishing allowable in 1973 for maximum yield-per-recruit were recommended for the red hake stock in Subdivision 5Zw and Statistical Area 6;

x) that increasing the age at first capture for scallops from the present 3-5 years to 7 years would increase yield-per-recruit by 50%;

xi) that adoption of a 130-mm mesh size in Subareas 4 and 5 would produce benefits for cod, haddock, and yellowtail flounder;

xii) that four objectives of regulations relative to assessment parameters were maximizing yield-per-recruit, optimizing economic returns, maintaining stock size, and maximizing long-term yields and that it is necessary to distinguish between these objectives in many cases in setting catch quotas;

xiii) that the division of herring populations in the ICNAF areas into five major spawning stocks, Georges Bank, Gulf of Maine, Nova Scotia, Banquereau, and Gulf of St. Lawrence stocks as determined by the 1972 mid-term meeting of the ICNAF herring scientists (see Part 3 herein) still stands;

xiv) that revised assessments of the juvenile stocks of the Gulf of Maine (Div. 5Y) and the New Brunswick side of the Bay of Fundy (Subdivision 4Xb) indicated that Subdivision 4Xb juveniles may not, as previously suggested, contribute strongly to the adult Div. 5Y stock;

xv) that 1972 offshore surveys revealed a wide distribution of juvenile herring (1970 year-class) from Emerald Bank to south and west of Long Island which should be identified as to stock and estimated quantitatively;

xvi) that advice on 1973 catch levels for the herring stocks regulated in 1972 will be presented to the 1973 mid-term meeting of the Commission following further assessments of the state of the stocks by the Herring Working Group;

xvii) that, with evidence from the Coordinated Groundfish Surveys Working Group, such surveys are sufficient for assessing major changes in stock size both for individual species and for total groundfish biomass; more survey activity in Subareas 1 and 2, standardization of sampling designs in Subareas 1-3 and more complete and systematic analysis of existing data from all areas will be carried out.

b) Statistics and sampling

The Statistics and Sampling Subcommittee reported

i) that the Statistical Bulletin for 1970 was compiled and produced for the first time by computer processes at a considerable saving in time and expense;

ii) that Member Countries were asked to support greatly improved coverage, accuracy and speed of reporting of national statistics, extension of the biological sampling programs, improved methods of estimating stock size independent of catch and effort data, and higher investments in time and effort by research vessels cooperating in joint scientific programs if scientific management of the fish stocks is to become a reality;

iii) that minor adjustments will be made in the ICNAF gross registered tonnage (GRT) categories now used to define classes of fishing units;

iv) that each of the five participating agencies in the ICNAF/ICES/ICSEAF/ICCAT/FAO Coordinating Working Party on Atlantic Fishery Statistics (CWP) appoint not more than three experts to attend all subsequent meetings of the CWP – ICNAF will invite USA to nominate one participant and the other two will be the Assistant Executive Secretary and the Chairman of Statistics and Sampling Subcommittee.

c) Environmental studies

The Environmental Subcommittee noted that in 1971 in Subareas 1-3 water temperatures were generally lower than averages based on the previous 10-15 years and that ice conditions were severe, as in 1969 and 1970. Temperatures were, however, above normal along the southern edge of the Grand Banks and over the Scotian Shelf, but no appreciable changes were noted for the Georges Bank region.

The Committee **recommended**

i) that a representative of the UK Institute of Marine Environmental Research (IMER) be invited to present a review of the Institute's work at the next meeting of the Environmental Subcommittee including suggestions as to how the material might be summarized annually for greatest use in relation to the ICNAF area fisheries studies;

ii) that appropriate ice experts and forecasters be invited to present formal presentations for discussion at the next meeting of the Environmental Subcommittee;

iii) that national research reports should contain a section in ice conditions particularly the concentration and extent of ice cover in the subareas;

iv) that a proposed list of standard hydrographic sections and stations in the ICNAF Area (including East Greenland and Statistical Area 6) and standard base periods for temperature and salinity anomalies be presented to the 1973 meeting of the Environmental Subcommittee.

d) Gear and selectivity

The Committee noted that there was no significant difference between the selection properties of "extra strong" and "normal" polyamide codends. The stronger codends can be used without topside chafers but are much more costly. More experimental work on both the selectivity and economic factors are needed.

The Committee **recommended**

i) that polyamide be adopted as the standard for selectivity experimental work;

ii) that Member Countries actively support the Symposium on Acoustic Methods in Fishery Research, Bergen, 15-22 June 1973;

iii) that Member Countries make every effort to submit returns on trawl material and mesh-size sampling to the Secretariat for documentation by 31 March each year.

e) ICES/ICNAF Joint Working Party on North Atlantic Salmon

The Committee considered the report of the latest meeting of the ICES/ICNAF Joint Working Party on North Atlantic Salmon held in Dublin, Ireland, 21-24 March 1972. The report included a review of the latest data on the salmon fisheries at West Greenland and in European and North American home waters, presented the results of further assessments of the effects of fisheries at West Greenland and in home waters on total and home-waters salmon stocks and catches, and considered plans for future research relevant to the assessment work with special reference to the international tagging experiment at West Greenland in 1972.

The Committee noted that the salmon catch at West Greenland increased about 470 tons to 2,615 tons in 1971, the largest catch so far taken, despite the decrease in numbers of vessels operating. This was considered due mainly to the increased fishing power and efficiency of individual fishing units rather than to a greater abundance and/or availability of salmon. It clearly illustrates the limitations of regulations limiting total vessel tonnage as a method of stabilizing effective fishing effort in a fishery in which major technological and other developments affecting fishing power and efficiency are taking place. Data from further tagging and biochemical and serological studies support earlier evidence that the salmon stock at West Greenland comprise fish originating from and, if surviving, returning to North America (mainly Canada) and European (mostly Great Britain and Ireland) river systems in about equal proportions. Canadian studies show that different river systems make markedly different contributions to the West Greenland stock (substantial contributions from rivers running into the Gulf of St. Lawrence and only a small contribution from rivers running into the Bay of Fundy). Latest information provides no basis for modifying the assessments reported last year (Annu. Proc. Vol. 21, p. 25-26) that the West Greenland fishery has resulted in an increase in the total catch (West Greenland plus home waters) of salmon returning to European rivers and, with the possible exception of some Canadian river systems, also those returning to North American rivers. Home-waters catches of salmon plus grilse in 1971 were lower than in 1970 in all the main salmon-producing countries, except Norway where it was about the same and Iceland where it was slightly higher.

The Committee noted and approved the plans for the international salmon tagging experiment at West Greenland in 1972 and the arrangements for the analysis of the tag recaptures and other data and stressed the importance of studies of the relationship between stock and recruitment.

The Committee **recommended**

i) that the ICES/ICNAF Joint Working Party on North Atlantic Salmon meet next at

Copenhagen, Denmark, for 5 days beginning 26 March 1973;

ii) that the 1970 and 1971 Reports of the Joint Working Party be combined and published, preferably in the ICES Cooperative Research Report Series.

f) Other matters

The Committee **recommended**

that any country intending to conduct research cruises under ICNAF inside the national fishing limits of another country should apply for permission directly through the appropriate channels to the foreign affairs ministry of the country from which permission is sought giving details of the research to be conducted; the application to be made well in advance of the period proposed for the operation.

The Committee **agreed** to consider at its next meeting the following tasks referred to it by the Panels:

1) full utilization of regulated species;

2) the need for more information and assessments of such species as mackerel, pollock, and squid;

3) up-to-date assessments of Subarea 1 cod stocks as a basis for consideration of catch quota allocation at the 1973 Annual Meeting;

4) the effects of fishing on total biomass of fish.

11. Reports of Meetings of Panels
(Agenda Items 18-28 and 35)

The Commission at its First Plenary Session assigned Plenary Agenda Items 18 on conservation of Atlantic salmon, Item 23 on conservation of cod, and Item 27 on maximum utilization of regulated species to a joint meeting of Panels 1-5; Item 19 on conservation of haddock in Subareas 4 and 5, Item 22 on herring and Item 28 on uniform mesh size for regulated species to Panels 4 and 5; Item 20 on conservation of silver and red hakes in Subarea 5, Item 21 on yellowtail flounder in Subarea 5 and Item 25 on scallops in Subarea 5 to Panel 5; Item 24 on American plaice in Subarea 3 to Panel 3; Item 26 on seals in the Convention Area to Panel A (Seals). Consideration of Item 23 on Subarea 2 and 3 cod, Item 24 on Subarea 3 American plaice and an additional item on Subarea 3 yellowtail flounder was continued in a Joint Meeting of Panels 2 and 3. Further consideration of Item 19 on Subarea 4 and 5 haddock and Item 28 on a proposed increase to 130-mm mesh size in Subarea 4 was given in a Joint Meeting of Panels 4 and 5.

Reports of meetings of Panels 1-5 and of Panel A (Seals) and of joint meetings of Panels 1-5, 2 and 3, and 4 and 5 were received and adopted with their recommendations by the Commission in Final Plenary Session on 2 June 1972.

a) **Panel 1.** The Panel, under the chairmanship of Dr D. Booss (Fed. Rep. Germany), noted the continued low production of cod, due to adverse environmental conditions and low abundance. With the fishing mortality rate at a level giving maximum yield-per-recruit, poor recruitment prospects and the likelihood of diversion from regulated cod fisheries in Subareas 2, 3, 4, and 5, the Panel **agreed** that the need for catch quota or other additional regulatory measures, based on up-to-date assessments of the state of the stock, should be considered at its next Annual Meeting.

The Panel also **recommended**

"that the statistical collection and catch sampling requirements should be set out by the Chairman of the Scientific Advisers in consultation with the Secretariat and sent to all Member Countries fishing in the Subarea with the request that that they implement their collection and reporting as a matter of high priority".

b) **Panel 2.** The Panel met under the chairmanship of Mr R. H. Letaconnoux (France). The Panel noted that conservation requirements for cod in Divs. 2J, 3KL had been dealt with in a joint meeting of Panels 2 and 3. A Canadian proposal to minimize waste by prohibiting the discard of any fish of a regulated species weighing over one-half a kilogram was considered. The Panel **agreed** that STACRES be asked to analyze the problems of discards and report to the 1973 Annual Meeting.

c) **Panel 3.** The Panel, under the chairmanship of Mr A. A. Volkov (USSR), examined Canadian proposals for regulating the fisheries for cod and American plaice by catch

quota in parts of the Subarea. Based on the advice of Scientific Advisers, the Panel unanimously **approved** a proposed total allowable catch in 1973 of 50,000 tons of cod in Subdivision 3Ps and 100,000 tons in Divs. 3NO and of 60,000 tons of American plaice in Divs. 3LNO. A Canadian suggestion that, since the fisheries for American plaice and yellowtail flounder overlap to a considerable extent, a catch quota of 50,000 tons should be considered for yellowtail flounder in Divs. 3LNO, was unanimously **approved** by the Panel. The Panel noted the statement of the French delegate regarding the possible need in the future for special consideration in quota allocation for the French territory of St. Pierre and Miquelon Islands.

d) **Panel 4.** The Panel, under the chairmanship of Captain J. C. E. Cardoso (Portugal), discussed a 1971 USSR proposal to establish uniform mesh size requirements for regulated species throughout the whole Convention Area. Because the item required that mesh size in the codend of nets be increased from 114 mm to 130 mm for both Subarea 4 and 5, it was deferred for decision, along with an item for consideration of 1973 conservation needs for the haddock stocks in Div. 4X and Div. 4W under catch quota regulation during 1972, to a Joint Meeting of Panels 4 and 5.

The Panel reviewed a Canadian proposal for regulation of the cod stocks in Subdivision 4Vs and Div. 4W by catch quota and, on the advice of its Scientific Advisers, **agreed** to a total allowable catch of 60,000 tons for 1973 provided, however, that an agreement could be reached on appropriate allocation of national shares by an *ad hoc* Committee on Quota Allocation established by the Commission. The Panel, having considered a proposal from the *ad hoc* Committee, **recommended**

> "that the Commission transmit to the Depositary Government, for joint action by the Contracting Governments, a proposal (5) for international quota regulation of the fishery for cod in Subdivision 4Vs and Div. 4W of Subarea 4" (Appendix IV)

The Panel **considered** a Canadian proposal for catch restrictions on the cod in Subdivision 4Vn. The proposal was withdrawn after question arose over the effect of restricting catches on only a part of the area where the stock is found.

The Panel **noted** that Canada intends to ask consideration of a catch limitation on the Banquereau herring stock at the Special Mid-Term Meeting of the Commission proposed for January-February 1973.

The Panel **requested** further scientific study of the discard problem in order to evaluate a Canadian proposal to prohibit discarding fish of any regulated species weighing over one-half a kilogram.

The Panel **strongly supported** the plea of scientific advisers for additional commitments of research vessel time, improvements in the coverage, accuracy and speed of statistical and biological sampling and for efforts to obtain more assessment information about less heavily exploited species, e.g. squid, mackerel, and pollock – before they become overexploited.

e) **Panel 5.** The Panel, under the chairmanship of Mr D. McKernan (USA), **approved** the application of Spain for membership in Panel 5 effective 1 July 1972.

The Panel reviewed the proposal of a Working Group set up to consider the introduction of a size limit for sea scallops and **recommended**

> "that the Commission transmit to the Depositary Government, for joint action by Contracting Governments, a proposal (23) for international regulation of the fishery for sea scallops by minimum size values in Div. 5Z of Subarea 5" (Appendix IV).

The Panel, noting the benefits to be achieved by extending the 130-mm mesh regulation to the whole Convention Area to protect juvenile fish and to facilitate implementation of international control, **recommended**

> "that the Commission transmit to the

Depositary Government, for joint action by Contracting Governments, a proposal (22) for amendment of the international trawl regulation of the fishery for cod, haddock, and yellowtail flounder in Subarea 5 by increasing the mesh size to 130 mm in the codend by 1 January 1974" (Appendix IV).

The Panel noted that present conservation measures were not preventing continued decline of haddock in Subarea 5 and that it was desirable to discuss this matter in conjunction with a review of haddock conservation measures in Subarea 4. Thus, the subject was referred to a Joint Meeting of Panels 4 and 5. A US proposal to amend the closed area regulation in Subarea 5 was discussed and the Panel **recommended**

"that the Commission transmit to the Depositary Government, for joint action by the Contracting Governments, a proposal (16) for amendment of paragraph 5 of the 1971 haddock quota regulation for Subarea 5 (closed area)" (Appendix IV).

The Panel discussed US proposals for overall quotas on the red and silver hake stocks in Southern New England and on silver hake in Div. 5Y and Subdivision 5Ze in Subarea 5. The Panel, having considered proposals from the *ad hoc* Committee on Quota Allocation for nationalizing catch quotas, **recommended**

"that the Commission transmit to the Depositary Government, for joint action by the Contracting Governments, proposal (14) for international quota regulation of the fishery for red hake from the Southern New England stock; proposal (11) for international quota regulation of the fishery for silver hake in Div. 5Y of Subarea 5; proposal (13) for international quota regulation of the fishery for silver hake from the Southern New England stock; proposal (12) for international quota regulation of the fishery for silver hake in Subdivision 5Ze of Subarea 5" (Appendix IV).

The Panel also considered a US proposal to extend the Subarea 5 closed area regulation for red and silver hakes, adopted in 1969, but during the month of April 1973 only, and **recommended**

"that the Commission transmit to the Depositary Government, for joint action by the Contracting Governments, a proposal (20) for amendment of the international fishery (closed area) regulation, adopted in 1969, for the fishery for red hake and silver hake in Subarea 5" (Appendix IV).

The Panel reviewed the Assessment Subcommittee report and the recommendations of the *ad hoc* Committee on Quota Allocation in relation to a US proposal for continued catch quota regulation of the yellowtail flounder fisheries in Subarea 5, and **recommended**

"that the Commission transmit to the Depositary Government, for joint action by the Contracting Governments, a proposal (10) for amendment of the international quota regulation, adopted in 1971, for the fishery for yellowtail flounder in Subarea 5 east of 69°W, and a proposal (11) for amendment of the international quota regulation, adopted in 1971, for the fishery for yellowtail flounder in Subarea 5 west of 69°W" (Appendix IV).

The Panel considered US proposals for the conservation of cod stocks in Subarea 5. Based on the advice of the scientific advisers as to total allowable catch and proposals for their national allocation by the *ad hoc* Committee on Quota Allocation, the Panel **recommended**

"that the Commission transmit to the Depositary Government, for joint action by the Contracting Governments, proposal (7) for international quota regulation of the fishery for cod in Div. 5Z of Subarea 5 and proposal (6) for international quota regulation of the fishery for cod in Div. 5Y of Subarea 5" (Appendix IV).

The Panel **agreed** with the other four Panels that STACRES should examine the effect of the Canadian proposal to prohibit discarding regulated fish weighing over one-half a kilogram.

f) **Panel A (Seals).** The Panel met under the chairmanship of Mr O. Lund (Norway) and reviewed the report of a mid-term meeting of Panel A Member Countries held in Copenhagen, 7 October 1971. The Panel noted that the mid-term meeting had found recent catches to exceed greatly the sustainable yield of the present stock and had, after examining various seal hunting strategies, **recommended** to the Governments of the Panel Members that a catch of 150,000 harp seals be allowed in the 1972 hunting season on the "Front" and in the "Gulf" areas, allocated as follows:

Canadian landsmen	30,000;
Canadian vessels	60,000;
Norwegian vessels	60,000.

