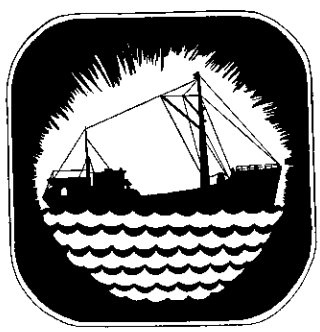
INTERNATIONAL COMMISSION

FOR THE

NORTHWEST ATLANTIC FISHERIES



SECOND ANNUAL REPORT

for the year
1951 - 52

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PART 1

Administrative Report for the Year ending 30 June 1952

by the Acting Executive Secretary

W. R. Martin

1. Headquarters.

Temporary Headquarters of the International Commission for the Northwest Atlantic Fisheries (ICNAF) was established at the Atlantic Biological Station of the Fisheries Research Board of Canada, St. Andrews, New Brunswick, Canada on 1 July 1952. Three furnished offices were made available to the Commission along with general facilities such as transportation and staff assistance. Special assistance was provided by the Director and Administrative Officer of the Atlantic Biological Station, and by senior officers of Canadian Government Departments, particularly the Department of Fisheries. All of this assistance greatly facilitated the work of the Commission Secretariat.

Pursuant to the decision made at the First Meeting relative to the establishment of a permanent headquarters site, the Acting Chairman and the Acting Vice Chairman visited St. John's, Newfoundland, and Halifax, Nova Scotia in June 1952 in order to investigate and consider the offers made by the Government of Newfoundland and Memorial University, St. John's, Newfoundland, and by the City of Halifax and Dalhousie University at Halifax, Nova Scotia. These Commission Officers were most cordially received at both St. John's and Halifax. The report of their findings was presented to the Commission at its Second Annual Meeting. (Part 2, Section 13).

2. Secretariat.

The appointment of Dr. W. R. Martin as Acting Executive Secretary became effective 1 July 1951. Miss Johanne Welsh was appointed as Stenographer for two years beginning 30 August 1951, and Mr. Jacques Côté accepted a two-year appointment as Statistician for the Commission, effective 5 June 1952. Applications for the position of Executive Secretary were submitted by 22 June 1952 for consideration at the Second Annual Meeting.

3. Officers.

The Chairman, Dr. H. J. Deason (U.S.A.), resigned from the Commission on 1 October 1951, and in accordance with Rule 9 of the Rules of Procedure of the Commission the Vice Chairman, A. T. A. Dobson (U.K.), became Acting Chairman. The Commissioners elected F. W. Sargent (U.S.A.) as Acting Vice Chairman, effective 17 March 1952. Panel and Standing Committee Chairmen served in accordance with appointments made at the First Annual Meeting of the Commission: Panel 1 — B. Dinesen (Denmark); Panel 2 — not organized: Panel 3 — R. Gushue (Canada); Panel 4 — J. H. MacKichan (Canada); Panel 5 — F. W. Sargent (U.S.A.); Committee on Finance and Administration — J. H. MacKichan (Canada); Committee on Research and Statistics — A. W. H. Needler (Canada).

4. Ratifications.

The Government of Spain deposited its instrument of ratification of the International Convention for the Northwest Atlantic Fisheries with the Depositary Government on 17 January 1952. The Contracting Governments participating in the Commission on 30 June 1952 were Canada, Denmark, Iceland, Spain, United Kingdom and United States. The signatory Governments of France, Italy, Norway and Portugal had not deposited instruments of ratification at the end of the first financial year.

5. Newsletters.

Four newsletters were distributed from Commission Headquarters during the year in order that Commissioners, advisers and observers might be kept informed concerning developments within the Commission. The newsletters were issued on 24 July 1951, 30 November 1951, 20 March 1952 and 20 May 1952.

6. Cooperation with other International Organizations.

Pursuant to the Resolution adopted at the First Annual Meeting relative to cooperation with other Bodies (section 26 of the Chairman's report of the First Meeting), the Acting Chairman and the Acting Executive Secretary made contact with both the International Council for the Exploration of the Sea (ICES) and the Food and Agriculture Organization of the United Nations (FAO) during October and November, 1951. Agreement was reached on the following points:

(a) There shall be a mutual understanding that a representative or representatives of each Body shall be free to attend the appropriate meetings of the other.

(b) A regular exchange shall be maintained of publications, both scientific and statistical.

(c) A continuous contact will be maintained between the Northwestern Area Subcommittee of ICES and the Panel for Sub-area 1 of ICNAF, so as to secure the maximum advantage and to avoid overlapping and reduplication of effort.

(d) The closest active collaboration shall be maintained between ICNAF and FAO, particularly in the field of fisheries statistics and in such fields of investigation as may emerge in the future.

In accordance with these agreements both ICES and FAO were represented at the first two Annual Meetings of the Commission and the meeting of Panel 1 in Amsterdam. The Commission was represented at the 1951 meeting of ICES in Amsterdam by the Acting Chairman and the Acting Executive Secretary. At the statistical meeting of FAO in Copenhagen, May 1952, the Acting Executive Secretary contributed a paper entitled "The Statistical Requirements of the International Commission for the Northwest Atlantic Fisheries" and the Commission was represented at the meeting by an observer, Dr. Paul Hansen.

A regular exchange of publications, printed and otherwise, has been established with both FAO and ICES.

The Fisheries Division of FAO has assisted the Commission by contributing statistics for European countries fishing in the Northwest Atlantic Area. This assistance was particularly helpful in the case of the southern European countries, Italy, Portugal and Spain. The Division provided facilities and assistance to the Acting Executive Secretary during his visit to Rome in November 1951, and indeed throughout the year, in obtaining an early appraisal of the Northwest Atlantic Fishery and of the problems involved in obtaining the statistics essential to the purposes of the Commission. This close liaison has been concerned with such matters as standardization of statistics, avoidance of duplication of effort and advice to Governments, when requested by them, concerning the collection and compilation of requisite statistics.

A detailed report covering these developments entitled "Cooperation with other Bodies" was submitted by the Acting Chairman and the Acting Executive Secretary to the Commission at its Second Annual Meeting (Part 2, section 8).

7. Panel 1.

A meeting of Panel 1 was held in Amsterdam, Netherlands, on 10 October 1951 immediately following the annual meeting of ICES. The Commissioners of the Contracting Governments, Denmark and the United Kingdom, were present supported by advisers. Observers were also present from France, Iceland, Norway, Portugal, Spain, United Kingdom, the United States, FAO and ICES.

The Panel reviewed the status of the fisheries and of research program in Sub-area 1. Fisheries Statistics, Longterm Research Program and Cooperation with ICES in Subarea 1 were discussed and three Recommendations on these

subjects were adopted for submission to the Commission. These Recommendations may be found in the Chairman's report of the Second Annual Meeting (Part 2, section 20).

8. Panel 5.

At the first meeting of Panel 5 in April 1951 the desirability of establishing a minimum mesh size for haddock fishing in Sub-area 5 was recognized. The problem of summarizing pertinent information and recommending an experimental mesh regulation and research program was referred to a committee of scientific advisers, in order that the problem could be considered more definitively at the next meeting of the Panel. The scientific advisers to Panel 5 (Canada and the United States) met four times following the First Annual Meeting — at Woods Hole, Massachusetts on 29 April — 1 May 1951 and 23-24 January 1952; at St. Andrews, New Brunswick on 15-17 September 1951 and 30 June 1952. The first three meetings, together with special studies by the United States Fish and Wildlife Service resulted in two reports of scientific advisers to Panel 5, the substance of which is set out in a paper by Dr. Herbert W. Graham (U.S.A.) as Part 3 of the Second Annual Report.

A meeting of Panel 5 was held at Ottawa, Canada on 26 and 27 February 1952. The Commissioners of the Contracting Governments, Canada and the United States, were present supported by advisers. Observers were also present from Canada, France and the United States. On the basis of its considerations the Panel adopted four Recommendations for submission to the Commission, the most important of which were a proposed mesh regulation for haddock fishing in Sub-area 5 and a research program designed to assess the results of the experimental regulation. The four Recommendations are embodied in the Chairman's Report of the Second Annual Meeting (Part 2, sections 16, 17 and 19).

At the fourth meeting of Panel 5 scientists the results of new experiments by the United States Fish and Wildlife Service relative to the proposed regulation were considered and it was decided that these results should be presented to the Standing Committee on Research and Statistics of the Commission.

9. Research Summaries.

In accordance with action by the Commission [Chairman's report of First Meeting, section 22 (b) 2] Governments conducting research in the waters of the Convention Area were requested to submit summaries of programs and results of research to the Commission. The following summaries were received and distributed to members of the Commission, to the appropriate Panels and to the Standing Committee on Research and Statistics in advance of the Second Annual Meeting:

(a) The Status of the Ground Fisheries and the Research Program of the United States Government in the Convention Area, with Bibliography — by Herbert W. Graham.

(b) Summary of Research Programme for 1952-53 and Results of Work carried out by the United Kingdom in the Area of the International Commission for the Northwest Atlantic Fisheries — by R. S. Wimpenny.

(c) The Norwegian Fishery Investigations in Greenland Waters 1948-51 — by Birger Rasmussen.

(d) Summary of Danish Research Work carried out in Sub-area 1, with list of Literature, and Summary of Danish Research Program for Sub-area 1 in 1952 — by Paul Hansen.

(e) Summary of Canadian Research in the Convention Area with Bibliography and Appendices — by A. W. H. Needler.

(f) Observations made during May 1951 in the Newfoundland Region aboard the oceanographic ship "President Theodore Tissier" — by P. Desbrosses (France).

Two further summaries of research programs were distributed for consideration by the appropriate Panels of the Commission:

(a) Canadian Groundfish Research in Areas 3 and 2 — by W. Templeman.

(b) Canadian Research in Sub-area 4, Resume of results and program — by A. W. H. Needler.

10. Statistical Summaries.

Summaries of fishery statistics were submitted by all Governments concerned with the fisheries of the Northwest Atlantic Convention Area. The summaries were compiled, translated where necessary and rearranged for duplication. Minor corrections and additions were made wherever they were considered to be important to an understanding of the data presented. The following summaries were distributed to Commissioners, advisers and observers in advance of the Second Commission Meeting 1):

1. Canadian Landings of Groundfish from the Convention Area, 1910-1951.
   - A. Main species of groundfish landed in the provinces of New Brunswick, Nova Scotia, Prince Edward Island and Quebec, 1910-1951 — by Markets and Economics Service, Department of Fisheries.
   - B. Groundfish landings from the Convention Area landed in Canada (not including Newfoundland) showing sub-area of capture, 1933-1951 — by Atlantic Biological Station, Fisheries Research Board of Canada.
   - C. Estimated landings in Newfoundland of the Main Species of Groundfish from the Convention Area, 1929-1950 — by Newfoundland Research Station, Fisheries Research Board of Canada.
2. Danish Fisheries Statistics for Northwest Atlantic Area.
   - A. Faroese Fisheries in Greenland's waters in 1951 — by K. Djurhuus.
   - B. Landings from West-Greenland in Danish ports by Danish craft for 1948-1951 — by A. Strubberg.
   - C. Statistics concerning the Fishery of the Greenland population in Sub-area 1 — by Paul Hansen.
3. French Landings of Salt Fish from the Convention Area, 1938-1951 — by Deputy Director of Fisheries.
4. Survey of Icelandic Fisheries in W. Greenland Waters — by Arni Fridriksson.
5. Italian Landings of Salt Cod from the Convention Area 1948-1951 — by Eugenio Avezzano.
6. Norwegian Landings of Groundfish from the Convention Area — by Håvard Angerman.
7. Portuguese Landing of Salt Cod from the Convention Area 1947-1951 — by Comm. Tavares de Almeida.
8. Spanish Fishing in the Northwest Atlantic Ocean, Results of 1951 Campaign — by J. M. Guitian y Vieito.
9. United Kingdom Landings of Groundfish from the Convention Area, 1928-1951 — by E. C. Wood.
10. United States Landings of Groundfish from the Convention Area, 1893-1950 — by North Atlantic Fishery Investigations, Fish and Wildlife Service.

A digest of the cod statistics contained in these summaries was prepared by the Commission Statistician and presented at the Second Meeting. This digest has been expanded to include statistics for all groundfish species and is presented by the Commission Statistician (Second Report, Part 4).

11. Development of Commission Statistics.

The Executive Secretary was instructed at the First Meeting to review the fisheries statistics for the Convention Area and report at the Second Annual Meeting on their adequacy and on the problems involved in improving them. The development of fisheries statistics to meet Commission requirements was accordingly explored by correspondence and at a series of meetings.

The meetings of ICES and Panel 1 at Amsterdam in October 1951 provided an opportunity for discussions with experts from northern European countries. Government fisheries offices and important fishing ports were visited in France, Italy, Spain and the United Kingdom primarily for the purpose of developing improved Commission statistics. Considerable progress was made during a week with the Fisheries Division of FAO at Rome in November 1951. During March 1952 special meetings were held on the subject of statistics with Canadian and United States experts at St. Andrews, N. B. and Washington, D. C.