The Panel was pleased to note that the provisional 1972 total catch figures (123,515) were less than the quota. The Panel noted that estimates of harp seal pup production in 1970 had been reaffirmed as 300,000 and the sustainable yield as 150,000; that "Gulf" and "Front" harp seals come from the same stock with slow or incomplete mixing; that no change in opening and closing dates for the harp seal hunt were proposed; that research shows no evidence of changes in population abundance of hooded seals; that future research is required for better assessment of the hooded seal population. The Panel **agreed** that an interim meeting should be held in the autumn of 1972 following the consideration of all available scientific data to give proper attention to possible conservation measures which would be effective for the 1973 sealing season.

The Panel unanimously elected Dr A. W. H. Needler Chairman for the years 1972-73 and 1973-74.

g) **Joint Meeting of Panels 2 and 3.** A Joint Meeting of Panels 2 and 3 was convened under the chairmanship of Mr A. A. Volkov (USSR) to give further consideration to five proposals from the *ad hoc* Committee on Quota Allocation for quota control of the fishery on stocks of cod, American plaice, and yellowtail founder in portions of Subareas 2 and 3. Following considerable discussion, Panels 2 and 3 **recommended**

"that the Commission transmit to the Depositary Government, for joint action by the Contracting Governments, proposal (2) for international quota regulation of the fishery for cod in Divs. 2J, 3KL of Subareas 2 and 3; proposal (3) for international quota regulation of the fishery for cod in Subdivision 3Ps of Subarea 3; proposal (4) for international quota regulation of the fishery for cod in Divs. 3NO of Subarea 3; proposal (8) for international quota regulation of the fishery for American plaice in Divs. 3LNO of Subarea 3; and proposal (9) for international quota regulation of the fishery for yellowtail flounder in Divs. 3LNO of Subarea 3" (Appendix IV).

h) **Joint Meeting of Panels 1-5.** The Joint Panel Meeting was convened under the chairmanship of Mr K. Løkkegaard (Denmark) primarily to consider conservation measures for Atlantic salmon in the Convention Area referred from the First Plenary Session. Delegates from all Contracting Governments were present. The Panel reviewed the 1969 salmon regulation banning fishing for Atlantic salmon on the high seas, effective for all Contracting Governments except Denmark, Norway, and the Federal Republic of Germany, the 1970 regulation mainly limiting catch or effort to the 1969 level, effective for all Contracting Governments except USSR, and the 1971 amendment continuing the 1970 regulation in force for all Contracting Governments, except USSR and Portugal, for the year 1972 and 1973 subject to review in the event of substantial changes in catches, in the stocks or of the entry into the fishery of states not at present participating. The USA introduced a proposal, supported for presentation to the Commission by Denmark, Norway, UK, and USA, which, in the main, would diminish catch limits for the period 1972 through 1975 after which the high seas fishery in the Convention Area off Greenland would cease. A Canadian amendment to the four-party proposal requiring the prohibition of salmon fishing in the Convention Area outside territorial fishing limits by 31 March 1973, with the Greenland catch inside the 3-mile limit to be maintained at the level of annual catches from 1964 through 1971 or less, when put to a vote was defeated 4 votes for (Canada, France, Iceland, and USSR), 4 votes against (Denmark, Fed. Rep. Germany, Italy, and Norway), and 7 abstentions. An Icelandic amendment to the four-party proposal that catches made over the amount of

the quota should be deducted from the quota for the following year but that catches less than the amount of the quota should not be added to the following year's quota was defeated 4 votes for (Canada, France, Iceland, and USSR), 2 votes against (Denmark and Portugal), and 9 abstentions.

The Joint Panels then accepted the four-party proposal by a vote of 12 votes for (Denmark, France, Fed. Rep. Germany, Iceland, Italy, Japan, Norway, Poland, Portugal, Romania, UK, and USA), 1 vote against (Canada), and 2 abstentions, and **recommended**

> "that the Commission transmit to the Depositary Government, for joint action by the Contracting Governments, a proposal (1) for international regulation of the fishery for Atlantic salmon on the high seas in the Convention Area" (Appendix IV).

Following discussion by the Joint Panels of a resolution regarding the conservation proposal (1) for Atlantic salmon prepared by Denmark, Norway, UK, and USA, the Joint Panels **agreed** to the following resolution which was adopted by the Commission on 2 June 1972:

> **The Commission**
>
> **Noting** Article IX, Article XII, and Article XIII of the Convention, 1949;
>
> **Having Considered and Adopted** a proposal for the conservation and protection of Atlantic salmon;
>
> **Noting** that non-members of the Commission have or may participate in the exploitation of Atlantic salmon in the Convention Area;
>
> **Being Aware** of the time period before the approval referred to above may enter into effect pursuant to the provisions of Article VIII of the Convention, as amended, and the desirability of taking appropriate steps for the implementation of measures for the conservation and protection of Atlantic salmon prior to the effective date of the proposal and the desirability of reducing the time period before the proposal takes effect;
>
> 1) **Invites** the attention of all Contracting Governments to the above matters;
>
> 2) **Requests** all Contracting Governments fishing for Atlantic salmon to anticipate the coming into effect of the above-mentioned proposal later in 1972 and to institute appropriate measures as soon as possible to ensure the effectiveness of the proposal when it becomes effective under the terms of the Convention;
>
> 3) **Urgently Requests** all Contracting Governments to notify promptly, if possible before 1 August 1972, the Depositary Government of their acceptance of the above-mentioned proposal as well as of their willingness to be bound by it at an earlier date than provided under the normal procedure.

i) **Joint Meeting of Panels 4 and 5.** The Joint Panels 4 and 5 met under the chairmanship of Mr D. McKernan (USA) to consider an increase to 130-mm mesh size in Subarea 4 and conservation measures for haddock in Subareas 4 and 5. Following discussion of the 1971 USSR proposal to have a uniform mesh size (130 mm) throughout the Convention Area as it pertains to Subarea 4, and consideration of a Canadian problem in respect of a small boat (under 65 ft) fishery in Div. 4X, Panel 4, in joint session with Panels 4 and 5, **recommended**

> "that the Commission transmit to the Depositary Government, for joint action by all Contracting Governments, a proposal (21) for amendment of the international trawl regulation of the fishery for cod, haddock, witch, yellowtail flounder, winter flounder, and American plaice in Subarea 4 by increasing the mesh size to 130 mm in the codend by 1 January 1974, except in Div. 4X, subject to review at the 1973 Annual Meeting" (Appendix IV).

The Joint Panels reviewed the conservation measures in force in 1972 for haddock in Subareas 4 and 5 (catch quotas of 4,000 tons in Div. 4W, 9,000 tons in Div. 4X and 6,000 tons in Subarea 5 including two closed

areas in Subarea 5 and one in Div. 4X). The Joint Panels noted that Panel 4 had already recommended a change to the boundary of the closed area in the western part of Subarea 5 (see Report of Panel 5 and proposal (16) in Appendix IV). The Joint Panels considered proposals for more severe restrictions on the haddock fisheries in 1973 in both Subareas 4 and 5. Following discussion, the suggestion that the 1971 haddock regulations in force for 1972 be continued in force for 1973, Panel 4, in joint session with Panels 4 and 5 **recommended**

> "that the Commission transmit to the Depositary Government, for joint action by the Contracting Governments, a proposal (18) for continuing the 1971 haddock quota regulation in Div. 4X of Subarea 4 without change for the year 1973 and a proposal (19) for continuing the 1971 haddock quota regulation in Div. 4W of Subarea 4 without change for the year 1973" (Appendix IV);

and Panel 5, in joint session with Panels 4 and 5, **recommended**

> "that the Commission transmit to the Depositary Government, for joint action by the Contracting Governments, a proposal (17) for continuing the 1971 haddock quota regulation in Subarea 5 without change for the year 1973" (Appendix IV).

12. Resolution Relating to 1972 Conservation Proposals for Various Stocks in Subareas 2, 3, 4, and 5

The Commission having been made aware of the need for a solution to the problem of the applicability of regulations outside the Convention Area and inside territorial waters during the deliberations in the meetings of the Panels and of the *ad hoc* Committee on Quota Allocation, and having in mind the resolution adopted by the Commission at its 1972 Special Meeting on Herring as a solution to the same problem, **adopted** the following resolution at its Final Plenary Session on 2 June 1972:

The Commission

Noting Article VI, paragraph 1, Article VIII, paragraph 2(a), Article IX, Article XII and Article XIII of the Convention, 1949,

Having Considered measures for the conservation of various stocks found in Subareas 2, 3, 4 and 5 of the Convention Area and having adopted twenty proposals for the conservation of those stocks;

Being Aware that some stocks of hake found off Southern New England (Division 5Z of Subarea 5) migrate westward and southward into an area designated by the Commission as Statistical Area 6 and are exploited there;

Considering that some stocks are exploited within territorial waters and the measures which have been taken for their conservation by the coastal states;

Noting that non-members of the Commission participate in the exploitation of stocks in the Convention Area and Statistical Area 6;

Holding the View that measures for the conservation of some stocks should be applied also to Statistical Area 6 and to the territorial waters of the coastal states, where a part of the stocks is found;

1. **Invites** the attention of all Contracting Governments to the above matters;

2. **Urges** the coastal states to ensure that appropriate conservation measures are undertaken in the fishery within territorial waters to protect the stocks and limit the catch;

3. **Further Requests** all Contracting Governments fishing the stocks of hake which migrate between Division 5Z of Subarea 5 and Statistical Area 6 to institute appropriate measures to regulate the fishery in Statistical Area 6 to ensure the effectiveness of the Commission's proposals for those stocks, either by further international agreements or on a national basis.

13. *Ad hoc* Committee on Quota Allocation

The Commission noted with satisfaction that with the help of the *ad hoc* Committee on Quota Allocation, which was set up at the Second Plenary Session under the chairmanship of Mr A. J. Aglen (UK), agreement had been reached during the meeting on the allocation among Contracting Governments of global catch limits for 17 different fish stocks in the Convention Area. The *ad hoc* Committee had agreed that there should be no

record of its deliberations, but its conclusions are embodied in the recommendations on quotas put forward by the appropriate Panels and adopted by the Commission.

14. Support for the Commission's Research Program

The Commission had attention drawn to the reports of the Statistics and Sampling Subcommittee of STACRES and of the Panels, all of which urged that better biostatistical data are required as a basis for reliable scientific assessments and for sound advice to the Commission on management of the Northwest Atlantic fish stocks. It was also pointed out that the NEAFC Special Meeting at the Level of Ministers, Moscow, December 1971 agreed on the importance of extending the range and scope of research, increasing cooperation in joint research programs and improving the statistical data. Recognizing the need for greater support for the Commission's research program, the Commission **strongly urged**

i) that Member Countries make every effort to greatly improve their coverage, accuracy and speed of reporting of national statistics and to extend their biological sampling programs;

ii) that Member Countries give strong support to programs designed to obtain estimates of stock size independent of catch and effort data, e.g. acoustic surveys and tagging experiments;

iii) that Member Countries give strong support, in research vessel time and effort, to programs designed to give a reliable estimate of future recruitment to the fishery, e.g. larval, 0-group, and groundfish surveys.

15. Election of Vice-Chairman

The Commission accepted with regret the resignation of Mr R. A. Lagarde (France) as Vice-Chairman of the Commission and through the Chairman thanked Mr Lagarde for his good efforts on behalf of the Commission over the past ten years and wished him every success as Executive Secretary of the recently-established International Commission for South-East Atlantic Fisheries (ICSEAF). Following this, Mr M. Fila (Poland) was unanimously elected Vice-Chairman of the Commission, replacing Mr Lagarde for the 1972-73 session.

16. Acknowledgements and Adjournment

The Chairman acknowledged the Observers from FAO and ICES who congratulated the Commission on its rapid progress in establishing management measures and stressed the continued good cooperation and collaboration. Dr A. W. H. Needler (Canada), speaking on behalf of the meeting participants, thanked the Chairman, Mr K. Løkkegaard (Denmark), for his able handling of a very complicated and difficult, but successful meeting. Mr Løkkegaard, in response, said that this had been a historic meeting but continued hard work was necessary to maintain wise use of the Northwest Atlantic fish stocks.

There being no other business, the Chairman declared the 22nd Annual Meeting of the Commission adjourned at 1615 hrs, 2 June 1972.

PART 2

Appendix I
List of Participants

(Head of Delegation in bold)

Chairman: Mr K. Løkkegaard, Ministry of Fisheries, Borgergade 16, 1300 Copenhagen, Denmark.

CANADA

Commissioners:

Mr K. Henriksen, H.B. Nickerson & Sons, Ltd., P.O. Box 130, North Sydney, Nova Scotia.
Mr S. Spencer Lake, H.B. Clyde Lake Limited, Burgeo, Newfoundland.
Dr A. W. H. Needler, Huntsman Marine Laboratory, St. Andrews, New Brunswick.

Advisers:

Mr R. Bennett, Fisheries Service, Department of the Environment, St. John's, Newfoundland.
Dr J. F. Caddy, Fisheries Research Board of Canada, Biological Station, St. Andrews, New Brunswick.
Dr N. J. Campbell, Oceangraphy Branch, Marine Sciences Directorate, Department of the Environment, 615 Booth Street, Ottawa, Ontario.
Mr W. M. Carter, International Atlantic Salmon Foundation, St. Andrews, New Brunswick.
Mr R. S. Collie, Conservation and Protection Branch, Fisheries Service, Department of the Environment, P.O. Box 550, Halifax, Nova Scotia.
Mr B. F. C. DeBaie, Nova Scotia Department of Fisheries, P.O. Box 2223, Halifax, Nova Scotia.
Mr A. A. Etchegary, Fishery Products Limited, St. John's, Newfoundland.
Mr J. T. H. Fenety, North American Atlantic Salmon Council, P.O. Box 217, Fredericton, New Brunswick.
Mr A. M. Fleming, Fisheries Research Board of Canada, Biological Station, St. John's, Newfoundland.
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Dr F. D. McCracken, Fisheries Research Board of Canada, Biological Station, St. Andrews, New Brunswick.
Dr A. Nadeau, Director of Research, Department of Industry and Commerce, Quebec City, P.Q.
Mr Michael Phillips, Legal Operations Division, Department of External Affairs, 520 Daly Building, 555 Mackenzie Street, Ottawa, Ontario.
Mr A. T. Pinhorn, Fisheries Research Board of Canada, Biological Station, St. John's, Newfoundland.
Mr H. D. Pyke, National Sea Products, Lunenburg, Nova Scotia.
Mr P. P. Russell, Bonavista Cold Storage Co., Ltd., St. John's, Newfoundland.
Dr M. P. Shepard, Fisheries Service, Department of the Environment, Vancouver, British Columbia.
Dr G. F. M. Smith, Fisheries Service, Department of the Environment, Ottawa, Ontario.
Mr L. Theriault, Independent Trawl Fishermen, Sandy Cove, Nova Scotia.
Mr G. H. Winters, Fisheries Research Board of Canada, Biological Station, St. John's, Newfoundland.

DENMARK

Commissioners:

Mr H. J. Lassen, Ministry for Greenland, 11 Hoctoften, 2830 Virum.
Mr E. Nolsøe, Minister of Fisheries of the Faroe Islands, Tinganes, Torshavn, Faroe Islands.
Mr J. Norgaard, Ministry of Fisheries, Borgergade 16, Copenhagen.

Advisers:

Mr J. Adamsen, Ministry of Foreign Affairs, Copenhagen.
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Commissioners:

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Dr G. Meseck, Bundesministerium für Ernährung, Landwirtschaft und Forsten, 53 Bonn.

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NORWAY

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Mr O. Lund, Directorate of Fisheries, Bergen.
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Mr T. Øritsland, Institute of Marine Research, Bergen.
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UNITED STATES

Commissioners:

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Mr W. M. Terry, Office of International Affairs, National Oceanic and Atmospheric Administration, Department of Commerce, Washington, D.C. 20320.

Alternate Commissioner:

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Mr H. W. Nickerson, Seafood Dealers Association, New Bedford, Massachusetts 02740.
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CUBA

Mr E. Lopez, Fishery National Institute, Havana.
Mr M. A. Mena, Fishery Research Center, Fishery National Institute, Havana.

INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA

Mr Sv. Aa. Horsted, Grønlands Fiskeriundersøgelser, Jaegersborg Allé 1B, 2920 Charlottenlund, Denmark.

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Mr J. Gulland, Fishery Statistics and Economic Data Branch, Fishery Economics and Institutions Division, FAO, Via della Terme di Caracalla, 00100-Rome, Italy.

INTERNATIONAL PACIFIC HALIBUT COMMISSION

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GUEST AT SCIENTIFIC MEETINGS

Dr habil. W. Ranke, Institut für Hochseefischerei, Rostock-Marienehe, Rostock, German Democratic Republic.

SECRETARIAT

Mr L. R. Day, Executive Secretary.
Mr V. M. Hodder, Assistant Executive Secretary.
Mr W. H. Champion, Administrative Assistant.
Mrs V. C. Kerr, Secretary.
Mrs E. R. Cornford, Clerk-Stenographer.

SECRETARIAT ASSISTANCE

Mrs C. Anderson, Department of State, Washington, D.C., USA.
Mr R. Coyle IV, Department of State, Washington, D.C., USA.
Mr D. S. Gaither, Department of State, Washington, D.C., USA.
Mr J. Grimes, Department of State, Washington, D.C., USA.
Miss M. Haslacker, Department of State, Washington, D.C., USA.
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Miss P. Roane, Bethesda, Md. 20014, USA.
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PART 2

Appendix II

Agenda

PROCEDURES

1. Opening.
2. Agenda.
3. Publicity.

ADMINISTRATION

4. Approval of draft report of Proceedings of Special Commission Meeting on Herring, Rome, January-February 1972.
5. Panel Memberships.
6. Administrative Report.

FINANCE

7. Auditor's Report (1970-71) (Ann. Proc. 21, p. 9-15).
8. Financial Statement, 1971-72.
9. Budget Estimate, 1972-73 (Appendix I, Agenda STACFAD).
10. Budget Forecast, 1973-74 (Appendix II, Agenda STACFAD).

COMMISSION PROPOSALS

11. Status of proposals adopted by Commission.
    a) for changes in Convention.
    b) for regulation of fisheries.

TRAWL REGULATIONS

12. Annual Returns of Infringements.
13. Simplification of international trawl regulations.
14. Differentials for mesh materials.

INTERNATIONAL CONTROL

15. Scheme of Joint Enforcement.
16. Standard logbook.

CONSERVATION

17. Principles and problems of limiting fishing as a conservation measure.
18. Conservation of Atlantic salmon in the Convention Area.
19. Conservation of haddock stocks in Subareas 4 and 5.
20. Conservation of silver and red hakes in Subarea 5.
21. Conservation of yellowtail flounder in Subarea 5.
22. Conservation of herring stocks in the Convention Area.
23. Conservation of cod in the Convention Area.
24. Conservation of American plaice in Subarea 3.
25. Conservation of scallops in Subarea 5.
26. Conservation of seals in the Convention Area.
27. Measures to ensure maximum utilization of catches of regulated species in the Convention Area.
28. Measures to ensure uniform mesh size for regulated species in all Subareas.

INTERNATIONAL COOPERATION

29. Report of Fourth Meeting of ICES/ICNAF/IOC Coordinating Group for North Atlantic Oceanography, Helsinki, 30 September 1971.
30. Reports of meetings of NEAFC, ICES, FAO, IOC, SCOR, and OECD.

REPORTS OF COMMITTEES AND PANELS

31. Report of Standing Committee on Research and Statistics (STACRES).
32. Report of Standing Committee on Finance and Administration (STACFAD).
33. Report of Standing Committee on Regulatory Measures (STACREM).
34. Report of Standing Committee on International Control (STACTIC).
35. Report of Panels 1-5 and Panel A (Seals).

OTHER MATTERS

36. Date and place of 1973, 1974, and 1975 Annual Meetings.
37. Press statement.
38. Other business.
39. Adjournment.

PART 2

Appendix III
Press Release

The 22nd Annual Meeting of the International Commission for the Northwest Atlantic Fisheries was held in the International Conference Suite of the State Department Building in Washington, D.C. from 25 May to 2 June 1972. The Chairman, Mr K. Løkkegaard (Denmark) presided. Delegations attended from all Member Countries as follows:

Canada, Denmark, France, Federal Republic of Germany, Iceland, Italy, Japan, Norway, Poland, Portugal, Romania, Spain, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, and the United States of America.

Observers represented the Governments of Bulgaria and of Cuba, the International Council for the Exploration of the Sea, the Food and Agriculture Organization, and the International Pacific Halibut Commission.

Conservation – 1973

The Commission continued pioneering in the field of fisheries management. As a new conservation measure, Member Countries fishing in the Northwest Atlantic from Labrador to Cape Cod agreed to total allowable catches from the Convention Area in the 400-year-old cod fisheries and in fisheries for American plaice, yellowtail flounder, and silver and red hakes.

The Commission's scientists played a significant role in establishing the total allowable catches which were in all cases close to those recommended by the scientists.

Member Countries further agreed to sharing the total allowable catch quotas, in most cases, based on a formula which allocated 80% in proportion to the historical performance of Member Countries in the fisheries to be regulated (40% in proportion to average catches over the most recent 10-year period, 1961-70, and 40% in proportion to average catches over the most recent 3-year period, 1968-70), and 10% to the coastal states and 10% for special needs.

Cod. The steady decrease in cod catches from the Northwest Atlantic fishing areas resulted in the Commission taking further steps to conserve the resource. Cod catches were limited to 575,500 tons in the Labrador and Newfoundland shelf area, 50,500 tons in the Saint Pierre Bank area, 103,500 tons in the Grand Bank area, 60,500 tons in the eastern and central Nova Scotia Bank areas, 10,000 tons in the Gulf of Maine area, and 35,000 tons in the Georges Bank area. Member Countries fishing in the Northwest Atlantic agreed to national allocation of these quotas.

American plaice. American plaice fisheries on the Grand Banks were limited to 60,000 tons with national allocation of the quota.

Yellowtail flounder. Yellowtail flounder fisheries on the Grand Bank were limited to 50,000 tons, while fisheries in the southern New England area were limited to 26,000 tons. These quotas were allocated nationally.

Silver hake. The Georges Bank and the southern New England fisheries for silver hake were limited to 90,000 tons and 80,000 tons respectively, and these amounts were allocated nationally.

Red hake. Red hake fisheries in southern New England were limited to 40,000 tons which were allocated nationally.

Haddock. The 1972 total catch quotas (19,000 tons) in the Georges Bank and Southwest Nova Scotia Bank areas were maintained for 1973.

Salmon. Agreement was reached regarding the high seas fishery for salmon in the West Greenland area. Diminishing catch limits were adopted for the period 1972 through 1975 after which the high seas fishery off West Greenland will cease. The local Greenland salmon fishery will be maintained under a catch limitation scheme to avoid increase in the salmon catch. The Commission also recommended that further conservation measures be taken in the coastal waters of other countries.

Scallops. The Commission recognized the need for conservation of the scallop stock on Georges Bank. Minimum harvest size values were established.

Seals. The Commission agreed that further conservation action must await additional scientific data which would be available in the autumn of 1972. These data would allow Canada, Denmark and Norway, the countries involved, to consider catch quotas in the Gulf of St. Lawrence and Labrador East Newfoundland areas for the 1973 season.

Election of Vice-Chairman

The Commission unanimously elected Mr M. Fila (Poland) as Vice-Chairman to replace Mr R. Lagarde (France) who resigned from the Commission.

Next Meeting

The Commission agreed to hold Mid-Term Meetings in January-February 1973 at a place to be named later. The 1973 Annual Meeting of the Commission will be held in Copenhagen, Denmark, beginning 5 June, under the Chairmanship of Mr K. Løkkegaard (Denmark).

Office of the Commission, Dartmouth, Nova Scotia, 9 June 1972.

PART 2

Appendix IV

List of Conservation Proposals (23) from the Annual Meeting, June 1972

(1) Proposal Regarding Conservation of Atlantic Salmon

By Denmark, Norway, the United Kingdom, and the United States

Panels 1-5 recommend that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of Atlantic salmon, *Salmo salar*, by persons under their jurisdiction fishing in the Convention Area off Greenland so that the catch in round weight taken shall not exceed the amount listed:

	1972	1973	1974	1975
			(in metric tons)	
Denmark (Mainland and Faroe Islands)	800	600	550	500
Norway	300	225	210	195
Other Contracting Governments	10	10	5	5

it being expected that non-members of the Commission will catch not more than 10 metric tons in 1972 and 1973 and not more than 5 metric tons in 1974 and 1975. In establishing these quotas the Commission has taken into account the statement made by the Danish Commissioner to the effect that catches by mainland and Faroe Islands based vessels taken within the 3-mile limit off West Greenland will be included in the said quotas, and that the said vessels would stop salmon fishing inside national fishing limits at Greenland as of 1 January 1976.

"2. That catches differing from the amounts pursuant to paragraph 1 above in any year would be followed by an adjustment in the following year's catch.

"3. That notwithstanding the provision of paragraph 1, fishing for Atlantic salmon by local Greenland fishermen in the Convention Area off Greenland may be maintained so as to be at the approximate level of annual catches measured from 1964 through 1971 in round weight, which is estimated to be 1,100 metric tons. The Commission has taken into account the statement made by the Danish Commissioner to the effect that catches taken by local Greenland fishermen within the 3-mile limit off West Greenland will be included in the said amount.

"4. At the request of any Contracting Government, a review of the status of the salmon stocks may take place within five years. Such review would take into account the need for conservation of the species as well as the special importance to local fishermen of the salmon fisheries and might lead to recommendations for adjustment of the catch level referred to in the preceding paragraph.

"5. That Contracting Governments having coast lines adjacent to the Convention Area, take appropriate action to ensure the application of conservation measures within the 12-mile zones which would correspond in effect to the measures taken by Denmark (i.e., using the catch levels of 1969 as a base).

"6. That all Contracting Governments which are not bound by proposal number 1 adopted by the Commission on 6 June 1969, concerning the prohibition of salmon fishing in the Convention Area outside national fishing limits,

consider accepting that proposal not later than 1 January 1976. The Commission has taken into account statements made by the Danish and Norwegian Commissioners to the effect that Denmark and Norway would adhere to that proposal not later than 1 January 1976.

"7. That the allocations in paragraphs 1 and 3 above are without prejudice to future allocations of catches for these or other stocks.

"8. That on the effective date of this proposal, the proposal number 1 adopted by the Commission on 4 June 1971 shall cease to be effective."

(2) Proposal for International Quota Regulation of the Fishery for Cod in Division 2J of Subarea 2 and Divisions 3K and 3L of Subarea 3

Panels 2 and 3 jointly recommend that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of cod, *Gadus morhua* L., by persons under their jurisdiction fishing in Division 2J of Subarea 2 and Divisions 3K and 3L of Subarea 3 so that the aggregate catch of cod by vessels taking such cod shall not exceed 575,500 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of cod taken by persons under their jurisdiction to the amount listed from the above-mentioned Divisions:

Canada	71,064 metric tons
Denmark	13,896 metric tons
France	51,352 metric tons
Fed. Rep. Germany	41,336 metric tons
Iceland	6,224 metric tons
Italy	6,056 metric tons
Japan	6,000 metric tons
Norway	17,480 metric tons
Poland	40,944 metric tons
Portugal	121,384 metric tons
Romania	7,008 metric tons
Spain	91,512 metric tons
USSR	81,536 metric tons
UK	19,708 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for cod in Division 2J of Subarea 2 and Divisions 3K and 3L of Subarea 3.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take cod, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(3) Proposal for International Quota Regulation of the Fishery for Cod in Subdivision 3Ps of Subarea 3

Panel 3 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of cod, *Gadus morhua* L., by persons under their jurisdiction fishing in Subdivision 3Ps of Subarea 3 so that the aggregate catch of cod by vessels taking such cod shall not exceed 50,500 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of cod taken by persons under their jurisdiction to the amount listed from the above-mentioned Subdivision:

Canada	9,200 metric tons
Denmark	2,000 metric tons
France	4,400 metric tons
Fed. Rep. Germany	500 metric tons
Iceland	500 metric tons
Italy	500 metric tons
Japan	500 metric tons
Norway	2,500 metric tons
Poland	500 metric tons
Portugal	1,100 metric tons
Spain	23,000 metric tons
USSR	3,900 metric tons
UK	1,900 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for cod in Subdivision 3Ps of Subarea 3.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take cod, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(4) Proposal for International Quota Regulation of the Fishery for Cod in Divisions 3N and 3O of Subarea 3

Panel 3 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of cod, *Gadus morhua* L., by persons under their jurisdiction fishing in Divisions 3N and 3O of Subarea 3 so that the aggregate catch of cod by vessels taking such cod shall not exceed 103,500 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of cod taken by persons under their jurisdiction to the amount listed from the above-mentioned Divisions:

Canada	12,700 metric tons
Denmark	2,909 metric tons
France	601 metric tons
Fed. Rep. of Germany	1,009 metric tons
Iceland	909 metric tons
Italy	909 metric tons
Japan	909 metric tons
Norway	3,309 metric tons
Poland	1,109 metric tons
Portugal	7,709 metric tons
Romania	909 metric tons
Spain	41,409 metric tons
USSR	27,100 metric tons
UK	2,009 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for cod in Divisions 3N and 3O of Subarea 3.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take cod, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(5) Proposal for International Quota Regulation of the Fishery for Cod in Subdivision 4Vs and Division 4W of Subarea 4

Panel 4 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by he Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of cod, *Gadus morhua* L., by persons under their jurisdiction fishing in Subdivision 4Vs and Division 4W of Subarea 4 so that the aggregate catch of cod by vessels taking such cod shall not exceed 60,500 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of cod taken by persons under their jurisdiction to the amount listed from the above-mentioned Subdivision and Division:

Canada	18,400 metric tons
Denmark	1,150 metric tons
France	500 metric tons
Fed. Rep. Germany	550 metric tons
Iceland	450 metric tons
Italy	450 metric tons
Japan	450 metric tons
Norway	450 metric tons
Poland	550 metric tons
Portugal	1,150 metric tons
Romania	450 metric tons
Spain	31,550 metric tons
USSR	2,900 metric tons
UK	450 metric tons
USA	1,050 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for cod in Subdivision 4Vs and Division 4W of Subarea 4.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take cod, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(6) Proposal for International Quota Regulation of the Fishery for Cod in Division 5Y of Subarea 5

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of cod, *Gadus morhua* L., by persons under their jurisdiction fishing in Division 5Y of Subarea 5 so that the aggregate catch of cod by vessels taking such cod shall not exceed 10,000 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of cod taken by persons under their jurisdiction to the amount listed from the above-mentioned Division:

Canada	100 metric tons
USA	9,400 metric tons
Other Contracting Governments, a total of	500 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for cod in Division 5Y of Subarea 5. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for cod together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of cod in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of cod, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 500 tons. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of cod from Division 5Y of Subarea 5 by persons under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take cod, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(7) Proposal for International Quota Regulation of the Fishery for Cod in Subdivisions 5Ze and 5Zw of Subarea 5

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of cod, *Gadus morhua* L., by persons under their jurisdiction fishing in Subdivision 5Ze and 5Zw of Subarea 5 so that the aggregate catch of cod by vessels taking such cod shall not exceed 35,000 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of cod taken by persons under their jurisdiction to the amount listed from the above-mentioned Subdivisions:

Canada	4,000 metric tons
Poland	400 metric tons
Spain	5,800 metric tons
USSR	2,900 metric tons
USA	19,600 metric tons
Other Contracting Governments, a total of	2,300 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for cod in Subdivisions 5Ze and 5Zw of Subarea 5. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for cod together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of cod in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of cod, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 2,300 tons. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of cod from Subdivisions 5Ze and 5Zw of Subarea 5 by persons under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take cod, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(8) Proposal for International Quota Regulation of the Fishery for American Plaice in Divisions 3L, 3N and 3O of Subarea 3

Panel 3 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of American plaice, ***Hippoglossoides platessoides*** (Fab.), by persons under their jurisdiction fishing in Divisions 3L, 3N and 3O of Subarea 3 so that the aggregate catch of American plaice by vessels taking such American plaice shall not exceed 60,000 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of American plaice taken by persons under their jurisdiction to the amount listed from the above-mentioned Divisions:

Canada	41,600 metric tons
Denmark	100 metric tons
France	1,242 metric tons
Fed. Rep. Germany	100 metric tons
Iceland	100 metric tons
Italy	100 metric tons
Japan	742 metric tons
Norway	100 metric tons
Poland	1,142 metric tons
Portugal	742 metric tons
Romania	942 metric tons
Spain	742 metric tons
USSR	11,400 metric tons
UK	842 metric tons
USA	100 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for American plaice in Divisions 3L, 3N and 3O of Subarea 3.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take American plaice, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(9) Proposal for International Quota Regulation of the Fishery for Yellowtail Flounder in Divisions 3L, 3N and 3O of Subarea 3

Panel 3 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of yellowtail flounder, *Limanda ferruginea* (Storer), by persons under their jurisdiction fishing in Divisions 3L, 3N and 3O of Subarea 3 so that the aggregate catch of yellowtail flounder by vessels taking such yellowtail flounder shall not exceed 50,000 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of yellowtail flounder taken by persons under their jurisdiction to the amount listed from the above-mentioned Divisions:

Canada	35,500 metric tons
Denmark	100 metric tons
France	700 metric tons
Fed. Rep. Germany	100 metric tons
Iceland	100 metric tons
Italy	100 metric tons
Japan	700 metric tons
Norway	100 metric tons
Poland	100 metric tons
Portugal	700 metric tons
Romania	800 metric tons
Spain	700 metric tons
USSR	9,500 metric tons
UK	700 metric tons
USA	100 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for yellowtail flounder in Divisions 3L, 3N and 3O of Subarea 3.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take yellowtail flounder, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(10) Proposal for International Quota Regulation of the Fishery for Yellowtail Flounder in the Area East of 69°W in Subarea 5

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of yellowtail flounder, *Limanda ferruginea* (Storer), by persons under their jurisdiction fishing in the area east of 69°W in Subarea 5 so that the aggregate catch of yellowtail flounder by vessels taking such yellowtail flounder shall not exceed 16,000 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of yellowtail flounder taken by persons under their jurisdiction to the amount listed from the above-mentioned stock:

USA	15,000 metric tons
Other Contracting Governments, a total of	1,000 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for yellowtail flounder in the area east of 69°W in Subarea 5. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for yellowtail flounder together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of yellowtail flounder in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of yellowtail flounder, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 1,000 tons. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of yellowtail flounder from the area east of 69°W in Subarea 5 by persons under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take yellowtail flounder, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(11) Proposal for International Quota Regulation of the Fishery for Yellowtail Flounder in the Area West of 69°W in Subarea 5