On the basis of this review of the fisheries statistics available to the Commission a report

1) Available in multigraphed form from Commission Headquarters.

was prepared for submission to the Second Annual Meeting of the Commission. The findings were summarized in twelve recommendations which were presented for the consideration of the Standing Committee on Research and Statistics. The resultant statistical recommendations of the Committee, as adopted by the Commission, are incorporated into the Chairman's report of the Second Annual Meeting (Part 2, sections 18 and 21).

12. Financial Statement for the year ending 30 June 1952.

The accounts of the International Commission for the Northwest Atlantic Fisheries for the first financial year ending 30 June 1952 were presented in Canadian currency to the Commission at its Second Meeting.

These accounts show an income of $26,500.00 and a total expenditure of $15,106.34, leaving an unobligated balance of $11,393.66. There were no transfers among appropriations, and each appropriation shows a balance. At 30 June 1952 the General Fund Balance Sheet recorded total assets of $14,574.50. The liabilities consisted of $11,393.66 Surplus and $3,180.84 to be credited against the appropriations approved by the Commission for the financial year ending 30 June 1953.

The Working Capital Fund Balance Sheet recorded total assets of $5,986.67. The liabilities consisted of $5,000.00 as the Principal of Fund and $986.67 in credits due to Member Governments.

The accounts are summarized in three financial statements showing (1) income and expenditures, (2) status of appropriations and (3) assets and liabilities of the Commission in Appendix I to this report.

The audit of the Commission's finances for the fiscal year ended 30 June 1952 was made by the Auditor General's Office of the Government of Canada. As required by Section 11.2 of the Financial Regulations for the Commission, the Auditor General has certified that:

(a) The financial statements are in accord with the books and records of the Commission; and

(b) In my opinion, the financial transactions reflected in the statements have been in accordance with the rules and regulations, the budgetary provisions, and other applicable directives; and

(c) Monies on deposit have been verified by certificate received direct from the Commission's depository.

APPENDIX

FINANCIAL STATEMENT FOR THE FISCAL YEAR ENDING 30 JUNE 1952

Statement 1

Statement of budget appropriations, obligations incurred, and unobligated balances of appropriations for the fiscal year 1952

Purpose of Appropriation	Appropriated by Commission	Obligations incurred (and Liquidated)	Unobligated Balances of Appropriations
Personal services	$14,500.00	$ 8,874.01	$ 5,625.99
Travel including subsistence	3,000.00	2,501.45	498.55
Transportation of things	300.00	31.81	268.19
Communication services (postage, telephone, telegraph, etc.)	1,000.00	428.82	571.18
Rents and utility services	200.00	25.60	174.40
Other contractual services, including printing	2,000.00	285.86	1,714.14
Supplies and materials	1,000.00	993.09	6.91
Equipment, including office machines and computing machines	2,000.00	1,965.70	34.30
Annual Meeting	2,500.00	—	2,500.00
Total	26,500.00	15,106.34	11,393.66

Statement 2

Statement of income and expenditure for the year ending 30 June 1952

Income:			
Members' contributions assessed:			
Canada	$11,134.08		
Denmark	3,178.52		
Iceland	526.66		
United Kingdom	5,830.37		
United States	5,830.37		
Spain	3,180.84		
		$29,680.84	
Less credits under Financial Regulation 5 (8)		3,180.84	
			$26,500.00
Deduct — obligations incurred as per statement of budget appropriations, etc.			15,106.34
Excess of income over obligations incurred, carried to Surplus Account			11,393.66

Statement 3

Statement of assets and liabilities as at 30 June 1952

Assets		Liabilities		
GENERAL FUND				
Cash at bank	$11,393.66	Credits due to Members as per Statement of		
Contribution receivable	3,180.84	Income and Expenditure (Statement 2)		$ 3,180.84
		Surplus (Statement 2)		11,393.66
	14,574.50			14,574.50
WORKING CAPITAL FUND				
Cash at bank	$5,000.00	Credits due to Members:		
Contribution receivable	986.67	Per Financial Regulation 5 (8)		
		Canada	$438.52	
		Denmark	109.63	
		United Kingdom	219.26	
		United States	219.26	986.67
		Principal of Fund		5,000.00
	5,986.67			5,986.67

PART 2

Report of the Second Annual Meeting*
30 June - 9 July 1952

By the Acting Chairman

A. T. A. DOBSON

1. Time and Place of Meeting

The Second Meeting of the Commission was held at St. Andrews, N. B., the first plenary session being held on 3 July 1952, preliminary meetings of the Committee on Research and Statistics and the Committee on Finance and Administration having been held on the preceding days.

2. Participants

Commissioners were present, most of them accompanied by experts and advisers, from Canada, Denmark, Iceland, Norway, Spain, United Kingdom and United States, the ratification by Spain and Norway being announced at the first plenary session. Observers from France and Portugal, and from the Food and Agriculture Organization (FAO) and the International Council for the Exploration of the Sea (ICES) were also present. A list of all those present is shown as Appendix I to this report.

3. Agenda

The agenda for the Second Meeting is attached as Appendix II.

4. Opening Remarks

The Meeting was opened with a message of welcome by Mr. Stewart Bates (Canada) from the Canadian Minister of Fisheries, which the Commission greatly appreciated. The Acting Chairman (Mr. A. T. A. Dobson, U.K.) then made a few introductory remarks explaining that, owing to the resignation of the first Chairman through ill health, he had under the Rules of Procedure assumed the Chairman's responsibilities, and that it had been subsequently found desirable to appoint, after correspondence with the other Commissioners, an Acting Vice Chairman in the person of Mr. F. W. Sargent (U.S.A.)

5. Adoption of Agenda

After a brief review of what had happened since he assumed office, and after paying a tribute to the outstanding services rendered by the Acting Executive Secretary, the Acting Chairman then asked the Commission to approve the agenda. This was done with one amendment, namely that the appointment of a new Chairman (item 3) should be deferred until the end of the Meeting. The effect of this was that the Acting Chairman was left to preside over the Second Meeting until its conclusion.

6. Ratifications

The Secretary reported (agenda item 4) the new ratifications, namely Spain on 17 January 1952, and Norway on 2 July 1952. The Portugal observer intimated that his country had ratified, but that the instrument of ratification had not yet arrived at Washington, U. S. A. (Depositary Government). The French observer also intimated the imminence of the French ratification.

7. Panel Membership

When the review of Panel membership took place (agenda item 5) Dr. Kask (U.S.A.) intimated that U.S.A. desired to be represented on Panel 3, while the French observer explained that, when France ratified, they would want to have membership on Panels 1, 2, 3 and 4, and the Portugal observer intimated their interest in Panels 1, 3 and 4.

* The original Chairman's Report as presented after the Second Annual Meeting of the Commission contained a number of references to documents which were circulated at the Second Meeting and therefore available only to those attending it. In this copy of the Chairman's Report a number of modifications have been made, e.g. the insertion of a number of explanatory cross-headings so as to render the Report more readily understandable to those who do not have reference to the documents of the Second Annual Meeting.

8. Cooperation with Other International Organizations

Under item 6 of the agenda, attention was called to the Commission papers containing the memoranda of agreements that had been made by the Acting Chairman and the Acting Executive Secretary on behalf of the Commission with the President of ICES and with FAO The Commission expressed gratification at the cooperation which had thus been secured with these two Organizations; a resolution to that effect was moved by Mr. Knollenberg (U.S.A.) and seconded by Dr. Lucas (U.K.) and was agreed in the following terms:—

> The Commission notes with satisfaction the Report on Cooperation with other Bodies and the excellent assistance given to the work of the Commission by the Food and Agriculture Organization of the United Nations and the International Council for the Exploration of the Sea. The Commission wishes to record its appreciation for this cooperation and endorses the recommendations set forth in the Report as to the future relationship with these Bodies.

9. Relation to United Nations

Items 7, 8, 10 and 16 having been referred to the Committee on Finance and Administration and consideration of item 9 (Report by Acting Chairman on permanent site of headquarters) having been postponed, the Commission addressed itself to a consideration of agenda item 11 (Consideration of Article X of the 1949 Convention), two years having elapsed since the Commission came into being. The Commission resolved that the International Commission for the Northwest Atlantic Fisheries should remain as an independent Body, it being understood that close and continuous cooperation would be maintained between the Commission and both FAO and ICES.

10. Publications

Item 12 of the agenda (Policy as regards future publications) was referred to the Committee on Research and Statistics and to the Committee on Finance and Administration. Items 13, 14 and 15 were noted to be dealt with later.

11. Other Business

Under item 17 of the agenda (Other business) the Commission asked Mr. Bates (Canada), Mr. Knollenberg, (U.S.A.) and the Acting Chairman to constitute a small panel to consider the Rules of Procedure, both for the Commission and the Panels, and to decide whether any amendments were desirable, so that such amendments could be included in the agenda for the next Annual Meeting with the necessary 60 days notice being given.

Under the same item Mr. Bates also raised the question of including seal fisheries within the ambit of the Commission's activities. This suggestion was supported by Denmark but opposed by Norway. At a later plenary session the suggestion was withdrawn.

12. Press Release

Under item 18 of the agenda, it was announced that the Government of Canada had loaned the services of an official press officer (Mr. Manchester) to assist the Commission in the sphere of publicity and the Commission decided that all Mr. Manchester's press releases should be shown to the Acting Chairman and Dr. Needler before issue. The operations of Mr. Manchester greatly enhanced the publicity afforded to the Commission and were very much appreciated.

13. Permanent Headquarters

Item 9 of the agenda (Report by Acting Chairman on permanent site of headquarters) having been postponed at the first plenary session was dealt with at the second plenary held two days later. The Commission then had before it a Report by the Acting Chairman and the Acting Vice Chairman on their visit to St. John's (Newfoundland) and Halifax (Nova Scotia). The Commission had decided at its First Meeting that, in the light of the invitations from these two places, the Chairman and Vice Chairman should visit these two places and report on the relative merits of each as a future headquarters for the Commission.

The Acting Chairman clarified or modified two or three statements in the joint Report already referred to and read **in extenso** a further

letter from the Premier of Newfoundland confirming and augmenting their original offer. A very full discussion took place and the following resolutions were passed:—

1) That the question of the selection of the future headquarters of the Commission be postponed until the next Meeting, it being understood (1) that the Canadian Government would be willing to allow the accommodation at St. Andrews to remain for the time being at the disposal of the Commission and (2) that, in the meantime, the possibility of sites other than St. John's and Halifax should be explored.

2) That the exploration should be undertaken by a Committee of three, consisting of the Chairman, and a representative from Iceland and from Spain, with the Executive Secretary as adviser, which will meet as required and report to the Third Annual Meeting.

The first of these resolutions was carried unanimously and the second with one abstention.

14. Research Program

At the third plenary session, Mr. Bates (Canada) raised the question of research over the whole area of the Commission. After considerable discussion, the matter was referred to the Committee on Research and Statistics for investigation and report with the understanding that a special meeting of scientists would be held on the occasion of the 50th Anniversary Meeting of I.C.E.S. due to take place at Copenhagen at the end of September.

REPORTS OF COMMITTEE ON RESEARCH AND STATISTICS AND PANELS

15.

In connection with item 13 of the agenda (Report by the Committee on Research and Statistics) the Commission had before it at the fourth plenary session two Reports by the Committee which were dealt with separately as they became available.

16. Panel 5 Mesh Regulation

The first Report dealt **inter alia** with the Report of Panel 5 which made, under Recommendation III of its report, the following group of recommendations:—

i No person or vessel subject to the jurisdiction of a Contracting Government shall fish for haddock **(Melanogrammus aeglefinus)** in Sub-area 5 with a net which has an average mesh size of less than 3¾ inches, measured under the conditions hereinafter specified.

ii For the purpose of this regulation, the average size of the mesh shall be the average of any ten consecutive meshes running lengthwise of the net in any part of the net, selected at the discretion of the enforcement officer, and measured with a flat wedge-shaped gauge with a taper of 2″ in 9″ and a thickness of 3/32″ inserted into the mesh under a pressure of 12 pounds. In measuring to determine a violation, the net or netting shall be wet and have been used in normal fishing operations.

iii Possession of haddock amounting to more than 5000 pounds or 10% by weight of all fish aboard, whichever is larger, shall be evidence that the person or persons or vessel concerned have fished for haddock, and in such case possession on board the vessel of nets, parts of nets or netting having a mesh size less than that provided for in Sections i and ii is prohibited.

iv No device or method that will obstruct the meshes or otherwise in effect diminish the size of the meshes shall be used, except that any material may be fastened to the underside **only** of the cod end of the net to prevent damage to, or reduce wear upon, the cod end.

v The above regulation does not apply to government research vessels nor to any other vessel authorized by a Contracting Government, on recommendation of the Commission, to use a smaller mesh for experimental purposes.