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of yellowtail flounder, *Limanda ferruginea* (Storer), by persons under their jurisdiction fishing in the area west of 69°W in Subarea 5 so that the aggregate catch of yellowtail flounder by vessels taking such yellowtail flounder shall not exceed 10,000 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of yellowtail flounder taken by persons under their jurisdiction to the amount listed from the above-mentioned stock:

USSR	400 metric tons
USA	9,000 metric tons
Other Contracting Governments, a total of	600 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for yellowtail flounder in the area west of 69°W in Subarea 5. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for yellowtail flounder together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of yellowtail flounder in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of yellowtail flounder, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 600 tons. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of yellowtail flounder from the area west of 69°W in Subarea 5 by persons under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take yellowtail flounder, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(12) Proposal for International Quota Regulation of the Fishery for Silver Hake in Division 5Y of Subarea 5

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That The Contracting Governments take appropriate action to regulate the catch of silver hake, *Merluccius bilinearis* (Mitch.), by persons under their jurisdiction fishing in Division 5Y of Subarea 5 so that the aggregate catch of silver hake by vessels taking such silver hake shall not exceed 10,000 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of silver hake taken by persons under their jurisdiction to the amount listed from the above-mentioned Division:

USA	9,500 metric tons
Other Contracting Governments, a total of	500 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for silver hake in Division 5Y of Subarea 5. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for silver hake together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of silver hake in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of silver hake, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 500 tons. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of silver hake from Division 5Y of Subarea 5 by persons under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take silver hake, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) × time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(13) Proposal for International Quota Regulation of the Fishery for Silver Hake in Subdivision 5Ze of Subarea 5

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of silver hake, *Merluccius bilinearis* (Mitch.), by persons under their jurisdiction fishing in Subdivision 5Ze of Subarea 5 so that the aggregate catch of silver hake by vessels taking such silver hake shall not exceed 80,000 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of silver hake taken by persons under their jurisdiction to the amount listed from the above-mentioned Subdivision:

USSR	55,000 metric tons
USA	17,000 metric tons
Other Contracting Governments, a total of	8,000 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for silver hake in Subdivision 5Ze of Subarea 5. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for silver hake together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of silver hake in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of silver hake, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 8,000 tons. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of silver hake from Subdivision 5Ze of Subarea 5 by persons under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take silver hake, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(14) Proposal for International Quota Regulation of the Fishery for Silver Hake from the Southern New England Stock

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of silver hake, *Merluccius bilinearis* (Mitch.), by persons under their jurisdiction fishing on the Southern New England stock found in Subdivision 5Zw of Subarea 5 and in the adjacent waters to the west and south so that the aggregate catch of silver hake by vessels taking silver hake from this stock shall not exceed 80,000 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of silver hake taken by persons under their jurisdiction to the amount listed from the above-mentioned stock:

USSR	47,000 metric tons
USA	25,000 metric tons
Other Contracting Governments, a total of	8,000 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for silver hake from the Southern New England stock. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for silver hake together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of silver hake in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of silver hake, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 8,000 tons. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of silver hake from the Southern New England stock by persons under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take silver hake, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations for this or other stocks."

(15) Proposal for International Quota Regulation of the Fishery for Red Hake from the Southern New England Stock

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"1. That the Contracting Governments take appropriate action to regulate the catch of red hake, *Urophycis chuss* (Walb.), by persons under their jurisdiction fishing on the Southern New England stock found in Subdivision 5Zw of Subarea 5 and in the adjacent waters to the west and south so that the aggregate catch of red hake by vessels taking red hake from ths stock shall not exceed 40,000 metric tons in 1973.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1973 the catch of red hake taken by persons under their jurisdiction to the amount listed from the above-mentioned stock:

USSR	22,000 metric tons
USA	15,000 metric tons
Other Contracting Governments, a total of	3,000 metric tons

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for red hake from the Southern New England stock. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for red hake together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of red hake in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of red hake, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 3,000 tons. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of red hake from the Southern New England stock by persons under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take red hake, record their catches on a daily basis according to position, amount, date, type of gear, amount of effort, i.e., number of sets (or hooks) X time gear on the bottom (otter trawl) or fishing (midwater trawl, lines, other gear), discards and disposition of catch.

"5. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks."

(16) Proposal for International Quota Regulations of the Fishery for Haddock in Subarea 5

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

That paragraph 5 of the Haddock Quota Regulation for Subarea 5, adopted at the Twenty-First Annual Meeting (Annual Proceedings, Vol. 21, 1970-71, pages 32-33) and entered into force on 1 January 1972, be replaced by the following:

"5. That the Contracting Governments take appropriate action to prohibit persons under their jurisdiction from using fishing gear in a manner capable of catching demersal species during March, April and May of 1973 in areas of Subarea 5 bounded by straight lines connecting the following coordinates in the order listed:

(a) 69°55′W, 42°10′N
69°10′W, 41°10′N
68°30′W, 41°35′N
68°45′W, 41°50′N
69°00′W, 41°50′N

(b) 67°00′W, 42°20′N
67°00′W, 41°15′N
65°40′W, 41°15′N
65°40′W, 42°00′N
66°00′W, 42°20′N

The provisions of this paragraph shall not apply to vessels that fish with hooks having a gape of not less than 3 cm."

(17) Proposal for International Quota Regulation of the Fishery for Haddock in Subarea 5

Panel 5, in joint session with Panel 4, recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

That paragraph 1 of the Haddock Quota Regulation for Subarea 5 adopted at the Twenty-First Annual Meeting (Annual Proceedings, Vol. 21, 1970-71, pages 32-33) and entered into force on 1 January 1972, be replaced by the following:

"1. That the Contracting Governments take appropriate action to regulate the catch of haddock, *Melanogrammus aeglefinus* (L.), by persons under their jurisdiction fishing in Subarea 5 so that the aggregate annual catch of haddock by vessels taking haddock in Subarea 5 in the year 1973 shall not exceed 6,000 metric tons."

(18) Proposal for International Quota Regulation of the Fishery for Haddock in Division 4X of Subarea 4

Panel 4, in joint session with Panel 5, recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

That paragraphs 1 and 5 of the Haddock Quota Regulation for Division 4X of Subarea 4 adopted at the Twenty-First Annual Meeting of the Commission (Annual Proceedings, Vol. 21, 1970-71, pages 33-34) and entered into force on 1 January 1972, be replaced by the following:

"1. That the Contracting Governments take appropriate action to regulate the catch of haddock, *Melanogrammus aeglefinus* (L.), by persons under their jurisdiction fishing in Division 4X of Subarea 4 so that the aggregate landings of haddock by vessels taking haddock in Division 4X of Subarea 4 in the year 1973 shall not exceed 9,000 metric tons.

"5. That the Contracting Governments take appropriate action to prohibit persons under their jurisdiction from using fishing gear in a manner capable of catching demersal species during March, April and May of 1973 in that part of Division 4X of Subarea 4 bounded by straight lines connecting the following coordinates in the order listed:

65°44′W, 42°04′N
64°30′W, 42°40′N
64°30′W, 43°00′N
66°32′W, 43°00′N
66°32′W, 42°20′N
66°00′W, 42°20′N."

(19) Proposal for International Quota Regulation of the Fishery for Haddock in Division 4W of Subarea 4

Panel 4, in joint session with Panel 5, recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

That paragraph 1 of the Haddock Quota Regulation for Division 4W of Subarea 4 adopted at the Twenty-First Annual Meeting of the Commission (Annual Proceedings, Vol. 21, 1970-71, pages 34-35) and entered into force 1 January 1972, be replaced by the following:

"1. That the Contracting Governments take appropriate action to regulate the catch of haddock, *Melanogrammus aeglefinus* (L.), by persons under their jurisdiction fishing in Division 4W of Subarea 4 so that the aggregate landings of haddock by vessels taking haddock in Division 4W of Subarea 4 in the year 1973 shall not exceed 4,000 metric tons."

(20) Proposal for International Regulation of the Fishery for Red Hake and Silver Hake in Subarea 5

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

That the Red Hake and Silver Hake Trawl Regulations for Subarea 5, adopted at the Nineteenth Annual Meeting (Annual Proceedings, Vol. 19, 1968-69, page 26) and entered into force on 1 January 1970, be replaced by the following:

"That the Contracting Governments take appropriate action to prohibit the taking of red hake, *Urophycis chuss* (Walb.), and silver hake, *Merluccius bilinearis* (Mitch.), during the month of April of 1973 in the area bounded by 69°00′W, 39°50′N; 71°40′W and 40°20′W, however, provided that during this period, groundfish vessels may be permitted to take on each trip during which they fish in the said area, red and silver hake in amounts not to exceed 10 percent each of the total catch taken in the said area on that trip."

(21) Proposal for International Mesh Regulation of the Trawl Fishery for Cod, Haddock, and Flounders in Subarea 4

Panel 4, in joint session with Panel 5, recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

That paragraph 1 of the Trawl Regulations for Subarea 4 adopted at the Twenty-First Annual Meeting (Annual Proceedings, Vol. 21, 1970-71, page 31) and entered in force 1 January 1972, be replaced by the following, effective 1 January 1974, with the understanding that paragraph 1(a) of the Trawl Regulations adopted at the Seventeenth Annual Meeting (Annual Proceedings, Vol. 17, 1966-67, page 20) and entered in force on 1 January 1970 will follow and remain part of the new regulation, except that the Commission shall determine at the Twenty-Third Annual Meeting the effective date for the proposal to replace paragraph 1 of the aforesaid Trawl Regulations with respect to Division 4X of Subarea 4:

"1. That the Contracting Governments take appropriate action to prohibit (except as provided in paragraph 2) the taking of cod, *Gadus morhua* L.; haddock, *Melanogrammus aeglefinus* (L.); and flounders: witch, *Glyptocephalus cynoglossus* (L.); yellowtail, *Limanda ferruginea* (Storer); winter flounder, *Pseudopleuronectes americanus* (Walb.); and American plaice, *Hippoglossoides platessoides* (Fab.) in Subarea 4 by persons under their jurisdiction with trawl nets having in any part of the net other than the codend, meshes of dimensions less than 114 mm or 4-1/2 inches, and having in the codend of nets, meshes of dimensions of less than 130 mm or 5-1/8 inches measured by the ICNAF gauge specified below. These mesh sizes relate to manila twine netting when measured wet after use or the equivalent thereof when measured dry before use. The Commission, may on the basis of scientific advice as to selectivity equivalents, determine the appropriate mesh sizes when trawl nets made of materials other than manila are used or when seine nets are used."

(22) Proposal for International Regulation of the Trawl Fishery for Cod, Haddock, and Yellowtail Flounder in Subarea 5

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

That paragraph 1 of the Trawl Regulations for Subarea 5, adopted at the Twenty-First Annual Meeting (Annual Proceedings, Vol. 21, 1970-71, pages 30-31) and entered into force 1 January 1972, be replaced by the following, effective 1 January 1974, with the understanding that paragraph 1(a) of the Trawl Regulations, adopted at the Seventeenth Annual Meeting (Annual Proceedings, Vol. 17, 1966-67, page 20) and entered into force on 1 January 1970, will follow and remain part of the new regulation:

"1. That the Contracting Governments take appropriate action to prohibit (except as provided in paragraph 2) the taking of cod, *Gadus morhua* L., haddock, *Melanogrammus aeglefinus* (L.); and yellowtail flounder, *Limanda ferruginea* (Storer) in Subarea 5, by persons under their jurisdiction, with trawl nets having in any part of the net other than the codend, meshes of dimensions less than 114 mm or 4-1/2 inches, and having in the codend of the nets, meshes of dimensions less than 130 mm or 5-1/8 inches measured by the ICNAF gauge specified below. These mesh sizes relate to manila twine netting when measured wet after use or the equivalent thereof when measured dry before use. The Commission may, on the basis of scientific advice as to selectivity equivalents, determine the appropriate mesh sizes when trawl nets made of materials other than manila are used or when seine nets are used."

(23) Proposal for International Regulations Respecting the Fishery for Sea Scallops in Division 5Z of Subarea 5

Panel 5 recommends that the Commission transmit to the Depositary Government the following proposal for joint action by the Contracting Governments:

"That the Contracting Governments take appropriate action to prohibit the retention and landing of sea scallops, *Placopecten magellanicus* (Gmelin), by persons under their jurisdiction,

(a) of a shell size less than 95 mm, measured from the hinge to the opposite margin; and
(b) the meats of which, are of an average weight of less than 11.3 grams, providing an average count of forty (40) units per pound or more."

PART 3

Report of a Special Meeting on Herring of the International Commission for the Northwest Atlantic Fisheries FAO, Rome, 31 Januaury–7 February 1972

By the Chairman, Mr K. Løkkegaard

1. Introduction

After climbing to a high of well over 900,000 metric tons in 1968 from 180,000 metric tons in 1961, herring catches declined dramatically to just over 700,000 tons in 1971. The Commission, at its 1971 Annual Meeting agreed that the stocks were in a deplorable condition, particularly in Subareas 4 and 5. However, no agreement could be reached on proposed catch quotas as a conservation measure. It was agreed, however, that a special meeting of the Commission would be convened early in 1972 to consider the most recent analyses and advice of the herring scientists on maximum sustainable yields, the sustainable yields in 1972 and the levels of catch which would restore the herring stocks (Annu. Proc. Vol. 21, 1970-71, p. 26 and 35).

2. Time and Place of Meeting

The Special Meeting of the Commission was convened at FAO, Rome, from 31 January to 7 February 1972 inclusive, under the chairmanship of Mr K. Løkkegaard (Denmark).

The Commission's Standing Committee on Research and Statistics (STACRES) met at FAO, Rome, on 29 January 1972, under the chairmanship of Dr A. S. Bogdanov (USSR), to consider the report and recommendations of its Assessments Subcommittee and prepare its report on herring to the Commission. The Assessments Subcommittee met from 24 to 29 January under Mr R. C. Hennemuth (USA). A Working Group of herring scientists under Mr D. Iles (Canada) analyzed all available herring data and the results were included in the Assessments Subcommittee's Report. From 31 January to 7 February, the major herring conservation problem was considered in Plenary Sessions, by a Joint Meeting of Panels 4 and 5, by a Working Group on Subarea 4 and 5 Herring Management, and by Panels 4 and 5 individually.

3. Participants (Appendix 1)

Commissioners and Advisers were present from 13 of the 15 Member Countries. Observers were present from the European Economic Community (EEC) and the Food and Agriculture Organization of the United Nations (FAO).

4. Welcoming Session (Agenda Item 1)

Mr F. E. Popper, Assistant Director General (Fisheries), FAO, welcomed the Commission to FAO on behalf of the Director General as follows:

"Mr Chairman, distinguished Commissioners, ladies and gentlemen,

"It is my pleasant duty to welcome you on behalf of the Director-General to FAO. We are honoured and pleased that the Commission has accepted FAO's invitation to hold this important special session at our Headquarters. Honoured because your Commission is one of the oldest and at the same time one of the most active of the regional bodies tackling the growing problem of the management of fishery resources which is becoming of greater and greater concern to governments and to industry. We are pleased because your presence here testifies to our mutual desire to continue and further enhance the close cooperation between our two organizations which has existed for these past twenty years especially in those essential steps towards management, the assembly of statistics and stock assessment. Although this is the first time the Commission has met here, we have had the pleasure of hosting the large Environmental Symposium organized by you in 1964, and your Assessment Subcommittee has met in this building in 1965, and again, on our Department of Fisheries' home ground, last week.

"I can say with confidence that this collaboration

between your Commission and the Department of Fisheries at FAO has been mutually beneficial. I hope that it will not only continue so but that we will find even better ways and wider areas for our collaboration. I can assure you of our willingness to help you and indeed all similar bodies to the best of our ability and that we would welcome suggestions from you collectively and individually. May I in this context extend a warm invitation to all participants in this session to visit my Department's offices, to discuss matters of mutual interest with members of the staff and to inform themselves about our activities.

"Having said this much in – as it were – my official capacity, may I interject a purely personal remark? I would like to tell you how happy I am to have this opportunity, so soon after assuming my new office, to speak before the most distinguished gathering of fishery administrators and scientists one could wish for and which includes also a gathering of so many old friends.

"Mr Chairman, honour and pleasure are, however, not the only emotions I feel at this moment. There is also concern and even apprehension. As you, Mr Chairman, pointed out so clearly when opening the session this morning, this is a critical time for world fisheries. Never was there greater need to make the most of the living resources of the Oceans, but also never was there as great a danger of misusing them as there is today. It is clear, I think, to most people concerned with these issues that more effective means must be employed quite urgently to ensure the full and rational utilization of the world's fishery resources; but as yet we are not as close to agreement as we ought to, on what these means should be. While many people believe that what is most necessary is for individual governments to assume more responsibility for, and more power over fisheries, in wider areas off their shores, many people also think that inter-governmental bodies such as yours must play an essential part in world fisheries and must be strengthened and be made more effective to this end.

"I personally feel, Mr Chairman, that these two approaches are by no means irreconcilable and I have been strengthened in this feeling by what I have heard from people concerned with these questions in a number of countries, including those with whom I have talked during my travels in Africa from which I have just returned. There undoubtedly could be a role – an important one – for international commissions in the regime of world fisheries, whatever its basis in international law might be. The question is whether the commissions are, or will be, capable of playing that role. About this there is real and, I am afraid, growing doubt and even scepticism in many people's minds. If this doubt is to be dispelled the commissions, yours included, must demonstrate their ability to deal in an effective and timely manner with the problems before them. From this point of view, your work this week assumes a significance far beyond the immediate problem that you are tackling, important though it is.

"Mr Chairman, I have spoken of your Commission as one of the most active. Its record is impressive. Your Commission has introduced, as the need became established at intervals during its existance, mesh regulations for many of the most important fisheries in its area. It has also recently introduced catch quotas for haddock and yellowtail flounder. The latter stocks are now so small that only two countries are presently to have any substantial concern in their exploitaion. This week you face the much harder problem of introducing controls of the amount of fishing in a fishery in which there are more numerous participants whose interests diverge more widely. If you can ensure that the catches of herring are kept within appropriate limits, and also make some further progress towards an equitable division of this overall total, this will be encouraging to those attempting to tackle similar problems elsewhere and to those who see in the international commissions their best hope for the rational management of world fishery resources. I hope very much, therefore, that your efforts this week will be crowned with success.

"Let me say, however, Mr Chairman, that I do not think that this will be enough. If the international commissions are to regain the confidence of governments and of industry, they will have to take action when needed more promptly and more decisively than in the past. They must adapt their actions and where necessary their powers to changing requirements and must be able to do so quickly. They must take management measures more promptly, and where necessary more stringently, than they have often done. To this end and they will have to modify their practices in regard to the scientific basis for their actions, improving it as necessary and, more importantly, taking adequate action as soon as the need for it becomes apparent without waiting until such need is proved beyond doubt; because at that point it may already be too late to prevent depletion of the resource. There must also, I think, be a change as regards acceptance of recommendations made by international commissions. The old objections procedure by which the government of a single country, sometimes acting under considerable internal political pressure, can in effect block the application of management measures generally recognized as necessary, seems to me outmoded and will have to be replaced by something else, perhaps by decisions by a qualified majority and by recource to a form of arbitration. In this direction also might possibly lie a way of finding solutions to problems which need to be settled quickly but on which it is difficult to reach agreement by negotiation. I have in mind particularly

the allocation of national quotas, but there are others. Lastly, there is the need to ensure and to demonstrate to all concerned that management measures are universally applied. This is not only a question of inspection and enforcement but also of jurisdiction. This I know is a problem fraught with political difficulties but not, I think, as insoluble one, provided it is tackled with goodwill and courage.

"Mr Chairman, I have perhaps abused your kindness and patience. You may feel that much of what I have said goes far beyond the task set the Commission at this time. I will not deny this. But I felt I had to grasp this opportunity to place some ideas before so competent an audience in the hope that, if there is any merit in them, they will be taken into consideration some time. Meanwhile, let me again wish you success in your important immediate task.

"Thank you, Mr Chairman."

5. Agenda (Appendix II)

In accordance with Commission Rules of Procedure 4.2(b), the provisional agenda for the Special Commission Meeting was transmitted to all Contracting Governments and Commissioners, not less than 60 days in advance of the meeting. The agenda was adopted without change at the First Plenary Session.

6. Report of Standing Committee on Research and Statistics (STACRES) (Item 4)

STACRES met on 29 January 1972 at FAO, and heard the Report of the Assessments Subcommittee which had met from 24 to 28 January 1972 and had placed special emphasis on herring assessments. STACRES approved the Report of the Assessments Subcommittee on Herring after having taken note of a reservation by the Polish delegation that the data presented to the Subcommittee admitted some different interpretations to those presented in the Report.

The Report of STACRES with the Subcommittee Report appended is published separately in ICNAF Redbook 1972, Part I. The STACRES Report with appendices was accepted by a Joint Meeting of Panels 4 and 5 on 31 January 1972, as a basis for proceeding with consideration of conservation needs for the Georges Bank, Gulf of Maine, and Nova Scotian herring stocks. Major items dealt with by STACRES are summarized below:

The Assessments Subcommittee on recommendation of the Herring Working Group reported

i) that there are five major, distinct spawning stocks within the ICNAF Area. These are the Georges Bank stock, the Gulf of Maine stock, the Nova Scotia stock, the Banquereau stock, and the Gulf of St. Lawrence stock. The areas that each of these stocks inhabits can be considered as a management unit;

ii) that catches in the Georges Bank and Gulf of Maine stocks have declined greatly since 1968. The catches in 1971 compared to 1970 were the same for the Georges Bank stock (about 250,000 tons) but less for the Gulf of Maine stock (67,000 tons in 1971, including 21,000 tons of juveniles) and the Nova Scotia stock (77,000 tons total in 1971 with 10,000 tons of juveniles). Catches for both the more northern stocks dropped in 1971;

iii) that the maximum yields and allowable yields in 1972 are as follows:

	Maximum sustainable yield	1972 Quota		
		To maintain 1971 stock size	To increase stock size in 1972	To achieve optimum yield per recruit
Georges Bank (Div. 5Z, Subarea 6)				
Long-term average recruitment	300,000	–	–	–
Recent average recruitment	130,000	95,000	70,000	70,000
Recruitment reduced 25%	–	70,000	50,000	–
Gulf of Maine (Div. 5Y, Subdivision 4Xb)				
Average recruitment	>50,000[a]	0[b]	–	28,000
Nova Scotia (Subdivision 4Xa, Div. 4W)				
Average recruitment	100,000	60,000	–	?

[a] If all taken as juveniles. Harvesting as adults would increase sustainable yield.
[b] Adult fishery.

7. Reports of Meetings of Panels
(Item 5)

At its First Plenary Session, the Commission requested a Joint Meeting of Panels 4 and 5 to give further and detailed consideration to the conservation of herring stocks in Subarea 4 and 5 and in Statistical Area 6. Joint meetings of Panels 4 and 5 were held each day from 31 January to 4 February 1972. A small Working Group on Subarea 4 and 5 Herring Management was set up by the Joint Panels in order to speed up deliberations and negotiations and held meetings daily from 2 February to 7 February. Reports and recommendations of Joint Meetings of Panels 4 and 5, the Working Group on Herring Management and Panels 4 and 5 were approved by the Commission by a two-thirds majority telegraphic vote, in accordance with Article II(2) of the Convention, on 7 March 1972.

a) Joint Meeting of Panels 4 and 5

Joint Meetings of Panels 4 and 5 were convened under the chairmanship of Mr K. Løkkegaard (Denmark) who was later replaced by Mr R. Lagarde (France), to consider conservation measures for the herring stocks in Subareas 4 and 5 and Statistical Area 6. The Joint Panels noted a Canadian proposal for conservation of the Nova Scotia herring stock (Subarea 4), a US proposal for conservation of the Georges Bank and Gulf of Maine herring stocks (Subarea 5), and a USSR proposal for a minimum size limit for herring in the Nova Scotia, Georges Bank, and Gulf of Maine stocks (Subareas 4 and 5). The Joint Panels agreed that there was a need for conservation, with catch quota, including national allocation, and other measures such as closed seasons and areas for adult herring and minimum size limits for juvenile herring, but that other measures alone were not acceptable. It was pointed out that a reliable system of catch registration was required for successful quota control and the Joint Panels noted that a standard logbook was being developed by the Standing Committee on International Control (STACTIC). Guidelines set up by the Commission's Standing Committee on Regulatory Measures (STACREM) for the negotiation of catch limitation (Annu. Proc. Vol. 19, p. 24, and Vol. 21, p. 27), such as coastal state preference and use of the sliding scale were considered by some of the Joint Panel Members to result in an unequal sacrifice and were, therefore, unacceptable. Since the lengthy discussions resulted in no consensus being reached, the Joint Panels agreed to set up a small Working Group, comprised of those delegates whose countries were fishing the three herring stocks being considered, to speed up the deliberations and negotiations.

b) Report of the Working Group on Subarea 4 and 5 Herring Management

The Working Group, under the chairmanship of Dr A. W. H. Needler (Canada), agreed to conserve the herring stocks by limiting the total catch of adult herring during 1972 from the Georges Bank stock, the Gulf of Maine stock, and the Nova Scotia Banks stock, based on recommendations of the scientists and on economic and technical considerations. Recognizing the economic benefits to be gained by the allocation of national catch quotas, the Working Group **agreed to recommend** to Panels 4 and 5, for adoption by the Commission, catch quota allocations of the 1972 total catch quotas for each Member Country fishing on each of the three stocks of adult herring and for Member Countries not fishing but which might wish to start, and for non-member countries, based primarily on the principle of equal sacrifice from the 1971 catch level with subsequent re-allocation by negotiation in the case of special needs, as follows:

i) a proposal for international quota regulation of the fishery for herring from the Georges Bank stock:

"1. That the Contracting Governments take appropriate action to regulate the catch of herring, *Clupea harengus* L., by persons under their jurisdiction fishing on the Georges Bank stock found in Division 5Z of Subarea 5 and in the adjacent waters to the west and south so that the aggregate catch of herring by vessels taking herring from this stock shall not exceed 150,000 metric tons in 1972.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1972 the catch of herring taken by persons under their jurisdiction to the amount listed from the above-mentioned stock:

Canada	5,800 metric tons
Federal Republic of Germany	31,600 metric tons
Japan	1,200 metric tons
Poland	49,400 metric tons
Romania	600 metric tons
USSR	48,200 metric tons
USA	4,000 metric tons
Other Contracting Governments ...	1,000 metric tons

it being expected that non-members of the Commission will catch no more than 8,200 metric tons.

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for herring. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for herring, together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of herring in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of herring, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 100 percent of the allowable catch designated as for "Other Contracting Governments" in paragraph 2 above. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of herring from the Georges Bank stock by person under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take herring, record their catches on a daily basis according to position, amount, date, type of gear, unit of effort, discards and disposition of catch.

"5. That the Commission shall establish at a special meeting in January 1973, (a) the level of catch which will neither further reduce spawning stocks already at a low level nor reduce productivity by lowering the yield per recruit during 1973 based on the recommendations of its Standing Committee on Research and Statistics, and (b) the allocation of that catch for 1973, both of which will be substituted for the catch and the allocation thereof in paragraphs 1 and 2 above respectively.

"6. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks. Nothing in this proposal shall prejudice the future possiblity of the Contracting Governments entering into mutual arrangements for the management of the allocations of herring catches or re-allocating the allocations of herring catches given in paragraph 2 above by such agreements as they may enter into, all such arrangements and re-allocations to be reported to all other Contracting Governments through the Executive Secretary.

"7. This proposal shall become effective only at such times as the herring quota proposals adopted in February 1972 by Panels 4 and 5 for Division 4W and Division 4X of Subarea 4 and Division 5Y of Subarea 5 become effective as well as the proposal for size limit regulations of the fishery for herring in Subareas 4 and 5."

ii) a proposal for international quota regulation of the fishery for herring in Division 5Y of Subarea 5:

"1. That the Contracting Governments take appropriate action to regulate the catch of herring, *Clupea harengus* L., by persons under their jurisdiction in Division 5Y of Subarea 5 so that the aggregate catch of herring by vessels taking such herring shall not exceed 30,000 metric tons in 1972.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1972 the catch of herring taken by persons under their jurisdiction to the amount listed from the above-mentioned area:

Canada	6,000 metric tons
Federal Republic of Germany	2,500 metric tons
USA	21,000 metric tons
Other Contracting Governments ...	250 metric tons

it being expected that non-members of the Commission will catch no more than 250 metric tons.

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for herring. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for herring, together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of herring in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of herring, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 100 percent of the allowable catch designated as for "Other Contracting Governments" in paragraph 2 above. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of herring in Division 5Y of Subarea 5 by persons under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take herring, record their catches on a daily basis according to position, amount, date, type of gear, unit of effort, discards and disposition of catch.

"5. That the Commission shall establish at a special meeting in January 1973. (a) the level of catch which will neither further reduce spawning stocks already at a low level nor reduce productivity by lowering the yield per recruit during 1973 based on the recommendations of its Standing Committee on Research and Statistics, and (b) the allocation of that catch for 1973, both of which will be substituted for the catch and the allocation thereof in paragraphs 1 and 2 above respectively.

"6. That the allocations in paragraph 2 above are without prejudice to future allocations of catches for this or other stocks. Nothing in this proposal shall prejudice the future possibility of the Contracting Governments entering into mutual arrangements for the management of the allocation of herring catches or re-allocating the allocations of herring catches given in paragraph 2 above by such agreements as they may enter into, all such arrangements and re-allocations to be reported to all other Contracting Governments through the Executive Secretary.

"7. This proposal shall become effective only at such times as the herring quota proposals adopted in February 1972 by Panels 4 and 5 for Division 4W and Division 4X of Subarea 4 and Division 5Z of Subarea 5 become effective as well as the proposal for size limit regulation of the fishery for herring in Subareas 4 and 5."

iii) a proposal for international regulation of the fishery for herring in Division 4X and part of Division 4W of Subarea 4:

"1. That the Contracting Governments take appropriate action to regulate the catch of herring, *Clupea harengus* L., by persons under their jurisdiction fishing in that portion of Division 4W south of 44°52′N latitude and in Division 4X of Subarea 4 so that the aggregate catch of herring by vessels taking such herring shall not exceed 65,000 metric tons in 1972.

"2. That Competent Authorities from each Contracting Government listed below shall limit in 1972 the catch of herring taken by persons under their

jurisdiction to the amount listed from the above-mentioned area:

Canada	35,700 metric tons
Japan	1,000 metric tons
USSR	26,300 metric tons
Other Contracting Governments ...	1,000 metric tons

it being expected that non-members of the Commission will catch not more than 1,000 metric tons.

"3. That each Contracting Government mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of the date on which its vessels have ceased a specialized fishery for herring. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary if its vessels engage in a specialized fishery for herring, together if possible with an estimate of the projected catch. Each Contracting Government not mentioned by name in paragraph 2 above shall promptly notify the Executive Secretary of specialized or incidental catches of herring in increments of 100 tons. The Executive Secretary shall promptly inform all other Contracting Governments of such notifications. The Executive Secretary shall notify each Contracting Government of the date on which accumulated catch and estimated catch of herring, the quantity estimated to be taken before closure could be introduced, and the likely incidental catch for the remainder of the year equal 100 percent of the allowable catch designated as for "Other Contracting Governments" in paragraph 2 above. Within 10 days of receipt of such notification from the Executive Secretary, each Contracting Government not mentioned by name in paragraph 2 above shall prohibit the catching of herring in the area mentioned in paragraph 1 above by persons under its jurisdiction, except for small incidental catches.

"4. That the Contracting Governments take appropriate action to ensure that all vessels under their jurisdiction which take herring, record their catches on a daily basis according to position, amount, date, type of gear, unit of effort, discards and disposition of catch.

"5. That the Commission shall establish at a special meeting in January 1973, (a) the level of catch which will neither further reduce spawning stocks already at a low level nor reduce productivity by lowering the yield per recruit during 1973 based on the recommendations of its Standing Committee on Research and Statistics, and (b) the allocation of that catch for 1973, both of which will be substituted for the catch and the allocation thereof in paragraphs 1 and 2 above respectively.

"6. That the allocations in paragraphs 2 above are without prejudice to future allocations of catches for this or other stocks. Nothing in this proposal shall prejudice future possibility of the Contracting Governments entering into mutual arrangements for the management of the allocations of herring catches or re-allocating the allocations of herring catches given in paragraph 2 above by such agreements as they may enter into, all such arrangements and re-allocations to be reported to all other Contracting Governments through the Executive Secretary.

"7. This proposal shall become effective only at such times as the herring quota proposals adopted in February 1972 by Panel 5 for Division 5Y and Division 5Z of Subarea 5 become effective as well as the proposal for size limit regulation of the fishery for herring in Subareas 4 and 5."

In order to protect the young or juvenile herring as well as the adults, the Working Group **agreed to recommend** to Panels 4 and 5 for adoption by the Commission, a 9-inch size limit regulation for herring to apply throughout Subarea 4, except in the Chedabucto Bay area and in the Bay of Fundy area, and in Subarea 5, as follows:

iv) proposal for international size limit regulation for the fishery for herring in Subareas 4 and 5:

"1. That the Contracting Governments take appropriate action to prohibit the taking or possession of herring, *Clupea harengus* L., less than 9 inches (22.7 cm), measured from the tip of the snout to the end of the tail fin, by persons under their jurisdiction, except as provided in paragraph 2 below, in those portions of Division 4W south of 44°52'N latitude and Division 4X south of 43°50'N latitude of Subarea 4 and in Subarea 5.

"2. That the Contracting Governments may permit persons under their jurisdiction to take herring with a vessel in any year less than 9 inches (22.7 cm) measured as specified in paragraph 1 above in an amount not exceeding 10 percent by weight of all herring caught in the areas specified in paragraph 1 above by that vessel during that year."