On the recommendation of the Committee on Research and Statistics, this group of 5 recommendations was approved in principle by the Commission with one modification, namely that the mesh proposed should be 4½ inches instead of 3¾ inches. The Commission decided however that a committee consisting of Dr. Kask (U.S.A.), Mr. Gushue (Canada) and Mr. Lund (Norway) should settle the final wording of the

required regulation. As the result of this committee's deliberations, the regulation was finally approved by the Commission at its fifth plenary session in the following terms:—

i That appropriate action be taken by Contracting Governments to prohibit the taking of haddock *(Melanogrammus aeglefinus)* by persons under their jurisdiction in Sub-area 5, with a trawl net which has a mesh size of less than four and one half inches. For the purpose of this proposal the size of the mesh shall be taken to be the average of any ten consecutive meshes of the trawl net selected at the discretion of the enforcement officer and measured individually stretched diagonally while wet, with a flat wedge-shaped gauge having a taper of two inches in nine inches and a thickness of three thirty-seconds of an inch, inserted into the mesh under a pressure of twelve pounds.

ii The provisions of the immediately preceding paragraph shall apply to a vessel which shall have in its possession at the time haddock amounting to five thousand pounds avoirdupois or more or amounting to ten per cent or more of the weight of all fish on board, whichever is the larger. It shall not apply to government fishery research vessels or to other vessels authorized by a Contracting Government to use a smaller mesh for purposes of scientific investigation. Such Contracting Government shall report to the Commission the number and names of such research vessels or other vessels so authorized.

iii (1) No vessel while operating in Sub-area 5 shall use any device by means of which the mesh in any part of a trawl net is obstructed or otherwise in effect diminished.

(2) Notwithstanding the provisions of the foregoing sub-paragraph, it shall not be deemed unlawful to attach to the underside of the cod-end of a trawl net any canvas, netting, or other material, for the purpose of preventing or reducing wear and tear.

17. Panel 5 Research Program

Panel 5 also made a group of seven further recommendations shown under Recommendation IV in its Report as follows:—

i Continuation of the present intensive collection of data on catch per effort and age and size compositions of the catch and landings.

ii Collection, both before and after the minimum mesh regulation comes into effect, of data on the number, sizes and ages of haddock discarded at sea.

iii Further experiments to determine the selectivity of various meshes, especially the larger meshes, which would be involved in the second step.

iv Further efforts to determine the relative strength of year-classes entering the fishery both before and after the regulation comes into effect. It is believed that this may require the continued use of the present gear by selected trawlers.

v Special fishing to determine distribution and changes in abundance of haddock in their first and second years.

vi Fishery-hydrographic research to determine the causes of fluctuations of year-classes.

vii Study of the biology of the other species of fishes which live in the same ecological system as haddock.

These recommendations were endorsed by the Committee on Research and Statistics which emphasized the experimental nature of the proposed mesh regulation. They were submitted one by one to the Commission which, on being polled, accepted them all unanimously and without amendment.

18. Research and Statistics

Having disposed of the above mentioned Recommendations of Panel 5, the Commission considered the recommendations of the Committee on Research and Statistics as set out in its first Report, two of them, nos. 10 and 11, having already been disposed of in connection with the Report of Panel 5.

All the recommendations 1 to 9 were submitted to the Commission individually and were accepted after poll unanimously, but with one or two verbal modifications. With these modifications incorporated, the recommendations read as follows:—

(1.) That the Executive Secretary be requested to prepare a pamphlet with an illustration and brief description of each species important to the Commission, based on material from the forthcoming monograph by Bigelow and Schroeder properly acknowledged and including also a statement on the common names used in each country, such a publication to be prepared in close cooperation with FAO and ICES.

(2.) That, in view of the usefulness of such information, the compilation of readily available statistics according to established commercial size categories be attempted by the Commission's staff.

(3.) That the Commission compile and publish its statistics in terms of metric tons and round fresh weights (weights of entire fish as they come from the water).

(4.) That the Commission's Statistician be requested to review the situation regarding conversion factors in close cooperation with FAO and ICES and make a progress report to the Committee at the Third Annual Meeting.

(5.) That the Executive Secretary be asked to attempt to bring together for all vessels fishing in the Convention Area information on the number of vessels of various types and sizes, and the number of days spent by vessels of each category on the fishing grounds, and that he also be requested to review the availability of more refined data on catch per effort for parts of the fishing and report his findings at the Third Annual Meeting, on the understanding, of course, that the actual collection of such statistics must be the work of the various Governments themselves.

(6.) That the Executive Secretary be requested to inquire of the various Governments what information is now available as a basis for development of a standard unit of fishing effort, and to make a progress report at the Third Annual Meeting.

(7.) That the Commission request the Governments concerned, and its Secretariat, to work towards the compilation of statistics of catches and fishing efforts on a monthly basis.

(8.) That, in view of the importance of information on economic and other factors influencing catch, Governments be requested to provide a brief commentary on the operation of such factors when submitting their statistics annually to the Commission.

(9.) That the Executive Secretary be requested to arrange during the 1953 meeting of the Committee a symposium on long-term changes in hydrographic conditions and corresponding changes in the abundance of fish stocks to guide us in planning hydrographic programs and to throw light on the effects of such natural factors on fisheries.

19. Panel 5 Recommendations

At the fifth plenary session, having approved the mesh regulation in section 16 above, the Commission proceeded to deal with the remaining Panel Recommendations in the light of the comments of the Committee on Research and Statistics, its second Report having now been circulated.

Panel 5 Recommendation I read as follows:— "The common name 'redfish' is considered by Panel 5 to be the most suitable name for *Sebastes marinus* and this name is recommended for general adoption by the Commission." This Recommendation was endorsed by the Committee on Research and Statistics in their recommendation 22 and after a poll was agreed by the Commission unanimously.

Panel 5 Recommendation II read as follows:— "It is recommended that the Standing Committee on Research and Statistics be instructed to give attention to the detailed study of all fish resources, especially redfish, falling within the purview of the Convention." The Committee on Research and Statistics recommended that this matter be deferred, and after a poll this view was accepted, unanimously, by the Commission.

This disposed of all Panel 5 recommendations.

20. Panel 1 Recommendations

Panel 1 had made the following three Recommendations in its Report to the Commission:—

i **Statistics.** Subject to discussions of the whole matter at Rome between the Executive Secretary of the Commission and the Fisheries Division of the Food and Agriculture Organization, an approach should be made to each country concerned for a submission of appropriate statistics in a prescribed form for Sub-area 1.

ii **Long-term Research Program.** The Long-term Research Program for Sub-area 1, as set out in amended form, is submitted to the Commission for its approval.

iii **Cooperation with the International Council for the Exploration of the Sea in Sub-area 1.** The closest cooperation should be maintained between the International Commission for the Northwest Atlantic Fisheries and the International Council for the Exploration of the Sea and this cooperation should refer particularly to Sub-area 1 where the respective areas of investigation overlap. The Panel considered that, among the individual items for cooperation, unnecessary duplication in the publication of scientific reports and statistics should be avoided. Scientific papers on certain special subjects such as hydrography might well continue to appear in the publications of the International Council, whereas fisheries statistics for Sub-area 1 might appear in the publications of the Commission.

The first of these had already been endorsed by the recommendations of the Committee on Research and Statistics and accepted by the Commission at the fourth plenary session (see section 18 above).

As regards the second, the Committee on Research and Statistics in their first Report recommended postponement until the Third Annual Meeting of the Commission where it could be considered in the light of the Commission's research program as a whole. The same applied to the Program of the Hydrographic Subcommittee. The views of the Committee on Research and Statistics after a poll were accepted by the Commission.

The third Recommendation above had already been dealt with by the Commission at its first plenary session under item 6 of the agenda.

21. Research and Statistics Continued

All the outstanding Panel Recommendations having now been disposed of, the Commission considered the remaining recommendations of the Committee on Research and Statistics, nos. 12 to 25, with the exception of no. 22 already dealt with.

The Commission was polled on all these recommendations separately and they were agreed unanimously, with a verbal amendment in 24.

These recommendations, as accepted, were as follows:—

(12.) That the Commission adopt the statistical areas defined in the "Report to the Committee on Research and Statistics by the Sub-Committee on Division of Commission Sub-Areas" as a tentative framework for the compilation of statistics, and review, at the time of the next Annual Meeting, the suitability of the areas and the progress in their use.

(13.) That the special committee on the Commission's research program consist of scientists only, one or two from each Government, elect its own chairman, and obtain additional advice or assistance as required.

(14.) That this special committee meet at Copenhagen on the Friday and Saturday immediately preceding the 1952 ICES meeting, and that it also meet immediately before the next Annual Meeting of the Commission, with one or two intervening meetings if required.

(15.) That Dr. Tåning, Dr. Walford and Dr. Needler be asked to bring together, as a basis for discussions by the special committee at its first meeting, a listing of proposed researches from which the committee might prepare a statement on

what research is needed, what research is now being carried on, what necessary research is not now being done, and on how such gaps might be filled.

(16.) That the Commission consider the seven questions listed in the report of a special sub-committee as an indication of the lines along which the Commission's program of research might be developed.

(17.) That the report of the Chairman of the Commission, which he expects to occupy about six printed pages, be included in the printed Annual Report of the Commission following the Executive Secretary's statement on the work of the Commission during the year.

(18.) That the annual publication of a digest of statistics be considered essential, and that the Commission approve the Executive Secretary's proposal to include up to about twenty pages of such material in the forthcoming Annual Report, including a statement of total catches by species in each Sub-area.

(19.) That the publication of summaries of research be deferred for the present year, but that member Governments be asked to submit, with the material presented to the next Annual Meeting of the Commission, summaries of research in form for publication, limited in length to one thousand words for the work of any Government in one Sub-area, and to a maximum of two thousand words from any one Government, it being understood that Iceland, not being represented on any Panel, be permitted to submit a research summary with a maximum length of one thousand words.

(20.) That scientific material in support of important action by the Commission be included in its printed annual reports, and that in the forthcoming Annual Report there be included a statement on the basis for the recommended minimum mesh size for the haddock fishery in Sub-area 5 to be prepared by the United States.

(21.) That two thousand copies of the Annual Report be printed, with reprints of special parts of the Report at the discretion of the Executive Secretary.

(22.) Already dealt with (see above).

(23.) That, in view of the Executive Secretary's possible need for editorial assistance, this subject be reviewed at the time of the next Annual Meeting of the Commission, and that in the meanwhile the Executive Secretary obtain such assistance as he needs through the Chairman and other members of the Committee on Research and Statistics.

(24.) That the Commission recommend that the Government of the United States license not more than eight large trawlers at one time to fish for haddock in Sub-area 5 with a smaller mesh than that required by the minimum mesh regulation recommended by Panel 5 and adopted by the Commission.

(25.) That the Commission note the difficulty of recruiting scientists to the field of fisheries research and the necessity of encouraging such recruitment, and note also the desirability of exchanging scientists between countries.

22. Committee Chairman

It was reported that Dr. Needler had been unanimously reappointed Chairman of the Committee.

23. Reports of Panels

The sixth and final plenary session was held on 9 July, when the Reports of the five Panel meetings held concurrently with the Second Annual Meeting were formally received.

REPORT OF COMMITTEE ON FINANCE AND ADMINISTRATION

24.

The Report of the Committee on Finance and Administration was then considered. The Report dealt with a large number of matters concerned with Finance and Administration and contained 14 recommendations, as follows:—

(1.) **Administrative Policy for Leave and Travel**

(a) That on the basis of two years' employment, expenses of staff from their homes and return be paid to Commission staff.

(b) That annual leave be granted on the basis of eighteen working days a year, and that this be increased to cover air travel time from Commission headquarters to the staff member's home and return, and that travel expenses for home leave be paid, provided such leave is not taken oftener than once every two years.

(2.) **Staff**

That the staff be increased from December, 1952, to include an additional clerk-stenographer.

(3.) **Travel by Commission Officers**

That when and if Commission officers are required to travel on Commission business, as distinct from representation on behalf of their own Governments, travelling expenses should be paid by the Commission.

(4.) **Attendance at Annual Meeting of International Council for the Exploration of the Sea**

That the Secretariat should be represented at the next meeting of ICES; and that there should be representation by a Commissioner.

(5.) **Additional Travelling Expenses**

That the following expenditure be approved:

Dr. Martin	
— European trip — excess over original authority	$447.66
Miss J. Welsh	
— Travel to St. Andrews	203.65
Mr. J. Côté	
— Travel to St. Andrews	72.19
	$723.50

(6.) **Working Capital Fund**

That the Working Capital Fund be increased from $5,000 to $5,266.60. Further billings will be in accordance with the exchange rate on U.S. funds on 5 April 1951. (When all ten Governments have ratified, the contribution of each will be $526.66).

(7.) **Financial Report**

That the Financial Report for the year ending 30 June 1952, as presented by the Acting Executive Secretary, be approved.

(8.) **Honorarium Dr. Martin**

That a special bonus or honorarium, in addition to his salary, of $500 be paid to Dr. Martin.

(9.) **Time and Place of Third Annual Meeting**

That the Third Annual Meeting of the Commission be held at New Haven, Conn., U.S.A., during the last two weeks of May, 1953.

(10.) **Bonding of Executive Secretary**

That no change be made in the amount of the presently authorized $25,000 bond.

(11.) **Publication of Report**

That a report to be known as "The Second Annual Report" be published in the same format as in the First Report and that 2,000 copies be printed and provision made for the printing of separates.

(12) **Executive Secretary**

That Dr. Erik M. Poulsen of Copenhagen, Denmark, be appointed Executive Secretary with salary at the rate of $8,500 per annum with temporary headquarters at St. Andrews, N. B.

That in the event Dr. Poulsen does not accept the appointment, it be offered on the same terms to Mr. F. Heward Bell.

That in the event neither candidate accepts the appointment the selection of a new Executive Secretary and the method of selection shall be the responsibility of the special committee of the Commission appointed to deal with the site of a permanent headquarters. That the Chairman of the Commission be authorized to poll the Commission by post as to the Committee's nominee and with approval to make the appointment.

(13.) **Budget**

That a budget of $36,000 for 1952-53, detailed as follows, be approved:

Personal Services	$19,500
Travelling, including subsistence	6,000
Transportation of things	300
Communication Services	700
Rent and Utility Services	500
Other Contractual Services including printing	2,000
Supplies and Materials	1,000
Equipment, including Office Machines and Computing Machines	2,000
Annual Meetings	4,000
	$36,000

(14.) **Date of Billing**

That there will be one billing for the year by the Executive Secretary not later than 1 August 1952.

25. Adoption of Recommendations

All the above recommendations with one or two drafting amendments which are incorporated were accepted unanimously by the Commission, except that in the case of the recommendation relating to the Executive Secretary, Denmark abstained from voting.

26. Committee Chairman

It was reported that Mr. J. H. MacKichan (Canada) had been unanimously reelected as Chairman.

27. Final Statement of Chairman and Response

With the conclusion of the main business of the Commission the Acting Chairman took occasion to voice the Commission's indebtedness (a) to the Canadian Government for all the facilities that had constituted so vital a factor in carrying the Commission over its difficult first year, and for the Sunday boat trip which everyone had so much enjoyed, (b) to the Acting Executive Secretary and his staff for their outstanding services, (c) to the invaluable assistance rendered by the special staff including Mr. Lamb and (d) to Mr. Manchester for having kept the press fully apprised of the proceedings of the Commission.

28.

The Acting Chairman also expressed his personal thanks to the Acting Vice Chairman and to all those who had combined to make the Meeting so pleasant.

29.

Mr. Bates (Canada) then congratulated the Commission on the progress made at the Meeting and paid a tribute to the Acting Chairman for his part in assisting the Meeting to a successful conclusion.

30. Election of Chairman

Finally, the Commission dealt with item 3 of the agenda. (Election of new Chairman) postponed from the first plenary session.

On the motion of Mr. Bates (Canada) seconded by Dr. Lucas (U.K.) Dr. J. L. Kask (U.S.A.) was proposed as Chairman for one year. This was carried unanimously and with acclamation.

It was understood that the new Chairman, as well as the existing Vice Chairman, Mr. Dobson (U.K.), would continue in office (as on the occasion of this Meeting) until the conclusion of the Third Meeting.

The Meeting was then adjourned after Dr. Kask had expressed his appreciation of the honour conferred upon him.

APPENDIX I

PARTICIPANTS

Governments and International Organizations were represented by Commissioners, advisers, or observers, as follows:

CANADA

Commissioners

Stewart Bates, Deputy Minister of Fisheries, Department of Fisheries, Ottawa, Ontario.
Raymond Gushue, President, Memorial University, St. John's, Newfoundland.
J. Howard MacKichan, General Manager, United Maritime Fishermen Ltd., Halifax, Nova Scotia.

Advisers

Dr. A. W. H. Needler, Director, Atlantic Biological Station, St. Andrews, N. B.
Dr. W. Templeman, Director, Newfoundland Fisheries Research Station, St. John's, Newfoundland.
Dr. M. J. Dunbar, Biologist in Charge, Eastern Arctic Fisheries Investigations, Montreal, P.Q.

Assistant Advisers

Dr. H. B. Hachey, F. D. McCracken, Dr. G. F. M. Smith, Atlantic Biological Station, St. Andrews, N. B.
A. M. Fleming, Newfoundland Fisheries Research Station, St. John's, Newfoundland.

DENMARK

Commissioners

B. Dinesen, Under Secretary, Ministry of Fisheries, Copenhagen.
Dr. P. Hansen, Fisheries Biologist, Greenland Department, Copenhagen.
Dr. Aa. Vedel Tåning, Head, Danish Institute for Fishery Investigations, Charlottenlund Slot.

Adviser

L. Thygesen, Danish Westcoast Fishermen's Association, Esbjerg.

FRANCE

Observers

Capt. L. J. Audigou, Representative of the French Merchant Marine in the United States and Canada, Washington, D.C.
H. F. Barbier, Representative of the French Merchant Marine in the United States and Canada, Washington, D.C.

ICELAND

Commissioner

P. Eggerz, Counselor of the Icelandic Legation, Washington, D.C.

NORWAY

Commissioners

Dr. G. Rollefsen, Director, Institute of Marine Research, Directorate of Fisheries, Bergen.
B. Rasmussen, Institute of Marine Research, Directorate of Fisheries, Bergen.
O. Lund, Chief of Division, Directorate of Fisheries, Bergen.

PORTUGAL

Observer

Comm. T. de Almeida, Fishery Department, Lisbon.

SPAIN

Commissioner

German Baraibar, Consul General for Spain, Montreal, P.Q.

Alternate Commissioner

V. Trelles, Commercial Attache to the Consulate General for Spain, Montreal, P.Q.

Advisers

P. D. Espada, Technical Director, PYSBE, San Sebastian.
C. Ojeda, Representative of Spanish Federation of Fishing Boats, Madrid.

UNITED KINGDOM

Commissioners

A. T. A. Dobson, Fisheries Adviser, Ministry of Agriculture and Fisheries, London.

Dr. C. E. Lucas, Director, Marine Laboratory, Scottish Home Department, Aberdeen.

R. S. Wimpenny, Deputy Director, Fisheries Laboratory, Lowestoft.

UNITED STATES

Commissioners

Dr. J. L. Kask, Assistant Director, Fish and Wildlife Service, Washington, D.C.

B. K. Knollenberg, Chester, Connecticut.

Francis W. Sargent, Director, Division of Marine Fisheries, Department of Conservation, Boston, Massachusetts.

Advisers

Dr. Herbert W. Graham, Chief, North Atlantic Fishery Investigations, Fish and Wildlife Service, Woods Hole, Massachusetts.

Dr. Lionel A. Walford, Chief, Branch of Fishery Biology, Fish and Wildlife Service, Washington, D.C.

Assistant advisers

H. Schuck, J. Clark, G. Kelly, C. Taylor, Fish and Wildlife Service, Woods Hole, Massachusetts.

Observers

W. C. Herrington, Special Assistant to the Under Secretary for Fisheries and Wildlife, Department of State, Washington, D.C.

T. Rice, Massachusetts Fisheries Association Inc., Boston, Massachusetts.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Observer

Dr. D. B. Finn, Director, Fisheries Division, Food and Agriculture Organization of the United Nations, Rome, Italy.

INTERNATIONAL COUNCIL FOR THE EXPLORATION OF THE SEA

Observer

Dr. Aa. Vedel Tåning, Chairman of the North-Western Area Sub-Committee of the International Council for the Exploration of the Sea, Charlottenlund Slot, Denmark.

SECRETARIAT

Acting Executive Secretary

Dr. W. R. Martin

Commission Statistician

Mr. J. Côté

Commission Stenographer

Miss J. Welsh

Special Assistant

Mr. J. J. Lamb, Executive Assistant, Department of Fisheries, Ottawa.

Publicity

Mr. L. Manchester, Department of Fisheries, Ottawa.

Registration and Information

Miss E. Sullivan, Department of Fisheries, Ottawa.

Stenographers for Meetings

Miss N. M. Parker, Atlantic Biological Station, St. Andrews, N. B.

Miss D. Inkpen, Newfoundland Fisheries Board, St. John's, Newfoundland.

Duplicating Service

Mrs. F. Cunningham, Atlantic Biological Station, St. Andrews, N. B.

APPENDIX II

AGENDA

1. Introductory remarks by Acting Chairman.
2. Adoption of the agenda as below.
3. Election of new Chairman.

   (Note: Under Rules of Procedure No. 9, the period for which a new Chairman can be elected, in the circumstances that have arisen, is limited to one year.)
4. Statement as to ratifications.
5. Review of Panel membership (Article IV (2) 1949 Convention).
6. Working arrangements with other organizations.
7. Report on staff matters.
8. Consideration of budget 1952/53, in the light of estimated expenditure during 1951/52.
9. Report by Acting Chairman on permanent site of headquarters.
10. Appointment of permanent Executive Secretary.
11. Consideration of Article X of the 1949 Convention (Future administration of the Commission affairs).

    (Note: The Commission may wish to refer items 7, 8, 9, 10 and 11 to the Committee on Finance and Administration for report.)
12. Policy as regards future publications, administrative, statistical or scientific.
13. Report by the Committee on Research and Statistics.

    (Note: It is intended that this Committee will meet prior to the first plenary session for the purpose of considering various reports from different quarters that have been circulated, as well as item 12.)
14. Report by the Committee on Finance and Administration.

    (Note: It is intended that this Committee will meet immediately before the first plenary session for the purpose of considering the budget and certain administrative matters.)
15. Reports from Panels 1 and 5.
16. Date and place of next meeting.
17. Other business.

    (Note: Under Other business the matter of "Conservation of the Harp Seal Fishery" will be considered in accordance with the notice distributed to Governments on 24 May 1952.)
18. Press release.
19. Adjournment.

PART 3

Mesh Regulation to Increase the Yield of the Georges Bank Haddock Fishery [1]

By Herbert W. Graham [2]

Introduction. The waste of young haddock caught by the New England otter trawl fleet and the small landings, as compared with landings in certain former years, have been of grave concern to the industry for many years. The United States Government started an intensive study of the haddock fishery in 1931 with the purpose of determining what could be done to improve this important resource. On the basis of these studies recommendations have been made at various times for conservation measures, but no regulations have ever been enacted.

At the first annual meeting of the Commission in Washington in April, 1951, the United States Government presented the haddock problem and proposed that the Commission consider a minimum mesh regulation for Sub-area 5 (Georges Bank and the Gulf of Maine). It was then agreed that it would be desirable to establish a minimum mesh size for haddock fishing in Sub-area 5 as an experiment. It was further agreed that the mesh size should be set at a level which would allow a maximum proportion of unmarketable-sized haddock to escape with minimal effect on the catch of marketable-sized fish. The recommendation was made with the understanding that intensified research would be conducted in order to assess the effects of the regulation.

Biologists from Canada and the United States (the two countries concerned with Sub-area 5) were instructed to study the problem further, especially to determine the exact size of mesh necessary to produce the desired effect. Accordingly, biologists from the Atlantic Biological Station of Canada and the Woods Hole Laboratory of the Fish and Wildlife Service of the United States, constituting the scientific advisors to Panel 5, met three times during the year. All existing data relevant to the problem were studied, new experiments were planned and executed, and the results incorporated into a report to Panel 5 with a specific recommendation.

The Panel 5 scientists recommended 50 percent selection of 40 cm. haddock which on the basis of information then available was believed to be effected with a 3-¾ inch mesh 1). Panel 5 accepted this idea in principle and formalized a detailed recommendation to the Commission. The Commission referred the recommendation to the Standing Committee on Research and Statistics. This Committee approved the recommendation in principle but on the basis of evidence from new mesh experiments recommended a minimum mesh size of 4-½ inches instead of 3-¾ inches (See p. 31). The basis of the conclusions of the scientific group are presented in this report.

Status of the Fishery. Haddock have been the mainstay of the New England offshore fishery for over 25 years and most of these fish have been taken from New England banks. Over two-thirds of the haddock now landed in the United States come from Sub-area 5 (Georges Bank and the western part of the Gulf of Maine). The landings from Georges Bank alone now average about 95 million pounds annually worth about 9 million dollars to the fishermen.

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1) Prepared for the Second Annual Report International Commission for the Northwest Atlantic Fisheries, August 12, 1952.

2) Chief, North Atlantic Fishery Investigations and Director of the Laboratory, Fish and Wildlife Service, Woods Hole, Massachusetts.

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1) All mesh sizes referred to in this report are inside dimensions of a used wet net obtained by inserting a flat-wedge-shaped gauge into the mesh under a pressure of 12 pounds.