The Working Group **agreed to recommend** to Panels 4 and 5 for adoption by the Commission a resolution relating to the four 1972 herring proposals regarding the applicability of regulations on the Georges Bank stock to Statistical Area 6, relating to the conservation of the fishery for juvenile herring inside territorial waters and relating to a speed-up of the coming-into-force of the four herring proposals, as follows:

v) resolution relating to 1972 proposals for the conservation of herring stocks in Subareas 4 and 5:

The Commission

Noting Article VI, paragraph 1; Article VIII, paragraph 2(a); Article IX, Article XII and Article XIII of the Convention, 1949;

Having Considered measures for the conservation of stocks of herring found in Subareas 4 and 5 of the Convention Area and having adopted four proposals for the conservation of those stocks;

Being Aware that the stock of herring found on Georges Bank (Division 5Z of Subarea 5) migrates westward and southward into an area designated by the Commission as Statistical Area 6 and is exploited there;

Considering that juvenile herring are exploited within territorial waters and the measures which have been taken for their conservation by coastal states;

Noting that non-members of the Commission participate in the exploitation of herring in the Convention Area and Statistical Area 6;

Holding the View that measures for the conservation of the herring stocks shall be applied also to Statistical Area 6 and to the territorial waters of the coastal states, where a part of the stocks are found;

Being Aware of the time period before the proposals referred to above may enter into effect pursuant to the provisions of Article VIII of the Convention as amended, the desirability of taking appropriate steps for the implementation of measures for the conservation of herring prior to the effective date of the proposals referred to above and the desirability of reducing the time period before these proposals take effect;

1) **Invites** the attention of all Contracting Governments to the above matters;

2) **Urges** the coastal states to ensure that appropriate conservation measures are undertaken in the juvenile fishery within territorial waters to protect the stocks and limit the catch,

3) **Requests** all Contracting Governments fishing for herring to anticipate the coming into effect of the above-mentioned proposals later in 1972 and to institute appropriate measures as soon as possible to ensure the effectiveness of the proposals when they become effective under the terms of the Convention;

4) **Further Requests** all Contracting Governments fishing the stock of herring which migrates between Division 5Z of Subarea 5 and Statistical Area 6 to institute appropriate measures to regulate the fishery in Statistical Area 6 to ensure the effectiveness of the Commission's proposal for that stock, either by further international agreements or on a national basis;

5) **Calls On** the Contracting Governments to invite the attention of non-members of the Commission fishing for herring in the above-mentioned areas to these matters, and;

6) **Urgently Requests** all Contracting Governments to notify promptly, if possible before 15 April 1972, the Depositary Government of their acceptance of the above-mentioned proposals and their willingness to be bound by them at an earlier date than provided under the normal procedure.

The Working Group also **agreed to recommend** to Panels 4 and 5 for adoption by the Commission, a resolution designed to accelerate and coordinate the Commission's herring conservation program, as follows:

vi) resolution regarding the Commission's herring research program:

In order to assure the effectiveness of the herring conservation program, the Commission **requests:**

1) that a STACRES Herring Working Group be established under the chairmanship of Mr D. Iles (Canada);

2) that the Working Group meet with the Assessments Subcommittee in May of 1972 and again in January 1973 to provide the best possible information for each major herring stock on;

a) Effects on the stocks of the 1972 quotas;

b) Effects of minimum fish size regulation on yields, with particular reference to the 9-inch size limit proposed by the Commission;

c) Effects of closed areas and seasons on yields;

d) The level of catch in 1973, that will maintain the stock size at the level obtaining in the beginning of 1973;

e) The relationship of catch to yield per recruit;

f) Effects on stock size of various catches in 1974;

g) The size, season, distribution and effects of the juvenile fishery;

3) that the Chairman of the Working Group work throughout 1972 to arrange for compilation and exchange of data and for adequate separate analyses in preparation for the January 1973 meeting;

4) that all nations fishing the herring stocks in the Northwest Atlantic provide complete data on catch, effort, size and age composition of catch for 1971 for the May 1972 meeting and preliminary data by months for 1972 for the January 1973 meeting;

5) that the attention of Contracting Governments be drawn to the research recommendations in the section "Research Requirements" of Appendix I of the STACRES Report of January 1972.

The Commission considers it important that all Contracting Governments provide adequate support for the studies required.

c) Panel 4

The Panel, having elected Mr W. Terry (USA) interim Chairman, considered the Report of the Working Group on Subarea 4 and 5 Herring Management and **recommended** that the Commission transmit to the Depositary Government for joint action by the Contracting Governments the proposals for international quota regulation of the fishery for herring in Division 4X and part of Division 4W of Subarea 4 (see Section 7(b)(iii)) and for international size limit regulation of the fishery for herring in Subareas 4 and 5 (see Section 7(b)(iv)).

The Panel also **recommended** to the Commission the resolution relating to 1972 proposals for the conservation of herring stocks in Subareas 4 and 5 (see Section 7(b)(v)) and the resolution re the Commission's herring research program (see Section 7(b)(vi)).

d) Panel 5

The Panel, having elected Mr V. Kamentsev (USSR)

interim Chairman, considered the Report of the Working Group on Subarea 4 and 5 Herring Management and **recommended** that the Commission transmit to the Depositary Government for joint action by the Contracting Governments the proposals for international quota regulation of the fishery for herring from the Georges Bank stock and in Division 5Y of Subarea 5 (see Section 7(b)(ii)) and for international size limit regulation of the fishery for herring in Subareas 4 and 5 (see Section 7(b)(iv)).

The Panel also **recommended** to the Commission the resolution relating to 1972 proposals for the conservation of herring stocks in Subareas 4 and 5 (see Section 7(b)(v)) and the resolution re the Commission's herring research program (see Section 7(b)(iv)).

8. Other Business (Item 6)

Appreciation was extended to Mr K. Løkkegaard (Denmark), Chairman of the Commission, to Mr R. Lagarde (France) who replaced Mr Løkkegaard in the chair and to Dr A. W. H. Needler (Canada), Chairman of the Working Group. It was emphasized that this was the first time that national quota allocation had been agreed to in a multi-nation fishery and that international bodies such as ICNAF were capable of playing an effective role in fisheries management (Appendix III).

9. Supplement to Report

The Commission, by telegraphic vote of the Contracting Governments in accordance with Commission Rule of Procedure 2.4, adopted, by the required two-thirds majority, the four proposals and two resolutions on 7 March 1972 and forwarded them to Depositary Government who transmitted them to the Contracting Governments, in accordance with Article VIII(6) of the Convention, on 17 March 1972.

PART 3

Appendix I

List of Participants

(Head of Delegation in **bold**)

Chairman: K. Løkkegaard, Head of Department, Ministry of Fisheries, Copenhagen, Denmark.

CANADA

Commissioners:

Dr A. W. H. Needler, Special Adviser, Department of the Environment, Sir Charles Tupper Building, Confederation Heights, Ottawa 8, Ontario.
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Advisers:

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D. MacLean, Connors Bros. Ltd., Black's Harbour, New Brunswick.
M. Matthews, President, Mattona Fisheries, Wilson's Beach, Campobello, New Brunswick.
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FEDERAL REPUBLIC OF GERMANY

Commissioners:

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Advisers:

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ICELAND

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ITALY

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E. Capodilupo, Ministero della Marine Mercantile, Direz. Gen. Della Pesca Marittima, Roma.

JAPAN

Commissioner:

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NORWAY

Commissioner:

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Adviser:

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POLAND

Commissioner:

M. Fila, Ministry of Shipping, 12 Swietokrzyska Street, Warsaw.

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Adviser:

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UNITED STATES OF AMERICA

Commissioners:

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R. W. Green, State Commissioner for Fisheries, State House, Augusta, Maine.

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PART 3
Appendix II

Agenda

1. Opening by Chairman of Commission, Mr K. Løkkegaard.
2. Adoption of Agenda.
3. Election of Rapporteur.
4. Report from Mid-Term Meeting of STACRES and its Herring Working Group, FAO, Rome, 24-29 January 1972 (see 1971 Meeting Proceedings No. 13, paragraph 11 and No. 16, paragraph 4).
5. Possible conservation actions.
6. Other business.

PART 3

Appendix III

Special Meeting of the International Commission for the Northwest Atlantic Fisheries on Herring

Press Notice

An extraordinary meeting of ICNAF – the first in its 22-year history – considered the deplorable state of the herring stocks on the Nova Scotia Banks, in the Gulf of Maine, and on Georges Bank and the urgent need to establish regulatory measures for the conservation of these stocks. The Special Meeting was held by courtesy of the Department of Fisheries of the Food and Agriculture Organization in Rome, Italy from 31 January to 7 February 1972, under the chairmanship of Mr K. Løkkegaard (Denmark). Delegates from all member nations were present, except Portugal and Romania. The 15 member states are: Canada, Denmark, France, Federal Republic of Germany, Iceland, Italy, Japan, Norway, Poland, Portugal, Romania, Spain, USSR, USA, and UK. Observers represented the Food and Agriculture Organization of the United Nations and the Commission of the European Economic Community.

Herring Catches

Herring catches in the Northwest Atlantic after climbing rapidly from 180,000 tons in 1961 to almost 1,000,000 tons in 1969 declined to 720,000 tons in 1971. The fishery on Georges Bank took 68,000 tons in 1961, reached a peak of 374,000 tons in 1968 and has declined to 260,000 tons in 1971. The Gulf of Maine fishery reached a peak of 146,000 tons in 1968 and then declined rapidly to 67,000 tons in 1971. The Nova Scotia Banks fishery, excluding the fishery in the northeast portion of the Banks, reached a peak of 145,000 tons in 1968 and has declined to 78,000 tons in 1971.

Meeting of Herring Scientists

Herring scientists from the Member Countries carried out intensive studies during the week prior to the Special Meeting. They analyzed all available biological and statistical data and prepared a report for the Special Meeting on the state of the stock and recommended levels of herring catch required to safeguard the over-exploited herring stocks.

Total Catch Quotas

Following considerable discussion, based on the recommendations of the scientists and on economic and technical considerations, the Commission adopted measures to conserve the herring stocks by limiting the total catch of adult herring during 1972 from the Georges Bank stock to 150,000 tons (a reduction of over 40% from the 1971 catch), from the Gulf of Maine stock to 30,000 tons (a reduction of about 35% from the 1971 catch), and from the Nova Scotia Banks stock to 65,000 tons (a reduction of over 4% from the 1971 catch).

National Catch Quotas

The Commission, recognizing the economic benefits to be gained by the allocation of national catch quotas, approved catch quota allocations of the 1972 total catch quotas for each Member Country fishing on each of the three stocks of adult herring and for Member Countries not fishing but which might wish to start and for non-member countries, based primarily on the principle of equal sacrifice from the 1971 catch level with subsequent re-allocation by negotiation in the case of special needs. This is the first time that national quota allocation had been agreed to in a multi-nation fishery and illustrates the capability of international bodies such as ICNAF to play an effective role in fisheries management.

Size Limit Regulation

In order to protect the young or juvenile herring as well as the adults, the Commission has proposed a 9-inch size limit regulation for herring to apply throughout Subarea 4, except in the Chedabucto Bay area and in the Bay of Fundy area, and in Subarea 5.

Conservation for Migratory Georges Bank Stock

The Commission adopted a resolution urging Member Countries whose fleets fish the stock of herring which migrates between Georges Bank and the area to the west and south outside the Commission's jurisdiction (ICNAF Statistical Area 6) to institute appropriate measures to regulate the herring fishery in Statistical Area 6 to ensure the effectiveness of the Commission's proposal for the Georges Bank stock either by further international agreements or on a national basis.

Earlier Implementation of Proposals

The Commission urged Member Countries to accept or ratify the Commission's four herring conservation proposals as soon as possible in order to shorten the time, which is normally 6 months, for the proposals to come into force.

Future Research and Meetings

The Commission agreed unanimously to the need for acceleration and coordination of research on the herring stocks in the Northwest Atlantic and requested that a Herring Working Group be established under the chairmanship of Mr D. Iles (Canada) to provide the best possible information for each major herring stock to the Commission at a Special Commission Meeting to be held in January of 1973.

Office of the Commission, Dartmouth, Nova Scotia, 9 March 1972.

PART 4

Summaries of Research and Status of Fisheries for Subareas and Seals

The following summaries are based on reports prepared by the Chairmen of the Groups of Scientific Advisers to the Panels from research reports and other pertinent documents submitted to the 1972 Annual Meeting of the Commission from Member Countries. The Chairmen were:

for Subarea 1	– Sv. Aa. Horsted (Denmark);
for Subarea 2	– A. W. May (Canada);
for Subarea 3	– H. A. Cole (UK);
for Subarea 4	– J. A. Posgay (USA);
for Subarea 5	– F. D. McCracken (Canada);
for Seals	– A. W. Mansfield (Canada).

Subarea 1 and East Greenland

Reports on research in 1971 were submitted by Canada, Denmark, Federal Republic of Germany (FRG), Portugal, UK, and USSR.

1. Status of Fisheries

Total catch of all species, including that by non-member countries, increased slightly from 146,000 tons in 1970 to 149,000 tons in 1971. Catches in these 2 years were the lowest recorded in ICNAF statistics.

Catches by countries in 1971, with the 1970 catch in parentheses, were: Denmark (Faroes) 17,000 tons (8,000); Denmark (Greenland) 38,000 tons (37,000); France 4,000 tons (5,000); FRG 43,000 tons (45,000); Norway 7,000 tons (7,000); Portugal 6,000 tons (9,000); Spain 22,000 tons (19,000); USSR 5,000 tons (8,000); UK 3,000 tons (4,000); and non-member countries 3,000 tons (5,000).

Cod catches increased slightly from 116,000 tons in 1970 to 120,000 tons in 1971 halting a decline since 1967 when the catch was 430,000 tons.

Redfish catches continued their decline from a high of 61,000 tons in 1962 to a meagre 3,000 in 1971.

Salmon catches by Denmark, Faroes, Greenland, and Norway increased from 2,115 tons in 1970 to 2,619 tons in 1971, the highest catch so far recorded.

Deep-sea prawn catches continued to increase to 9,437 tons in 1971.

The East Greenland cod and redfish fisheries were carried out by FRG trawlers which took almost 30,000 tons of cod in 1971 (20,000 tons by FRG and Iceland in 1970) and 14,000 tons of redfish (17,000 tons by FRG and Iceland in 1970). Cod has now replaced redfish as the most important species in the fisheries. FRG catches have again almost reached the 1964 level which was the highest recorded.

2. Work Carried Out

a) Canada: Bathymetric and geophysical studies. Salmon tagging (121 fish) off West Greenland in September. Salmon scale pattern analysis and parasite studies.

b) Denmark: Hydrographic sections worked by R/V *Dana* and *Adolf Jensen*, January-November. Plankton sampling in Davis Strait, May-October, including cod egg and larval sampling, May-July. Pre-recruit cod distribution. Cod age and size studies. Cod tagging (2,322 fish). UK-Danish salmon tagging (129 fish). Tagging (51 Greenland halibut, 395 American plaice). Sand eel, deep-sea prawn, and queen crab studies.

c) FRG: Five hydrographic sections worked by R/V *Walther Herwig*, December. Sampling cod for length (32,198 measurements) and age (8,406 otoliths) off West and East Greenland.

d) Portugal: Length measurements (1,000) of cod in Divs. 1C-E.

e) USSR: Hydrography, R/V *Perseus III* and *Procyon*, October. Sampling roundnose grenadier and Greenland halibut fisheries.

f) UK: Plankton recorder sampling, 1,092 miles. Salmon tagging with Danish scientists. Salmon blood studies (1,830 samples).

3. Hydrography

In 1971, as in the two preceding years, the ice situation was extremely severe. During its maximum extension in July, the "storis" reached from Cape Farewell to lat 64°N (Fyllas Bank). It extended westward off Frederikshaab to a distance of 120 nautical miles from the coast line. Although ice conditions were more normal from August on, air temperatures in periods of the 1971-72 winter have been extremely low making sailing and fishing operations extremely difficult. Ice was formed on many of the fishing banks. FRG reported that in December a new progression of polar ice was observed in the Cape Farewell region. Division 1A and the northern part of Div. 1B were completely closed by ice during the whole winter of 1971-72.

Water temperatures in the first 5 months of the year in Divs. 1C and 1D were below 0°C in the upper 100 m as a result of strong winter cooling and inflow of cold water from the East Greenland Polar Current. In June temperatures over the lower part of Fyllas Bank were still below 1°C and even below 0°C west of the Bank. This sub-zero water mass was still observed in July although farther westward. From August to December, water temperatures over Fyllas Bank were generally between 1° and 2°C, and the summer heating caused relatively high surface temperatures over the northern banks, higher than temperatures over Fyllas Bank. In November-December severe winter cooling took place leading again to sub-zero temperatures in the upper water layers over all the West Greenland fishing banks.

Comparison of 1971 temperatures and salinities with values in 1963 and with mean values for 1950-66 clearly shows that water temperatures and salinities have decreased in recent years, indicating strong inflow of polar water to West Greenland. The cooling seems to be most pronounced in water layers between 50 and 300 m, in July, and for the area just west of Fyllas Bank between 1° and 1.5°C lower than the mean of 1950-66. The corresponding salinity anomalies were found to be about -0.5‰.

4. Cod

a) Eggs and larvae: Plankton investigations and commercial fishery showed spawning to take place at least over the western part of Banana and Fyllas Banks. Numbers of larvae caught north of Fyllas Bank were the lowest so far recorded. The distribution and numbers of larvae as well as the hydrographic conditions indicate that the 1971 cod year-class of West Greenland origin is very poor.

b) Young fish: The 1968 year-class is the most promising of those that will recruit to the fishery up to about 1975. It is most abundant in Divs. 1B-1D but does occur in Div. 1E. It may be regarded as relatively good, although not a strong year-class.

c) Commercial stock: Commercial catches in the northern part of West Greenland (Divs. 1B-1C) are based on the 1965 and 1966 year-classes, while the southern part (Divs. 1E-1F) are based on the 1963 and 1964 year-classes. The central area (Div. 1D) seems to have a mixture of all four year-classes. Research catches showed the 1968 year-class as the most abundant in the central part of West Greenland. The growth rate of cod in the southern divisions seems to have decreased in recent years since there is no difference in the mean weight of cod from the northern and southern divisions, in spite of the difference in age-composition. Migration of mature cod from Southern Greenland and East Greenland to Iceland seems to be of the order of 25% per year.

d) Tagging: A total of 2,322 cod were tagged, mainly inshore in Div. 1D.