The Georges Bank haddock fishery was, at certain times in the past, more productive than it is now. (fig. 1). During the early exploitation of this fishery there was one period (from 1927 through 1930) when landings were much higher than they had ever been before or have been since. This was due to the interaction of two factors: a great abundance of fish and intensified fishing. Previous to 1930 there was a relatively high abundance of haddock on the Bank. Although there was a decline in abundance from 1928 to 1930, there was a marked increase in fishing effort during these years, resulting in high landings. From 1930 to 1934 the fishing effort dropped off. This drop in effort was accompanied by a decrease in abundance. The combined effect was a precipitous drop in landings from a high of 223 million pounds in 1929 to a low of 50 million pounds in 1934.

From 1934 to 1941 there was an upward trend in landings from Georges Bank. During the War years the landings dropped while the abundance of haddock was relatively high. Since the War, landings have fluctuated within the range of landings of the previous ten years. The production from Georges Bank is now, in a sense, stabilized. Fluctuations occur from year to year in accordance with varying strength of year classes passing through the fishery, but for the past ten years the landings have not fallen below 78 million pounds nor exceeded 122 million pounds.

A reduction in average size of fish in a population often results from intensive fishing, although changes in relative strengths of year classes may obscure any such effect. The average size of haddock landed from Georges Bank has been determined since 1931 (fig. 2). There has been no consistent trend upward or downward during this twenty year period. It is worthy of note, however, that the average sizes for 1950 and 1951 are lower than for any previous year. This was caused by the dominance of the 1948 year class and may not be related to fishing pressure as the index of abundance during those two years was higher than during the four previous years (fig. 1).

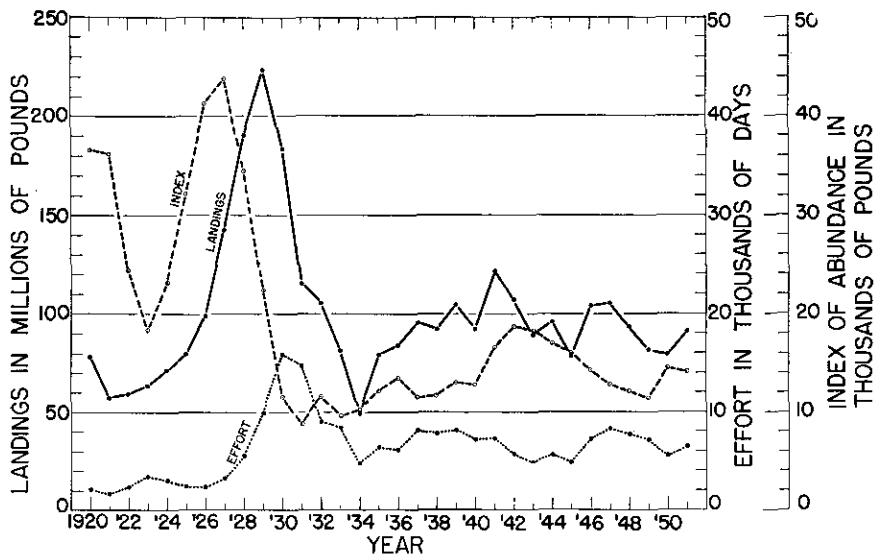

Figure 1. Georges Bank haddock: landings, index of abundance, and fishing effort from 1920 to 1951. The index of abundance is in thousands of pounds of fish landed per day's fishing by a standard trawler.

It is evident that we are concerned with a fishery which has come to an equilibrium where the degree of fishing is determined largely by the abundance of fish. When fishing is poor on Georges Bank the trawlers move to more distant banks in Sub-area 4. These banks act as a kind of buffer for the Georges Bank stock which lies close to home. Our problem then is not one of rehabilitating a depleted stock but rather one of increasing the production of an already productive population by proper management practices.

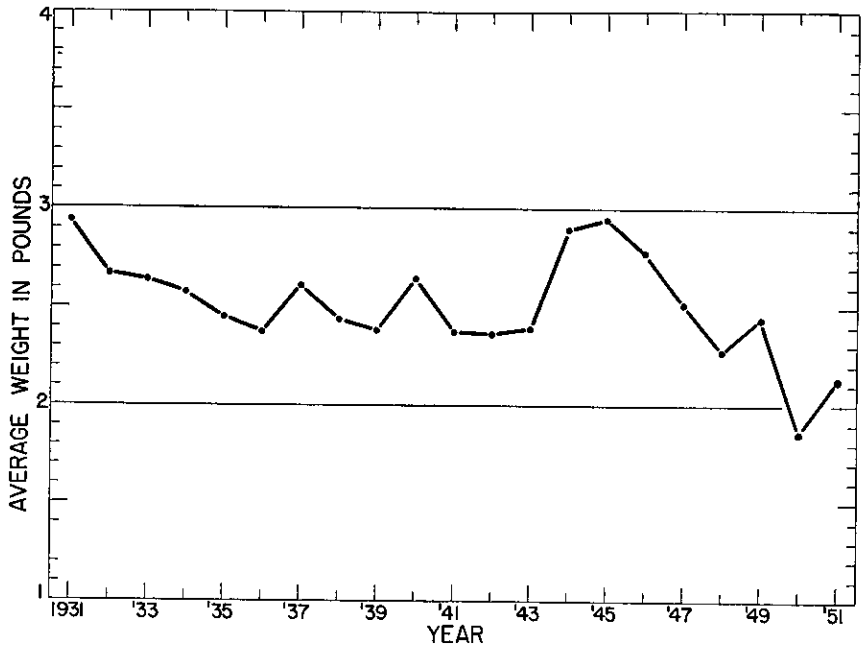

Figure 2. Georges Bank haddock: average weight of fish landed by years from 1931 to 1951.

Discreteness of the stock. The post-larval population of haddock on Georges Bank represents a stock which does not intermingle with those of neighboring banks. Differences in growth rates and in vertebral numbers, together with limited tagging experiments all indicate that there is little, if any, intermigration between the Georges Bank stock and those of other banks. This greatly simplifies the management of this fishery as it makes possible the treatment of this stock as an independent unit.

Present fishing practices. At the present time most of the haddock landed from Georges Bank are taken by large trawlers fishing out of Boston. These vessels use a net which has, in the cod end, meshes averaging 2-7/8 inches. Such a net catches large quantities of fish which are too small for the market. The 50 percent selection point for this net is 25 cm. This means that of all the fish 25 cm. in length which enter the net, half will escape and half will be retained; increasing percentages of smaller fish will be released while increasing percentages of larger fish will be retained. The nets now in use retain practically all haddock over 30 cm. in length. Such haddock weigh only about 0.6 pounds. The market normally does not accept haddock under 39 cm. (1.3 pounds) and pays a lower price for those under 49 cm. (2.5 pounds) which are graded as scrod haddock. The grading and the acceptable minimum size vary somewhat with the sizes available and the market demand. The fishermen vary their culling accordingly and discard at sea all fish below the size acceptable at the time. Recent studies show that no fish below 27 cm. are retained by the fishermen; 50 percent of the 35 cm. are landed; practically all of the 40 cm. fish; and, of course, all of the fish of larger sizes are landed. (figs. 3 and 4). During one five-year period it was estimated that an average of 15 million pounds were discarded annually. These fish were dead or dying when thrown overboard.

What size to save. It would be difficult to present an argument against the saving of the small fish now killed and discarded at sea. With a stock as intensively fished as the Georges Bank haddock no thinning seems desirable. Therefore even if the natural mortality be high, any fish of sub-marketable size surviving to be caught later at a marketable size would add to the total production.

Although the instructions to the scientific advisers to Panel 5 were to determine the mesh size necessary to save the fish now discarded, the study of this problem naturally led to a consideration of the much broader question of the optimum age of first capture. Can production be increased by advancing the age of first capture beyond the minimum size now accepted by the market?

To answer this it is necessary to take into consideration the growth rates and mortality rates of the stock. It was assumed for purposes of this study that the amount of fishing would remain about the same as during the past ten years. The advisers considered only the question of how to increase the Georges Bank haddock production without altering the present fishing effort.

Growth Rates. The growth rates of Georges Bank haddock are well known through the work of the Woods Hole Laboratory over the past 20 years. (fig. 5). It need only be noted here that the rate of growth of these fish is much more rapid than that of haddock of neighboring banks or of European waters, especially during the first 4 years of life which are the years in which the haddock contribute most to the fishery.

Mortality Rates. The studies of the landings of Georges Bank haddock by the Woods Hole Laboratory over the past 20 years have yielded valuable information on mortality rates. The annual total mortality is calculated to be 45 percent for haddock three years old and older, based on the annual decline in the index of abundance of an average year class. (fig. 6). Since haddock are not fully recruited until they are three years old (that is, not all of the fish of lesser ages caught are landed) it was not possible to determine the total mortality for haddock under the age of three. For the purposes of these studies it was assumed that the natural mortality was the same as for older fish but during the first year following age of first capture, it was assumed that fishing mortality was one-half that of older

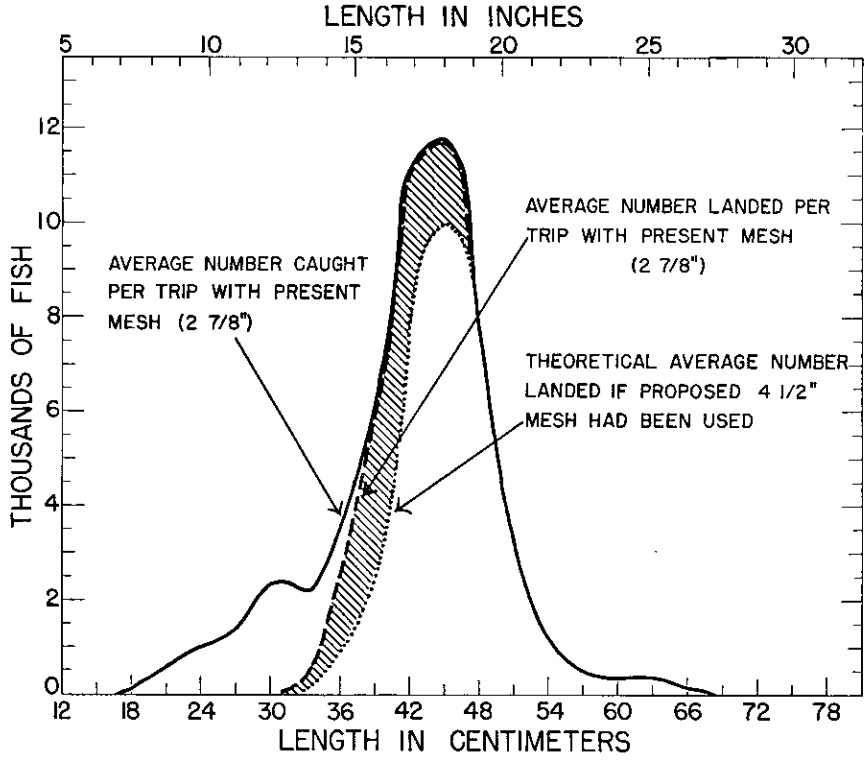

Figure 3. Average length frequencies of haddock caught, and haddock landed during seven observed trips to Georges Bank in 1951 by trawlers using a 2-7/8 inch mesh; and length frequencies of haddock which would have been landed had a 4-1/2 inch mesh been used. The quantity represented by the shaded area represents the initial reduction of landings in numbers of fish.

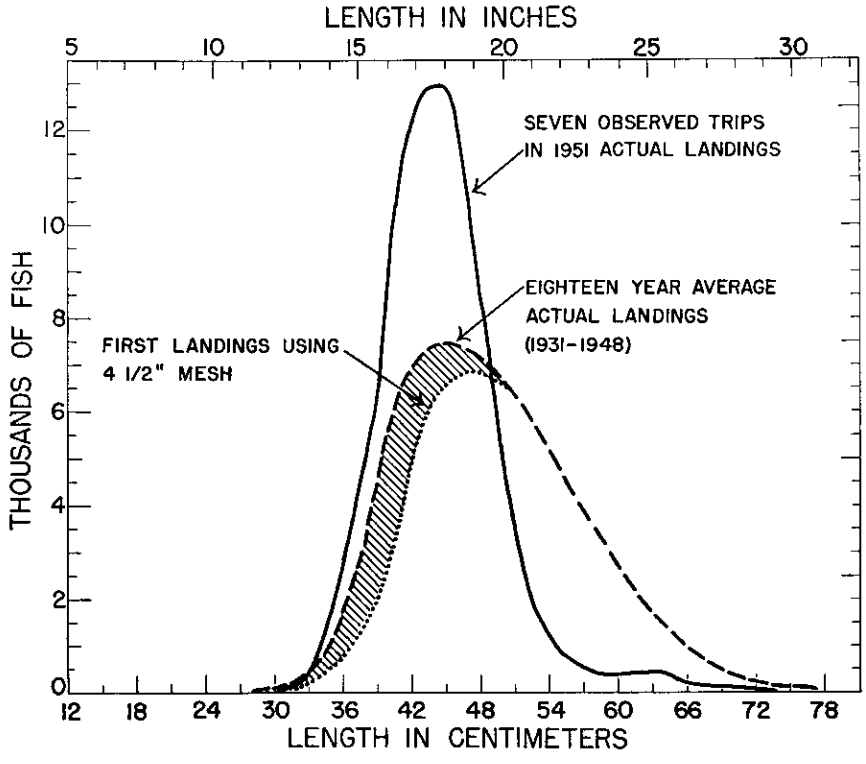

Figure 4. Average length frequencies of haddock landed during an 18-year period (1931-1948) using a 2-7/8 inch mesh, and average length frequency of haddock which would have been landed had a 4-1/2 inch mesh been used on the same population of fish. The quantity rerpesented by the shaded area represents the initial reduction in numbers. The curve of length frequencies obtained from seven observed trips in 1951 is superimposed for comparison with curve of normal distribution.

ages since one-half of the fish of that size escape through the meshes.

Total mortality comprises mortality from natural causes plus mortality from fishing. It is desirable to know the natural mortality rates in studies of this kind but it has not been possible to separate the natural from the fishing mortality in the case of the Georges Bank haddock. In order to compute the natural mortality it is necessary either to know the absolute population size or to have had in the fishery periods of greatly different fishing pressure during the period under study. Neither of these conditions has been satisfied in the case of the Georges Bank haddock so that natural and fishing mortalities have not been separated. Despite this limitation, an appraisal of the effect of reducing fishing mortalities at the earlier ages has been made.

Optimum Age of First Capture. The relation of yield to the age of first capture for different proportions of natural and fishing mortalities, with a total mortality of 45 percent, is shown in Figure 7. The yield (represented on vertical scale) is in thousands of pounds for each 10,000 fish at age one (end of first year of life). The age (represented on horizontal scale) is that at which the fishery would start catching the fish. The points on the curves represent the total pounds which 10,000 fish at age one would contribute in the course of the life of the year class if the stated natural mortality were alone operative up to the selected age and if the stated ratios of natural and fishing mortalities were together operative from the selected age up to nine years. In specifying the ages of first capture (fig. 7) it has been assumed that nets were used which retained 50 percent of the fish of that age. In other words, it was assumed that one-half the fishing mortality rates apply to the fish present during the first year they are caught. The quantities estimated are those which would be caught after an equilibrium has been established and do not represent the immediate effects which a change in age of first capture may have.

For the purpose of these calculations it was assumed that no haddock live beyond the twelfth year, that is, 100 percent natural mortality was assumed for any haddock remaining after the twelfth year.

Thus we see from Figure 7 that if there were no natural mortality (Curve A) it would pay to allow the haddock to grow to 7 or 8 years of age before catching them. Although there is some growth beyond this age, delaying capture beyond this would result in fewer pounds landed as there would be fewer years in which to apply the fishing pressure. This is admittedly an unrealistic case and is presented only for comparative purposes.

With natural mortality of 7.5 percent and fishing mortality of 37.5 percent (Curve B) the highest yield would be expected if nets were used which retained 50 percent of the 5- or 6-year-old fish.

With natural mortality as high as 30 percent and fishing mortality 15 percent (Curve E) the greatest yield would be expected under conditions of starting capture at age 2. When natural mortality is high it pays to catch the fish early in life, otherwise the natural loss of fish outweighs the increase in weight of those remaining.

It was the considered opinion of the advisers to Panel 5 based on experience in other fisheries that the natural mortality rate does not exceed 15 percent (fig. 7, Curve C). In this case the fishing mortality would be 30 percent. With this combination of natural and fishing mortalities, the maximum ultimate yield would be expected if the age of first capture were 3 or 4 years. Since the age of first capture is now somewhat under 1-½ years, it is obvious that considerable benefit could be expected if it were to be advanced to the age of 3 years.

Let us consider what effect could be expected from changing the age of first capture

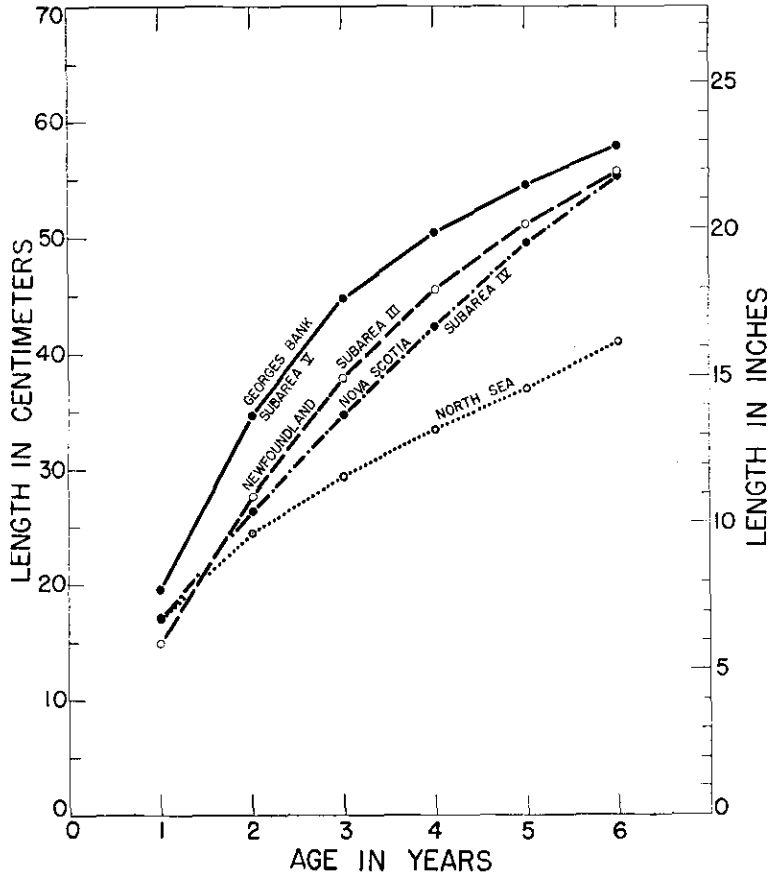

Figure 5. Growth curve for Georges Bank haddock compared with growth curves for haddock from other areas. Georges Bank data from Fish and Wildlife Service unpublished records; other data from Thompson (1939).

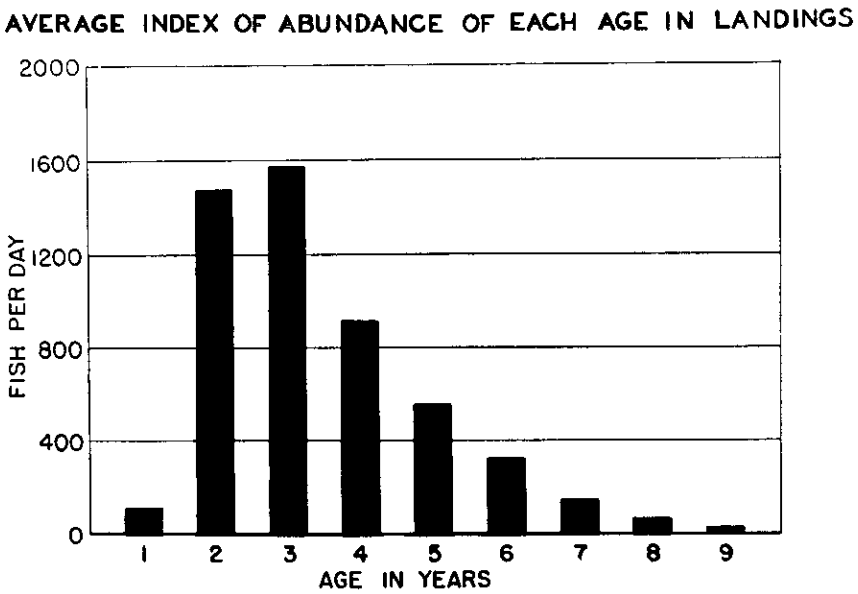

Figure 6. Average index of abundance of each age of Georges Bank haddock as shown by numbers of fish landed per day's fishing. Average of 17 years used. Forty-five percent annual mortality is indicated for fish three years of age and older. Fish under three years of age are not fully recruited.

from 1-½ to 3 years if the natural mortality were different from the assumed 15 percent. The analysis presented in Figure 7 shows that if the natural mortality were greater than 15 percent (Curves D and E) little difference in yield would be expected whereas if the natural mortality were less than 15 percent (Curves A and B), much greater benefits would be expected. Thus an advance in age of first capture to age 3 would not in any case be expected to have any adverse effect on ultimate yield and might well result in even greater benefits than those estimated.

Initial Effects. When the age of first capture of population of fish is advanced, by changing fishing practice, there is at first a decrease in pounds caught because of the escape of the small fish formerly captured. If, in the original practice, all the fish caught had been landed, then the decreased catch under the new practice would result in a corresponding decrease in landings. Production would be temporarily reduced until the growth of the protected fish made them available to the fishermen.

In the case of the Georges Bank haddock not all the fish now caught are landed. The smaller fish are culled and destroyed at sea. Thus the initial effect of advancing the age of first capture would not be so severe as in cases where all fish caught are landed.

It was calculated that advancing the age of first capture from its present one (somewhat under 1-½ years) to the desired 3 years would result in a decrease in landings of about 25 percent the first year, assuming a normal size distribution of haddock that year. If the first year of regulation happened to coincide with a year in which the fishery was being supported by the smaller sizes of fish, the initial decrease in landings would be severe. It was considered inadvisable and unnecessary to risk a large decrease in landings, as the same ultimate effect could be obtained by advancing the age of first capture in two stages.

Accordingly it was decided to recommend advancing the age of first capture in 2 steps so that the initial adverse effects would be minimized and probably have little effect on the fishery. The first step would advance the age of first capture to 2-½ years and the second step would advance it further to 3 years.

The initial effect of the first step on the sizes of fish landed is presented in figures 3 and 4. On seven trips in 1951 during which an observer measured the fish caught, the fish discarded, and the fish landed; practically all the fish under 33

cm. were discarded. (fig. 3). If a 4-½ inch mesh had been used on these trips very few fish of the discarded sizes would have been caught and some of the smaller sizes which were landed would not have been caught. The reduction in pounds landed would have amounted to about 18 percent. This reduction is considerably greater, however, than it would have been during an average year because the average size in 1951 was much lower than in normal years.

The initial effect of change in mesh on sizes landed during an average year is shown in Figure 4. In this case the initial reduction in pounds landed would have amounted to less than 10 percent. The first step, then, can be expected to reduce landings about 10 percent the first year, assuming a normal size distribution of haddock on the banks and assuming normal culling practices. These estimates assume the continuation of fishing intensity at its present level and no appreciable change in fishing efficiency as a result of the use of a larger mesh. Results of experiments conducted elsewhere indicate that the efficiency of the trawls may be increased. In this case the initial effect of a change in mesh on landings might be considerably less than that calculated.

During the second year of regulation the fish released in the preceding season should so increase the abundance of haddock as to bring the landings back to normal. During the third year, the increased abundance resulting from the release of young in two seasons should result in catches 10 to 15 percent above normal. In succeeding years the benefits would increase until a new equilibrium will have been established with landings about 30 percent greater than before regulation.

If the second step were then taken, another decline in landings would be expected the first year, but a new equilibrium would be established at a higher level than under the first step.

The advisers to Panel 5 have recommended taking the first step of advancing the age of first capture from the present one (somewhat under 1-½ years) to the desired 2-½ years and expanding research in order to test the effectiveness of the new practice.

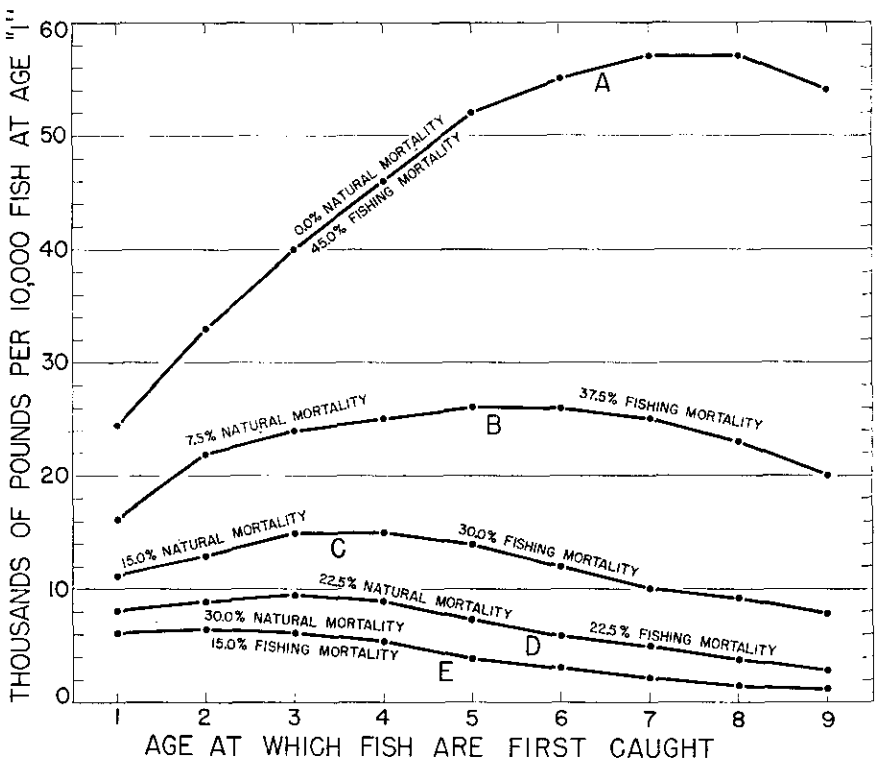

Figure 7. Relation of yield to age of first capture for various proportions of natural and fishing mortalities. See text for explanation.