5. Atlantic Salmon

Salmon catches in 1971 totalled 2,615 tons, a 22% increase over the catch of 2,146 tons for 1970 and the highest catch yet recorded at West Greenland. The stock consisted almost entirely of one-sea-winter fish which had migrated to sea as two- and three-year-old smolts. The remainder consisted of fish older than one-sea-winter. The sex ratio (3.1 females:1 male) was also similar to that in previous years. As in previous years, the total catch included less than 10 tons taken on the east coast of Greenland. The ICES/ICNAF Joint Working Party on North Atlantic Salmon reports that despite the fewer numbers of non-Greenland vessels operating in the drift-net fishery in 1971, the total catch taken by them was approximately 350 tons greater, indicating clearly the limitations of the vessel tonnage regulation introduced in 1971 in the fishery as a method of stabilizing effective fishing effort. The higher average catch rates may have been due to improved, more efficient drift-net gear and fishing techniques. Latest data show that salmon occurring in West Greenland are now known to originate on the European side from about latitude 63°N to about 44°N which is almost the southern limit of the species. Studies of recaptures at

West Greenland of salmon tagged as smolts in Canadian rivers show that individual rivers make markedly different contributions to the exploited stock at West Greenland. Canadian rivers running into the Gulf of St. Lawrence, of which the Miramichi is the largest, seem to make the biggest Canadian contribution to the West Greenland salmon fishery. Final and detailed plans for the international salmon tagging experiment at West Greenland in August-October 1972 are being completed.

6. Other Species

USSR investigations of the potential for fisheries for roundnose grenadier continued. Greatest abundance was found in 3° to 4°C water masses. Nursery grounds for Greenland halibut were located by Danish investigators in northern West Greenland (Div. 1A) at a depth of 500-600 m. Deep-sea prawn stocks were further investigated.

Subarea 2

Reports on research in 1971 were submitted by the following countries: Canada, FRG, Poland, Portugal, USSR, and UK.

1. Status of Fisheries

Total catch of all species was low (247,000 metric tons) in relation to the peak years of 1968 (482,000 metric tons) and 1969 (441,000 metric tons). Landings by country in 1971 in metric tons (1970 in parentheses) were: Canada 5,000 (3,000); France 6,000 (16,000); FRG 20,000 (51,000); Norway 6,000 (3,000); Poland 21,000 (41,000); Portugal 34,000 (42,000); Romania 1,000 (5,000); Spain 6,000 (11,000); USSR 131,000 (65,000); and non-members 11,000 (14,000).

Cod catches decreased from 224,000 tons in 1970 to 164,000 tons in 1971, a dramatic decline from the record high of 449,000 tons in 1968. The inshore catches remained at an abnormally low level and were less than 15% of the 1960-68 average. Offshore catches decreased for all countries except USSR.

Catches of roundnose grenadier by the USSR increased from 468 tons in 1970 to 57,000 tons in 1971. Catches were made mainly in the northern Labrador area (Div. 2G).

2. Work Carried Out

a) Canada: Hydrographic section off Seal Island, early August. Distribution and abundance of cod in Div. 2J in spring. Inshore catch sampling. Population assessments. Atlantic salmon tagging in a Labrador river, on Labrador coast and in Labrador Sea.

b) FRG: Hydrographic sections (3) across Labrador Shelf, late November. Groundfish survey, late November.

c) Poland: Cod and redfish sampling for length and age.

d) Portugal: Cod samples for length, age, growth and maturity in Div. 2J.

e) USSR: Hydrographic section 3-A by R/V *Perseus III* over Labrador Shelf, early November. Biological studies on cod, Greenland halibut, and roundnose grenadier.

f) UK: Plankton recorder survey extended 2,300 miles.

3. Hydrography

In general, water temperatures were below normal. In early August, temperatures of the inner portion of the Labrador Current were below the 1951-65 average, and the volume of water less than 0°C was above this average, providing conditions similar to those in 1970. In the offshore portion of the Labrador Current, temperatures were much lower than in 1970 and in fact, were close to the 1951-65 average. Below normal temperatures were also recorded in November and extended to a depth of 1,000 m. As in 1970, severe ice conditions hampered fishing operations early in the year. Severe ice conditions, even worse than in the previous 2 years, prevailed into 1972.

4. Plankton

Phytoplankton abundance was below average in the oceanic region. The spring bloom peaked in May, a month earlier than the long-term mean. Copepods reached their highest numbers again in May. By contrast, euphausiids were a month later than usual.

5. Cod

The Canadian inshore fishery improved marginally,

but as in 1970 was less than 15% of the 1960-68 average. Reductions in inshore catches were due to decreased abundance or lesser availability rather than any decline in inshore effort. The inshore fishery has traditionally depended on mature fish which migrate to the coast after spawning. Immature fish did not form a significant part of the inshore catch even when no offshore fishing existed. It is probable that the reduction in age, and in numbers of mature fish, by the offshore fishery has been responsible for a much less pronounced inshore migration in recent years.

FRG cod catches, as well as fishing effort, continued the decline begun in 1970. The catch in 1971 was 42% of the record 1969 catch, while effort (days fished) was reduced by 53% from 1969. Fishing was carried on only from early January to mid-February, when ice conditions forced the fleet to move. Catch per day was reduced 23% from the 1968-70 average. Over 80% of the cod taken during a groundfish survey in November were 5-8 years old (1963-66 year-classes). Mean lengths were below 50 cm in Divs. 2G to 2J. Fishing operations in 1972 were again restricted by ice, and catches are expected to be lower than in 1971.

The Polish fishery took place mainly in January and February, since ice conditions forced withdrawal of most of the fleet by early March. Cod catches per day fished were lower than in 1970, and fishing effort (hours fished) declined 23% from the previous year. The most abundant year-classes in the catch were those of 1964 to 1966. Average length was below 50 cm.

Most of the cod catch by Portugal was taken in the first quarter of 1971. Biological sampling during the second quarter indicated that the 1964 to 1966 year-classes were most abundant. A very high percentage of the fish sampled were immature.

USSR cod fisheries were conducted mainly in January and February, and operations were irregular following departure of the fleet in mid-February due to ice conditions. Catch-per-unit effort was lower than in 1970. Cod of the 1964-66 year-classes were most abundant in the catches, accounting for almost 70% of the fish sampled. An improvement in catches is forecast for 1972 on the basis of recruitment of fish of ages 4 and 5 (1967 and 1968 year-classes). Canadian surveys indicate that the 1967 year-class may be the more abundant of the two, while USSR surveys indicate that the 1968 year-class is more abundant.

Assessments of the cod stock complex extending from Div. 2J to Div. 3L were completed in 1971. Natural mortality from Div. 2J data was estimated to be between 0.15 and 0.21. Fishing mortality estimates for Div. 2J cod for the period 1965 to 1968 show a significant increase in 1968. Overall stock size from 1964-68 was estimated to be about the same as from 1958-63, though numbers of cod of ages 8 and above accounted for less than 20% of the overall stock. For the stock as a whole, it was concluded that fishing mortality rate over the period 1967-70 was in excess of that which would produce the maximum long-term yield per recruit, and some reduction from the 1967-70 level would be necessary to achieve this.

6. Redfish

Polish commerical catches were made up of fish 20-47 cm long and 6-16 years of age. Fish, 8, 9, and 10 years old, were most abundant.

7. Atlantic Salmon

Salmon tagged in the Labrador Sea by Canada (24 from drift nets and 35 from longlines) yielded 8 recaptures, all in Canada. Tagging in July along the Labrador coast yielded returns from the Labrador coast. Smolts and adults tagged in a Labrador river in 1970 gave equal returns from Labrador and from Greenland fisheries in 1971.

Subarea 3

Reports on research in 1971 were submitted by Canada, FRG, Japan, Poland, Portugal, USSR, UK, and USA.

1. Status of Fisheries

Total catch of all species was 957,000 metric tons, a decrease of 15,000 tons from 1970 and 189,000 tons from the highest recorded catch of 1,146,000 tons in 1968. Decreased catches were recorded by Canada (404,000 to 361,000 tons) and Norway (38,000 to 21,000 tons). Increased catches were reported by Denmark (10,000 to 14,000 tons); France (18,000 to 20,000 tons); Japan (4,000 to 8,000 tons); Portugal (91,000 to 95,000 tons); Spain (169,000 to 176,000

tons); UK (from a small quantitiy to 5,000 tons); and non-member countries (12,000 to 16,000 tons). Catches remained steady for FRG at 12,000 tons and for Poland at 27,000 tons.

Cod catches which made up over 53% of the total catch of all species decreased from 529,000 tons in 1970 to 516,000 tons in 1971. Substantial decreases in catch were reported by Canada, Norway, and USSR. Catches by FRG, Japan, Poland remained about the same with slight increases reported by Denmark, Portugal, Romania, Spain, UK, and the non-member countries.

Haddock catches decreased from 7,000 tons to 5,000 tons.

Redfish catches increased considerably from 84,000 to 102,000 tons to give the highest total since 1965.

American plaice catches decreased 9,000 tons to 80,000 tons. Catches of witch increased from 22,000 to 31,000 tons and yellowtail flounder from 27,000 to 38,000 tons.

Herring catches declined from 135,000 to 118,000 tons.

Salmon catches by Canada at 1,576 tons were similar to those of 1970 (1,595 tons).

2. Work Carried Out

a) Canada: Five standard hydrographic sections across the continental shelf and Labrador Current east of Newfoundland, July and August. Station 27 off Cape Spear occupied monthly or more often during the year. Sampling in commercial cod fishery for size, age, growth, maturity, spawning, food, catch location, and catch-per-unit effort. Otter trawl surveys for adult and pre-recruit groundfish species. Assessments of cod for Divs. 3K, 3L, and Subdivision 3Ps, and for American plaice in Divs. 3L and 3N. Mortality studies on yellowtail flounder. Tagged 410 Greenland halibut, Trinity Bay. Herring sampling for length, age and other characteristics. Tagged 10,000 herring on southwest coast of Newfoundland. Sampling Atlantic salmon for length, age, sex, viscera, and blood. Research on pink salmon transplant. Squid survey.

b) France: R/V *Cryos* July and November cruises on groundfish. Hydrography in Subdivisions 3Pn, 3Ps. Biological studies on American plaice, cod, haddock, and redfish.

c) FRG: R/V *Walther Herwig* survey, Div. 3K, November. Cod, redfish, Greenland halibut, and roundnose grenadier species association.

d) Japan: Length measurements of redfish and argentine, Subdivision 3Ps and Div. 30 in April and June-October.

e) Poland: Length measurements of cod in Div. 3K, of redfish in Div. 3K in May and in Div. 30 in September, and of American plaice in Div. 3K in June and Div. 3L in September. Hydrography, 12-20 September, on southwest slope of Grand Bank.

f) Portugal: Length and age and maturity studies of commercial cod fishery.

g) USSR: Hydrographic sections over continental slope off eastern Newfoundland, March-July, by R/V *Perseus III.* Plankton sampling, 28 April-28 May, in Divs. 3K, 3L, 3M, 3N by R/V *Perseus III* and *Procyon.* Young cod and haddock survey, May-August.

h) UK: Continuous plankton recorder survey (13,244 miles).

i) USA: Oceanographic surveys in Divs. 3L-N-O.

3. Hydrography

In the spring and early summer, the water masses of the Labrador Current on the north Grand Bank and the northeastern slope of the Grand Bank were colder than in any year during the period 1957-71. At the same time on the southwestern slope of the Grand Bank, and in the channels between the Grand, Green, and St. Pierre Banks, the temperature was above normal. Later in the year, temperatures fell below normal. Observations along the 275-m isobath on the southwest slope of the Grand Bank indicated great influxes of Gulf Stream waters onto the shallow sides of the Grand Bank and into the deep water layers of the Laurentian Channel. Here, too, transformed waters of the Gulf Stream underlie the Labrador Current in the areas of canyons and trenches.

4. Plankton

Phytoplankton was below average with an early spring maximum. *Calanus* abundance was near the long-term average.

5. Cod

a) Eggs and larvae: USSR surveys during April and May

in Divs. 3K-L-M-N showed mean number of eggs in Divs. 3K-L somewhat lower than in 1970. Larval hatch was late due to more severe hydrographic conditions. Maine spawning grounds are near North Labrador and eggs and larvae drift to Divs. 2H-J and 3K-L with the current.

b) Young fish: A USSR survey in May-August covering all Division of Subarea 3 confirmed the high abundance of the 1968 year-class in the Labrador, South Newfoundland, and St. Pierre Bank cod stocks.

c) Commercial stock: USSR studies showed that improvements could be expected to the cod fishery in 1973 in the southern part of the Subarea due to the high abundance of the 1968 year-class and Polish sampling showed the 1965 year-class the most numerous, then the 1966 year-class and the 1964 year-class, in that order in Div. 3K. Polish catch-per-hour data suggest a considerable decrease in the numbers of cod in 1971. Inshore fishing in the northern Newfoundland area showed that the catch-per-trap level was less than half the 1970 level. The 1966-68 year-classes dominated the trap catches. Canadian research vessel catches on northern Grand Bank in June and October showed the 1968 year-class dominant. Better recruitment from the 1961-67 year-classes has resulted in more productive inshore cod fisheries in waters south of Newfoundland.

6. Haddock

Neither Canadian nor USSR vessel surveys revealed any evidence of incoming year-classes which might restore the fishery. Nevertheless, significant quantities were reported as being caught in the inshore fishery along the south and east coasts of Newfoundland.

7. Redfish

A USSR survey in the summer showed beaked redfish, *Sebastes mentella*, dominant in the catches. Greatest catches were made on the southeast corner of the Grand Bank. Poland reported appreciable quantities of young redfish on Green Bank on the southern Grand Bank area.

8. Herring

Herring stocks are fished only by Canada. High prices offered for food herring resulted in 20% of the catch going to food processing plants, whereas in 1970-71 the mobile fleet landings went almost entirely for reduction into meal and oil. Population estimates indicate the Southwest Newfoundland stock size in 1970-71 was only 60% of that in 1969-70. Unless recruitment is more substantial, a further decline in landings can be expected for 1971-72.

9. Flounders

The three most important flounder species are American plaice, yellowtail flounder, and witch. Main fishing areas for American plaice are Divs. 3L and 3N, although considerable quantities are taken in Div. 3K and Subdivision 3Ps. Assessments of the American plaice stocks in Divs. 3L and 3N indicate that to reduce fishing mortality to more desirable levels and maintain population size in 1973, the catch should be reduced in 1972. Rapid increase of yellowtail landings from 900 tons in 1965 to 38,000 tons in 1971 has necessitated a study of the yellowtail fishery which occurs mainly on the shallower parts of the Grand Bank in Divs. 3L and 3N in association with American plaice stocks. There seems to be only one yellowtail stock and it is possible that this has expanded as haddock on the Grand Bank have declined. The rapid increase in landings has prompted studies to determine their effect on the stock and the possible need for reducing fishing mortality. Witch continues to support an important fishery in Divs. 3K and 3L.

Subarea 4

Reports on research in 1971 were submitted by Canada, France, Japan, Poland, Spain, USSR, UK, and USA.

1. Status of Fisheries

Total catch of all species decreased from an all-time high of 1,158,000 tons in 1970 to 1,062,000 tons in 1971. The Subarea provided about 33% of the catch from the Convention Area. Canada took 669,000 tons (715,000 tons in 1970); Denmark (Faroes) 3,000 tons (8,000 tons); France 25,000 tons (34,000 tons); FRG 70 tons (1 ton); Japan 6,000 tons (4,000 tons); Poland 1,000 tons (2,000 tons); Portugal 17,000 tons (21,000 tons); Romania 37 tons (84 tons); Spain 52,000 tons

(70,000 tons); USSR 270,000 tons (284,000 tons); USA 13,000 tons (13,000 tons); and non-member countries 5,000 tons.

Cod catches decreased by 42,000 tons to 220,000 tons in 1971. All countries recorded decreases, except USSR which took 5,000 tons in 1971 (3,000 tons in 1970). Canadian catch was 122,000 tons in 1971 (129,000 tons); Denmark (Faroes) 3,000 tons (8,000 tons); France 25,000 tons (34,000 tons); Portugal 17,000 tons (21,000 tons); and Spain 48,000 tons (67,000 tons).

Haddock catches improved slightly from 28,000 tons taken in 1970 to 31,000 tons in 1971 under catch limitation of 18,000 tons set for 1971 in Div. 4X (Browns and LaHave Banks).

Redfish catches continued to increase to an all-time high of 142,000 tons in 1971 from 119,000 tons in 1970. Canadian catches, mainly from the Gulf of St. Lawrence area, made up 104,000 tons of the total catch. USSR (21,000 tons) and USA (11,000 tons) come mainly from the Nova Scotia Bank area.

Silver hake catches declined from an all-time high of 169,000 tons in 1970 to 129,000 tons in 1971. Most of the catch was taken by USSR in Div. 4W (central Nova Scotia Bank area).

Herring catches decreased by about one-quarter from 416,000 tons in 1970 to 311,000 tons in 1971. Catches were mainly from the Magdalen shallows area of the Gulf of St. Lawrence and from southwestern Nova Scotia. Over 90% of the total catch was taken by Canada, the remainder mainly by USSR.

Flounder catches increased from 43,000 tons in 1970 to 56,000 tons in 1971.