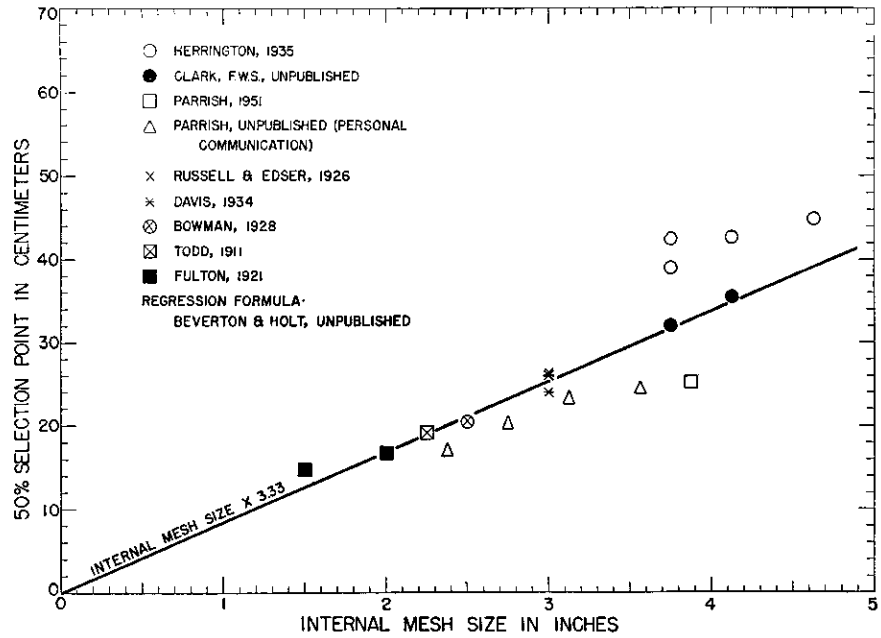

Figure 8. Relation of size of mesh to size of haddock retained. The results of Clark (solid circles) were obtained from the experiments conducted on board the Michigan.

Necessary Mesh Size. Haddock 2-½ years of age average about 40 cm. (16 inches) in length and weigh about 1.4 pounds. In order to establish 2-½ years as the age of first capture it is necessary that the fleet use nets having a 50 percent selection point at 40 cm.

Determining the exact size of mesh to effect a 50 percent selection at 40 cm. has been difficult. The results of various experiments by European and American scientists have not been in complete agreement. These are presented in Figure 8.

The advisers to Panel 5 recommended a mesh size of 3-¾ inches. This was based on the then best available information. Clark's experiments on the *Michigan* were conducted after the Panel 5 recommendation was made. A study of the results of Clark's experiments showed them to be most nearly valid and most applicable to the populations of haddock on Georges Bank. These experiments showed that a much larger mesh than 3-¾ inches would be required to effect a 50 percent selection of 40 cm. fish. A mesh of 4-½ inches was indicated as the necessary size and it was on the basis of these experiments that the Committee on Research and Statistics recommended to the Commission rewording of the Panel recommendation so that it read 4-½ inches rather than 3-¾ inches.

Measuring the Effect of the Regulation. Since landings fluctuate so much due to natural fluctuations in abundance, it will not be possible to assess the effect of the regulation by a direct comparison of landings before and after regulation except on a long-term basis, comparing, say, the next ten years' landings with those of the ten years before regulation. It should not be necessary, however, to wait ten years to obtain a measure of the effect of the regulation.

First, a comparison of the numbers, sizes, and ages of haddock discarded at sea before and after regulation will be made. This study will provide a measure of the effectiveness of the new gear in releasing unmarketable fish but will not provide information on the effect the saving of young fish has on actual landings.

The principal test of the effectiveness of the regulation will be a comparison of the total yields from individual year classes of known initial strengths. If the regulation accomplishes its purpose, a year class of a given strength at, say, two years of age, will contribute more to the landings throughout its life time than would have

a year class of the same initial strength before regulation.

Testing the effectiveness of the regulation requires an accurate measure of year class strengths at early ages. At the present time the Woods Hole Laboratory is maintaining indices of abundance of all year classes from age two, expressed as pounds landed per day per standard vessel. The index is relative only, and is based on present fishing practices with present nets which have an average inside dimension of 2-⅞ inches. Since the two-year-old haddock are not fully recruited with this gear (not all are retained by this size of mesh), the present index for 2-year-olds is not directly comparable to that of older fish, which are fully recruited. The index for 2-year-olds, however, is as accurate as that for older fish for comparisons between years, as long as the same size of mesh is used by the fleet studied. If the size of mesh is increased, of course, we no longer have a comparable index for the 2-year-olds.

For this reason it is essential that some vessels be licensed to fish with the present size of mesh in order to obtain an index for the incoming 2-year-olds comparable to that of former years. Accordingly, the Commission has recommended that the United States Government license up to eight trawlers to use the old-sized mesh so that the required index can be obtained.

With the ratio of 2-year-olds to older age groups available from this group of vessels, the relative strengths of incoming year classes can be established. It will then be possible to evaluate the effect of the change in mesh by comparing the yields of year classes of comparable strengths under the old fishing practice and the new.

This test rules out normal fluctuations in year class strengths as a factor affecting yield but in order to measure the effectiveness of the regulation we must distinguish such effects from the effects of changing natural conditions. Fluctuations in abundance may occur due to changes in growth rates or natural mortality rates brought about by natural conditions. Any change in growth rate can be readily measured but a new natural mortality would not be easily recognized. This difficulty should be circumvented if the proposal of Panel 5 scientists to make a second change in mesh size is realized. The value of the measure of the effect of the regulation will improve if the second change in mesh size is brought about.

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PART 4

Statistics of Landings of Groundfish from the Convention Area

By the Statistician

J. Côté

Foreword

This statistical section of the Second Annual Report of the International Commission for the Northwest Atlantic Fisheries brings together for the first time available data on landings of groundfish by all countries fishing in the Convention Area. These data, on total weights of the principal groundfish species landed annually from the Commission's Sub-areas, represent part of the basic fisheries statistics which are essential to the purposes of the Commission. Additional data for back years are continually being collected by the Commission and the publication of more complete statistics may be anticipated in future reports. Statistics of fishing effort are not included for the present.

These statistics are published in accordance with directives from the Commission. Data are presented in terms of metric tons, round fresh weight. The original data, submitted by the ten countries fishing in the Convention Area, were converted in accordance with footnotes appended to each table. Long-term annual statistics are given by species and by country. Digest tables for the year 1951 present total groundfish landings and total landings by species. Statistics are presented for the following groundfish species:

Cod	— **Gadus callarias**
Haddock	— **Melanogrammus aeglefinus**
Redfish	— **Sebastes marinus**
Halibut	— **Hippoglossus hippoglossus**
Flounders	— **Hippoglossoides platessoides** (plaice)
	— **Limanda ferruginea** (yellowtail)
	— **Glyptocephalus cynoglossus** (witch)
	— **Paralichthys dentatus** (fluke)
	— **Pseudopleuronectes americanus** (lemon sole)
Other groundfish	— **Pollachius virens** (pollock)
	— **Merluccius bilinearis** (whiting)
	— **Urophycis tenuis** and **chuss** (white and red hake)
	— **Brosme brosme** (cusk)
	— **Anarhichas lupus, minor** and **latifrons** (wolffishor catfish)
	— **Reinhardtius hippoglossoides** (Greenland halibut)

The statistics published in this report have been submitted to the Commission from fisheries agencies in each of the ten countries concerned with the Commission. The Commission secretariat has received full cooperation from each government and in each case a great deal of time and effort has been directed toward the compilation of statistics in the form required by the Commission. The following International Organizations, government fisheries offices, private institutions and individual persons have contributed the statistical information which formed the basis for this summary report:

International Organizations

Food and Agriculture Organization of the United Nations, Rome, Italy.
International Council for the Exploration of the Sea, Charlottenlund Slot, Denmark.

Canada

Department of Fisheries, Ottawa. J. B. Tousignant.
Atlantic Biological Station, St. Andrews, N. B.— Dr. A. W. H. Needler, Dr. W. R. Martin, F. D. McCracken.
Newfoundland Fisheries Research Station, St. John's, Nfld. — Dr. W. Templeman, A. M. Fleming.

Denmark

Dr. Paul M. Hansen, Greenland Department, Copenhagen.
A. Strubberg, Statistical Division, Ministry of Fisheries, Copenhagen.
Dr. Aa. Vedel Tåning, Danish Institute for Fishery Investigations, Charlottenlund Slot.
K. Djurhuus, Thorshavn, Faroe Islands.

France

Sous Directeur des Peches Maritimes, Paris.

United Kingdom

E. C. Wood, Ministry of Agriculture and Fisheries, London.

Iceland

Dr. Arni Fririksson, University Research Institute, Fisheries Department, Reykjavik.

Italy

M. E. Avezzano, Compagnia Generale Italiana della Grande Pesca (GENEPESCA), Livorno.

Norway

Håvard Angerman, Statistical Department, Directorate of Fisheries, Bergen.

Portugal

Comm. Tavares de Almeida, Gabinete de Estudos das Pescas, Lisbon.

Spain

Pesquerias Espanolas de Bacalao, S. A. (PEBSA), Madrid.
Compagnia de Pesca e Industrias del Bacalao, S. A. (COPIBA), Madrid.
Jose Maria Guitian y Vieito, El Jefe de la 3° Seccion, Direccion General de Pesca Maritima, Madrid.
C. Ojeda, Federacion Espanola de Armadores de Buques de Pesca, Gijon.
P. D. Espada, Pesquerias y Secaderos de Bacalao de Espana (PYSBE), San Sebastian.

U.S.A.

North Atlantic Fishery Investigations, Fish and Wildlife Service, Woods Hole, Massachusetts.—
Dr. H. W. Graham, C. C. Taylor.

List of Tables [1]

Redfish (p. 52)

Halibut (p. 56)

Flounders (p. 61)

Other Groundfish (p. 64)

1) The blank spaces (—) in all the tables signify either unknown landings or no landings. More complete statistics are continually being received by the Commission and these data will appear in future reports.

TABLE 1. TOTAL GROUNDFISH LANDINGS BY COUNTRIES FROM THE CONVENTION AREA IN 1951

Country	Sub-area					Sub-area not indicated	Total metric tons	Total million pounds
	5	4	3	2	1			
Canada	—	171,849	268,350	28,128	—	—	468,327	1,032.490
Denmark	—	—	—	—	58,393	—	58,393	128.735
France	—	—	—	—	—	112,469	112,469	247.953
Iceland	—	—	—	—	14,422	—	14,422	31.795
Italy	—	—	5,462	—	—	5,700	11,162	24.608
Norway	—	—	—	196	36,100	7,390	43,686	96.312
Portugal	—	—	—	—	48,361	74,047	122,408	269.865
Spain	—	—	64,094	1,106	—	42,669	107,869	237,811
United Kingdom	—	—	222	22	13,169	—	13,413	29.571
U. S. A. *	199,877	106,636	1,381	—	—	—	307,894	678.793
GRAND TOTAL	199,877	278,485	339,509	29,452	170,445	242,275	1,260,043	2,777,933

NOTE: The blank spaces (—) in all the tables signify either unknown landings or no landings. More complete statistics are continually being received by the Commission and these data will appear in future reports.
*—Provisional.