2. Work Carried Out

a) Canada: Dispersal of herring larvae off southwestern Nova Scotia (Div. 4X). Distribution of ichthyoplankton in southern Gulf of St. Lawrence (Div. 4T). Pollutant sampling Halifax-Bermuda. Thermocline studies in Gulf of St. Lawrence. Groundfish surveys, March, July, and September off southwestern Nova Scotia and in southern Gulf of St. Lawrence. Age structure of cod in southern Gulf of St. Lawrence. Haddock recruitment on Nova Scotia Banks. Migratory behaviour and feeding habits of yellowtail flounder. Ecology of sand launce. Parasites of flatfish. Food habits of cod. Effects of dredging on scallops. Migration and racial studies of herring. Tagging of smolts, grilse, and adult salmon. Biochemical racial studies on salmon. Physical characteristics of otter trawls.

b) France: Trawl surveys on the Nova Scotia Banks. Ichthyoplankton surveys off southwestern Nova Scotia.

c) Japan: Length composition of argentine and redfish.

d) Spain: Length, age, and sex ratio of cod in the Banquereau Bank area.

e) Poland: Length composition of redfish.

f) USSR: Growth and meristics of argentine on the Nova Scotia Banks. Age composition of herring and silver hake. Trawl survey on Scotian Shelf. Ichthyoplankton survey off southwestern Nova Scotia.

g) UK: 2,345 miles of continuous plankton recordings.

h) USA: Haddock abundance in southwestern Nova Scotia, also sexual maturity and spawning studies with Canada. Trawl survey on Scotia Shelf. Ichthyoplankton survey in southwestern Nova Scotia.

3. Hydrography

In general water temperatures on the Scotian Shelf were warmer in 1971 than in 1970. In October, surface temperatures in the Browns Bank area ranged from 11°C at the coast to 13°C in the open ocean. At 50 m temperatures were about 10°C and at 150 m, 7° to 8°C. On LaHave Bank, temperatures were 13°C in the top 30 m and 5°C at 60 m. On Emerald Bank, temperatures were 5°C at 5 m and on the Atlantic slope, 10°C at 150 m.

4. Plankton

Results of the joint France, FRG, USSR, USA herring larval survey on the Georges Bank-Gulf of Maine areas in September-November 1971 showed that the Trinity Ledge-Lurcher Shoal area of southwestern Nova Scotia had herring larvae in significant numbers in the second half of September. Larvae were larger than those taken on Georges Bank at the same time. Major drift was northward along the eastern side of the Bay of Fundy. A US atlas summarizing the distribution of the common fish eggs and larvae over the shelf from Nova Scotia to Long Island over the period 1953-71 is nearing completion. Canadian monitoring of distribution of fish eggs and larvae in the southwest Gulf of St. Lawrence continued.

5. Cod

Commercial landings in the Gulf of St. Lawrence comprised mainly 4-, 5- and 6-year-old fish, as in 1970,

but with a stronger representation of 7-year-olds than noted since 1965. The 3-year-old fish predominated in the southwestern part of the Gulf and should assure adequate recruitment to the 1972 fishery. Data indicate that there are no strong year-classes to improve the fishery off south-western Nova Scotia for the next few years. Assessments indicate that the Scotian Shelf cod stock is being fished near the point of maximum sustainable yield.

6. Haddock

With the 1967-70 year-classes all poor, the haddock stock on the eastern and central part of the Nova Scotia Banks will have poor recruitment through 1974. Stock size has declined from an estimated 78,000 tons in 1958-64 to about 19,000 tons in 1972 suggesting the need for restriction of the fishery.

In southwestern Nova Scotia (Browns and LaHave Banks) the 18,000-ton catch quota for 1971 was not quite reached. Abundance has continued to decline and the 9,000-ton catch quota for 1972 may not arrest this decline. The 1964-71 year-classes are very poor.

7. Herring

Studies indicate that there are four stocks of herring inhabiting Subarea 4: (1) the Banquereau stock which spawns in the Chebucto Bay area in the eastern part of the Scotian Shelf; (2) the Nova Scotia stock which spawns off Southwest Nova Scotia and whose juveniles are found along the east side of the Bay of Fundy and whose adults overwinter on Emerald Bank and Middle Grounds; (3) the Gulf of Maine stock which provides a lucrative fishery for juvenile herring (Canadian sardines) along the New Brunswick shore of the Bay of Fundy; (4) the Gulf of St. Lawrence stock which summers in the Gulf of St. Lawrence and winters along the south and southwest coasts of Newfoundland. Catches from these stocks are declining and assessments are underway to determine the state of the stocks and the maximum sustainable yield levels.

8. Silver Hake

The stock in the Southwest Nova Scotia area is considered separate from that in the central Nova Scotia area. USSR data show that the Southwest Nova Scotia stock increased in abundance from 1969 to 1971 with 3- and 4-year-olds dominating the catch.

9. Atlantic Salmon

Canadian salmon catches decreased by almost one-half from 1970 to 1971 with the decrease spread fairly evenly over the whole Subarea. Angling catch was just over one-half of the 1970 catch. Canadian studies showed a decrease in the annual numbers of salmon ascending an important salmon stream studied since 1950 to less than 10% of salmon and 30% of grilse compared with 1950-55 figures. Estimated egg deposition and population of juvenile salmon were much below normal. Deterioration is attributed to environmental degradation, aggravated by heavy fisheries exploitation, both in home waters and in the Labrador Sea.

Subarea 5

Reports on research in 1971 were submitted by Canada, France, FRG, Japan, Poland, Spain, USSR, UK, and USA.

1. Status of Fisheries

Total catches of all species increased from about 700,000 tons in 1970 to 807,000 tons in 1971. Increased catches were recorded by Canada (47,000 to 61,000 tons); Japan (11,000 to 15,000 tons); Poland (102,000 to 124,000); Romania (2,000 to 5,000 tons); Spain (8,000 to 9,000 tons); and USSR (166,000 to 286,000 tons); and decreased catches by FRG (92,000 to 58,000 tons); and USA (230,000 to 213,000 tons).

Cod catches increased slightly from 33,000 tons in 1970 to 35,000 tons in 1971 due to stable catches by Canada (3,000 tons both years) and Spain (7,000 tons both years); and slight increases by USSR (about 1,000 tons in 1971); and USA (22,000 to 23,000 tons).

Haddock catches remained at the catch limit level of 12,000 tons set by the Commission, with catches of about 1,700 tons by Canada; 1,300 tons by Spain; 8,500 tons by USA; and less than 500 tons by Romania and USSR.

Redfish catches continued to increase (17,000 to 20,000 tons). Most fish were taken by USA (16,000 tons). USSR catches increased from nil in 1970 to 3,000

tons in 1971. Increases appear to result from increased effort.

Silver hake catches continued their wide fluctuations and increased from 48,000 tons in 1970 to 95,000 tons in 1971. US catches declined (19,000 to 13,000 tons) but USSR catches increased dramatically (28,000 to 82,000 tons). The US decline was mainly in the industrial fishery. The USSR increase is attributed to increased commercial concentrations and high fishing effort.

Red hake catches increased sharply from 11,000 tons in 1970 to 28,000 tons in 1971, but did not reach the level in 1969 of 50,000 tons. USSR catch increased (7,000 to 25,000 tons); US catch declined (4,000 to 3,000 tons). Increased catches are attributable to increased effort mainly from May through October.

Yellowtail founder landings were 23,000 tons but the total catch, including discards, was estimated to be about 30,000 tons. Total reported catch for the regulatory area west of 69° long reached 13,800 tons, exceeding somewhat the 13,000-ton limit set by the Commission for that region. Total reported catches for the regulatory area east of 69° long were slightly less than the 16,000-ton limit set by the Commission.

Herring catches by member countries increased from 220,000 tons in 1970 to 247,000 tons in 1971. FRG catches declined sharply (88,000 to 56,000 tons), while catches increased for Canada (5,000 to 20,000 tons); Poland (41,000 to 69,000 tons); USSR (56,000 to 64,000 tons); USA (3,000 to 34,000 tons mainly from Div. 5Y). Catches by non-member countries declined from 30,000 tons in 1970 to 17,000 tons in 1971. US catches in Div. 5Y were about 75% adults (age 4+ and older) in contrast to the period prior to 1967 when the fishery was almost all juvenile fish. Age composition of herring caught in Div. 5Z fluctuated somewhat with season. The 1966 and 1967 year-classes predominated although the 1968 year-class was important, particularly in the early season fishery by both FRG and Poland. USSR studies indicate that all year-classes available to the fishery were poor and that no strong year-classes are likely to be recruited in 1972.

Mackerel catches remained high and increased slightly from 102,000 tons in 1970 to 117,000 tons in 1971 and most were taken by Poland (44,000 tons) and USSR (59,000 tons). The large catches are attributed to both abundance and a continuing high effort. Alewife catches declined again from 14,000 tons in 1970 to 9,000 in 1971.

Sea scallop catches remained stable in both 1970 and 1971 at 47,000 tons, of which Canada took 33,000 tons and USA 14,000 tons.

2. Work Carried Out

a) Canada: Population estimates, gear selectivity and mortality rates due to dredges on sea scallop. Analysis of herring larval surveys. Investigations of heavy metal contimination in swordfish as related to size, distribution, and food.

b) FRG: Studies of catch, effort, catch-per-unit effort, length and age composition of herring catches by commercial vessels. Studies of herring maturity stages. Population dynamics of Georges Bank herring. Studies of herring spawning time, place, and some related environmental conditions from the fishery protection vessel *Poseidon*. Hydrographic studies and herring larval surveys from R/V *Walther Herwig*.

c) France: Participation in joint ICNAF study of herring larval distribution with R/V *Cryos*. Hydrographic observations. Studies to distinguish two species of *Merluccius*.

d) Japan: Obtained records of catch effort from commercial vessels. Length composition of butterfish, argentine, and squids from commercial catches.

e) Poland: Length and age compostion of herring and mackerel samples. Distribution and abundance of herring larvae. Fishing studies for herring and mackerel. Hydrographic and plankton studies on Georges Bank in autumn.

f) UK: Continuous plankton recorder sampling, 1,258 miles, with analysis of collected data.

g) USSR: Length and age composition studies of silver hake, red hake, herring, and mackerel. Egg and larval surveys for silver hake, red hake, and herring. Race analysis for silver hake. Herring spawning stock estimates. Groundfish trawl surveys and abundance indices estimates for main species. Hydrographic and hydrochemical studies on Georges Bank.

h) USA: Length and age composition for catches of haddock, cod, silver hake, yellowtail flounder, and herring. Herring larvae, plankton, and groundfish bottom trawl surveys. Environmental studies from cruises of *Albatross IV*, Coast Guard vessels and shore stations. Population studies on haddock, cod, silver hake, red hake, yellowtail flounder, and herring. Food studies of groundfish and research on benthic invertebrate communities. Use of a submersible in studying herring spawning and larval survival.

3. Hydrography and Plankton

USSR standard hydrographic section show higher

subsurface temperatures in 1971 in the East Channel region and the southern Georges Bank area. In the northern Georges Bank region, temperatures were higher only in the near-bottom layer. Hydrographic studies by Poland in October distinguished five types of water masses in Subarea 5. Mean surface temperature at Boothbay Harbor was slightly lower (0.2°C) than in 1969, continuing the break in the upward trend begun in 1967. US data from Coast Guard surveys and records from lightships and light stations are being analyzed.

An atlas summarizing monthly distribution of common fish eggs and larvae in Continental Shelf waters from Long Island to Nova Scotia is being prepared by the USA. The USA is also developing equipment for shipboard operation in resolution by type and continuous flow sampling of various plankton types.

According to USSR studies, the biomass of zooplankton over Georges Bank as a whole has recently followed a downward trend and this may affect both strength of year-classes for various fish species as well as directly affecting plankton feeding adults.

Polish researches (September to November) showed copepods as the main component of the zooplankton, followed by Euphausidacea.

4. Cod

Landings in 1971 fell within the 30,000-40,000 tons estimated maximum sustainable yield level. The fishery appears to be fully exploited at this time. Estimates of the abundance of commercial stock for 1972-74, based on US research vessel sampling of pre-recruit sizes, suggest that, if fishing effort remains constant, the level of commercial stock abundance should remain relatively unchanged.

5. Haddock

Final tabulation of haddock catch against the catch quota of 12,000 tons shows a nominal catch of 215 tons above the quota. The stock of haddock remains low with fish 8 years and older (mainly 1963 and 1962 year-classes) representing about 50% of the catch. Autumn groundfish surveys by the USA and USSR indicate that the 1971 year-class is only slightly better than that of 1970. Recruitment to the fishery through at least 1973 will be low. Studies show haddock spawning on Georges Bank to begin in late February and to be 50% completed by mid-April.

6. Herring

The dramatic decline in herring catches from the peak landing in 1968 led to special emphasis on assessment of these stocks and a special January 1972 meeting of the Commission, at which both total and national quotas were recommended to be applicable in 1972. In Div. 5Y the fishery is primarily harvesting adults (4+ years and older) whereas prior to 1967 the fishery was mainly for juveniles. Exploitation levels are high and because of poor recruitment the adult stock will decrease. A further decline in adult stock may reduce the probability of getting a good new year-class.

In the Georges Bank area (Div. 5Z), the 1968 and 1967 year-classes apparently predominated with some variation in proportions according to time. In the early part of the spawning season (September), older fish were important (5-, 4-, and 3-year-old fish) while later in the season the younger fish (3-year-olds) became more important. FRG studies indicate that spawning of herring is located in a narrow band of 10° to 13°C water along the northern edge of Georges Bank. USSR studies continue to show a much reduced spawning stock. However, commercial and scouting vessels reported large concentrations of juvenile herring on Georges Bank and adjacent waters in February and March 1972.

A joint ICNAF herring larval survey was carried out from September to November 1971 with France, FRG, USSR, and USA participating. The studies included distribution, abundance, sizes, feeding, etc. Biochemical studies were also pursued in an effort to separate stocks and relate larvae to three possible parent populations.

7. Yellowtail Flounder

Landings per day fished declined on both major fishing grounds (Subdivisions 5Ze and 5Zw). Survey cruise data also reflect lower abundance, particularly for Subdivision 5Zw. Three- and four-year-old fish made up about 65% of the landings. Assessments based on autumn survey cruises and 1971 catches suggest that 1972 abundance will be about the same or slightly less than in 1971. In 1971 the yellowtail fishery east of 69° long was closed by mid-November when 80% of the quota was reached.

8. Silver Hake

In offshore (Div. 5Z) catches of silver hake, 3- to 4-year-old fish predominated. Fall surveys by the USSR

indicated that the silver hake stock was somewhat more abundant than in 1970. Inshore landings and catch-per-unit effort were again reduced. Research vessel surveys indicate that pre-recruit numbers were more abundant (1971 year-class) and suggest that in 1974 when these fish reach commercial age, the harvestable stock is likely to increase. Eggs and larvae of silver hake on the main spawning grounds on the southern slope of Georges Bank were found to be much higher than in previous years. Studies show that the food of the larvae is mainly nauplii, copepodites and adult copepods. Race analysis based on a variety of parameters have delineated a number of stocks of silver hake within Subarea 5 and Statistical Area 6.

9. Red Hake

USSR studies indicate that two principal stocks exist, one in Subdivision 5Ze and the other in Subdivision 5Zw and Statistical Area 6. During winter, the stocks may be relatively discrete, but in summer during extensive inshore migrations the stocks may be intermixed in some areas. USSR studies indicate a high natural mortality rate for older ages in red hake stocks and the extremely important role of recruitment in determination of the commercial stock of red hake. Good recruitment of the 1971 year-class (determined from trawl surveys) is expected in 1973-74.

10. Sea Scallops

Although landings of scallops remained stable, this apparently was possible only because of exploitation of young scallops at about 3 years of age. Fishing mortality is high and Canadian researches indicate important incidental mortality resulting from the action of the dredges used in the fishery.

Seals

Reports on research in 1971 and catch statistics for 1972 were submitted by Canada, Denmark, and Norway.

1. Status of Fisheries

a) **Harp seal:** In 1972 the harp seal hunt operated under a catch quota for the second year. This quota, following recommendations made by the Seal Panel member countries at a mid-term meeting in Copenhagen in October 1971, was set at a total of 150,000 seals to be taken between 12 March and 24 April 1972 from the 'Front' and 'Gulf' areas, allocated as follows:

Canadian landsmen and small vessels	30,000	
Canadian vessels	60,000	
Norwegian vessels	60,000	
Total		150,000

The actual take in 1972 from 12 March to 24 April 1972 was:

'Gulf'		
Canadian landsmen and small vessels	5,000	
Total		5,000
'Front'		
Canadian vessels	55,000	
Canadian landsmen	10,000	
Norwegian vessels	53,515	
Total		118,515
Total 1972 harp seal take		123,515

b) Hooded seals: There is no quota for this species. Catches in 1972 from the 'Front' area from 12 March to 24 April were 12,181 animals taken by Norwegian vessels and 422 by Canadian vessels and landsmen.

2. Research Carried Out

A detailed review of the state of the harp seal stocks and of the effects of different management strategies were carried out by a Special Meeting of Panel A Experts in Copenhagen in September 1971. Pup production in 1970 was estimated at 300,000 young. Sustainable yield was estimated as being 150,000 pups. These estimates were reaffirmed at the 1972 Meeting of the Scientific Advisers to the Seal Panel. Recent information tends to confirm that the Gulf and Front seals come from the same stock. However, since mixing is slow and incomplete, exploitation should be reasonably balanced between the two areas.

Studies on hooded seals showed an increase in catch from a 1946-65 average of 6,700 animals to a 1966-70 average of 15,000 animals. Catch and effort data show no evidence of change in population abundance, but there appears to be some relation between years of high catches of young hooded seals and the disappearance of weak year-classes. The proportion of males taken in the catches of adult hooded seals tends to increase as the season progresses.