TABLE 2 a. DIGEST OF COD STATISTICS FOR THE CONVENTION AREA 1951

In Metric Tons Round Fresh

Country	Sub-area					Sub-area not indicated	Total metric tons	Total million pounds
	5	4	3	2	1			
Canada								
Excluding Nfld.	—	99,889	18,346	—	—	—	118,235	
Newfoundland	—	11,634	208,849	28,128	—	—	248,611	
Total	—	111,523	227,195	28,128	—	—	366,846	808.761
Denmark								
Faroes	—	—	—	—	34,360	—	34,360	
Denmark	—	—	—	—	5,345	—	5,345	
W. Greenland	—	—	—	—	18,200	—	18,200	
Total	—	—	—	—	57,905	—	57,905	127.659
France*								
Dory Vessel	—	—	—	—	—	1,469	1,469	
Otter Trawler	—	—	—	—	—	111,000	111,000	
Total	—	—	—	—	—	112,469	112,469	247.953
Iceland								
Otter Trawler	—	—	—	—	14,302	—	14,302	31.531
Italy								
Otter Trawler	—	—	5,462	—	—	5,700	11,162	24.608
Norway								
Long Liners	—	—	—	—	35,548	7,390	42,938	
Otter Trawler	—	—	—	—	240	—	240	
Total	—	—	—	—	35,788	7,390	43,178	95.192
Portugal**								
Dory Vessel	—	—	—	—	48,361	12,958	61,319	
Otter Trawler	—	—	—	—	—	61,089	61,089	
Total	—	—	—	—	48,361	74,047	122,408	269.865
Spain								
Pair Trawler	—	—	36,976	—	—	—	36,976	
Otter Trawler	—	—	7,340	1,106	—	20,625	29,071	
Total	—	—	44,316	1,106	—	20,625	66,047	145.609
United Kingdom								
Long Liners	—	—	—	—	55	—	55	
Otter Trawler	—	—	63	—	12,238	—	12,301	
Total	—	—	63	—	12,293	—	12,356	27.240
U. S. A. ***	18,358	4,340	79	—	—	—	22,777	50.215
GRAND TOTAL	18,358	115,863	277,115	29,234	168,649	220,231	829,450	1,828.633

NOTE: *—In reality the catch is devided between Sub-area 3, 2 and 1. The quantities shown under: "Sub-area not indicated" are in reality from Sub-area 3 and 2; the largest quantity comes from Sub-area 3. ***—Provisional.

TABLE 2 b. SUMMARY OF LANDINGS OF ROUND FRESH COD FOR ALL COUNTRIES

In Metric Tons Round Fresh

1930 - 1951

Year	CANADA		DENMARK			FRANCE	ICELAND	ITALY	NORWAY	PORTUGAL	SPAIN	UNITED KINGDOM	UNITED STATES
	Mar. & Quebec	Nfld.	Faroes	Denmark	West Greenland								
1930	90,434		—	—	10,256	77,902	—	—	—	9,687	—	2,861	56,615
1931	79,577	270,470	—	—	9,615	19,476	—	—	—	9,982	—	3,063	51,029
1932	77,628	266,071	—	—	9,745	17,810	—	—	—	12,482	—	1,517	48,504
1933	84,720	284,558	—	—	8,523	72,288	—	—	—	20,887	—	325	56,201
1934	82,600	280,123	—	—	9,840	76,032	—	—	—	22,455	—	405	65,903
1935	82,867	305,952	—	—	7,796	103,538	—	—	—	25,505	—	2,264	65,978
1936	92,089	295,275	—	—	7,422	65,858	—	—	—	32,044	—	6,011	60,830
1937	82,152	223,171	—	—	7,201	105,926	—	—	—	33,787	—	687	75,025
1938	91,627	271,139	—	—	5,680	152,952	—	1,529	—		—	556	68,388
1939	88,132	247,337	25,468	—	7,431	—	—	5,477	—	39,558	—	—	60,218
1940	104,306	221,726	13,935	—	8,331	—	—	1,905	—	52,594	—	—	46,041
1941	106,005	217,158	—	—	8,936	—	—	—	—	55,904	—	—	55,220
1942	105,354	187,873	—	—	12,479	—	—	—	—	56,342	—	—	36,778
1943	116,447	244,537	—	—	13,527	—	—	—	—	57,190	—	—	36,882
1944	127,968	276,059	—	—	13,883	10,070	—	—	—	62,061	—	—	52,096
1945	158,433	291,165	—	—	14,851	26,308	—	—	—	67,164	—	—	77,594
1946	175,878	294,096	2,263	—	15,626	57,878	—	—	—	77,045	—	52	49,780
1947	125,884	305,280	6,583	—	17,881	77,343	—	—	—	84,297	—	94	35,527
1948	139,383	257,197	15,555	1,971	18,997	106,728	—	2,035	—	87,227	—	12,027	37,955
1949	134,054	263,688	18,320	3,489	16,887	118,142	—	1,640	—	110,168	—	17,336	33,093
1950	136,120	236,921	29,775	5,256	20,718	125,046	—	10,470	30,615	128,480	—	1,905	30,956
1951	118,235	248,611	34,360	5,345	18,200	112,469	14,302	11,162	43,178	122,408	66,047	12,356	22,777*

NOTE: *—Provisional

TABLE 2 c. CANADA — COD LANDED

In Metric Tons Round Fresh

CANADA — EXCLUDING NEWFOUNDLAND (1)

Year	Total	Year	Sub-area		Total
			4	3	
1868	—	1910-11	—	—	170,181
1869	69,806	1911-12	—	—	112,791
1870	78,710	1912-13	—	—	92,559
1871	91,798	1913-14	—	—	89,014
1872	112,187	1914-15	—	—	96,498
1873	119,862	1915-16	—	—	115,223
1874	108,575	1916-17	—	—	106,840
1875	101,893	1917	—	—	120,588
1876	113,061	1918	—	—	96,037
1877	110,912	1919	—	—	139,312
1878	122,809	1920	—	—	106,064
1879	145,260	1921	—	—	109,092
1880	148,666	1922	—	—	126,290
1881	146,362	1923	—	—	96,478
1882	122,882	1924	—	—	100,576
1883	146,299	1925	—	—	123,958
1884	139,124	1926	—	—	146,677
1885	146,608	1927	—	—	107,698
1886	147,061	1928	—	—	117,016
1887	146,726	1929	—	—	107,709
1888	142,996	1930	—	—	90,434
1889	123,090	1931	—	—	79,577
1890	116,718	1932	—	—	77,628
1891	115,525	1933	84,720	—	84,720
1892	122,226	1934	82,600	—	82,600
1893	120,885	1935	67,615	15,252	82,867
1894	127,211	1936	77,523	14,566	92,089
1895	109,351	1937	63,105	19,047	82,152
1896	108,417	1938	71,903	19,724	91,627
1897	107,743	1939	76,267	11,865	88,132
1898	96,541	1940	94,346	9,960	104,306
1899	126,168	1941	92,670	13,335	106,005
1900	121,419	1942	94,686	10,668	105,354
1901	136,032	1943	105,289	11,158	116,447
1902	135,702	1944	110,823	17,145	127,968

NEWFOUNDLAND (2)

Year	Total	Year	Total	Year	Total	Year	Sub-area			Total
							4	3	2	
1804	103,901	1846	147,074	1888	204,876	1929-30	8,733	220,515	18,944	248,192
1805	98,184	1847	141,132	1889	190,056	1930-31	7,365	191,371	71,734	270,470
1806	120,822	1848	154,001	1890	184,933	1931-32	8,075	209,374	48,622	266,071
1807	106,076	1849	193,146	1891	216,313	1932-33	8,217	213,612	62,729	284,558
1808	91,227	1850	180,353	1892	186,815	1933-34	7,417	204,930	67,776	280,123
1809	127,094	1851	169,687	1893	188,797	1934-35	8,846	229,890	67,216	305,952
1810	138,601	1852	163,265	1894	196,316	1936	7,679	214,734	73,362	295,775
1811	144,745	1853	155,918	1895	227,847	1937	3,501	158,436	61,234	223,171
1812	112,551	1854	133,582	1896-97	201,205	1938	4,042	189,438	77,659	271,139
1813	140,220	1855	184,686	1897-98	202,988	1939	5,619	175,390	66,328	247,337
1814	149,006	1856	209,527	1898-99	215,603	1940	2,441	168,432	50,853	221,726
1815	170,305	1857	228,735	1899-1900	228,597	1941	5,765	177,670	33,723	217,158
1816	164,454	1858	175,038	1900-1	217,237	1942	7,191	140,712	39,970	187,873
1817	161,114	1859	203,395	1901-2	226,037	1943	8,689	183,318	52,530	244,537
1818	159,045	1860	221,358	1902-3	247,711	1944	6,704	215,631	53,724	276,059
1819	146,371	1861	206,433	1903-4	237,494	1945	8,074	247,641	35,450	291,165
1820	143,044	1862	211,519	1904-5	212,859	1946	8,438	247,149	38,509	294,096
1821	142,653	1863	170,545	1905-6	256,462	1947	8,830	264,624	31,826	305,280
1822	140,424	1864	173,458	1906-7	247,823	1948	7,644	214,119	35,434	257,197
1823	138,064	1865	165,372	1907-8	261,343	1949	5,806	221,772	36,110	263,688
1824	139,578	1866	154,286	1908-9	295,636	1950	6,478	200,746	29,697	236,921
1825	155,014	1867	172,621	1909-10	260,853	1951	11,634	208,849	28,128	248,611
1826	153,753	1868	157,344	1910-11	212,440					
1827	144,198	1869	188,292	1911-12	244,041					
1828	144,388	1870	198,652	1912-13	247,439					
1829	148,272	1871	198,532	1913-14	223,149					
1830	152,146	1872	191,104	1914-15	200,108					
1831	122,961	1873	221,867	1915-16	250,253					
1832	102,349	1874	264,685	1916-17	272,891					
1833	112,660	1875	196,155	1917-18	311,766					
1834	131,867	1876	184,915	1918-19	290,804					
1835	118,092	1877	179,978	1919-20	307,284					
1836	139,758	1878	180,419	1920-21	242,992					
1837	130,238	1879	234,482	1921-22	278,141					
1838	121,035	1880	234,137	1922-23	261,973					

1903	112,564	1945	145,887	12,546	158,433	1839	142,815	1881	257,661	1923-24	228,971									
1904	108,231	1946	156,655	19,223	175,878	1840	150,811	1882	235,895	1924-25	214,157									
1905	101,312	1947	103,540	22,344	125,884	1841	165,438	1883	257,672	1925-26	243,669									
1906	92,244	1948	121,042	18,341	139,383	1842	165,484	1884	246,636	1926-27	277,858									
1907	—	1949	111,149	22,905	134,054	1843	154,856	1885	220,583	1927-28	275,530									
1908	98,506	1950	120,695	15,425	136,120	1844	142,359	1886	229,948	1928-29	233,136									
1909-10	112,939	1951	99,889	18,346	118,235	1845	165,238	1887	189,990											

SOURCES: (1) 1869/1909-10: Statistics of the catch of cod off the East Coast of North America to 1926, by Oscar E. Sette, U. S. Bureau of Fisheries Document No. 1034. Collected from official sources and converted to pounds round fresh fish. 1910-11/1932: Department of Fisheries, Ottawa. Compiled from official sources and recorded in hundred pounds, fresh fish, head on and eviscerated. 1933/1951: Estimated for subareas from official sources by the Atlantic Biological Station. (2) 1804/1928-29: Same as for (1) and in addition, Supplement to Document 1034 by R. H. Fiedler and R. A. Power. 1929-30/1951: Estimated for subareas from official sources by the Newfoundland Fisheries Research Station. Recorded in thousand pounds fresh fish, head on and eviscerated.

NOTE: (1) (2) Converted to round fresh weights, using 1.20 as conversion factor.

TABLE 2 d. DENMARK — COD LANDED

In Metric Tons Round Fresh

LANDED IN THE FAROES (1)		LANDED IN DENMARK (2)		LANDED IN WEST GREENLAND (3)									
				Sub-area 1									
Year	Total Sub-area 1	Year	Total Sub-area 1	Year	Total	Year	Total	Year	Total	Year	Total	Year	Total
1939	25,468	1948	1,971	1911	19	1920	454	1929	7,080	1938	5,492	1947	18,029
1940	13,935	1949	3,489	1912	5	1921	508	1930	9,658	1939	7,161	1948	18,675
1941-45	—	1950	5,256	1913	66	1922	602	1931	9,054	1940	8,026	1949	17,050
1946	2,263	1951	5,345	1914	60	1923	690	1932	9,232	1941	8,622	1950	21,173
1947	6,583			1915	98	1924	843	1933	8,238	1942	12,027	1951	18,200
1948	15,555			1916	193	1925	1,024	1934	9,468	1943	13,026		
1949	18,320			1917	154	1926	2,224	1935	7,526	1944	13,385		
1950	29,775			1918	441	1927	3,570	1936	7,174	1945	14,289		
1951	34,360			1919	501	1928	4,163	1937	6,961	1946	15,262		

SOURCES: (1) Statistics submitted by K. Djurhuus. (2) Statistics submitted by A. Strubberg.
(3) Statistics submitted by Paul Hansen. All cod statistics recorded in metric tons round fresh fish.

TABLE 2 e. FRANCE — COD LANDED

In Metric Tons Round Fresh

Year	Total	Year	Total	Year	Total	Year	Total	Year	Total Dory Schooner Landings	Total Otter Trawler Landings	Total Dory Schooners and Otter Trawlers
1874	50,526	1890	57,236	1906	54,012	1922	102,813	1938	—	—	152,952
1875	40,703	1891	32,544	1907	94,115	1923	143,148	1939	—	—	—
1876	44,353	1892	35,877	1908	115,196	1924	124,832	1940	—	—	—
1877	37,891	1893	38,963	1909	142,118	1925	155,823	1941	—	—	—
1878	43,737	1894	38,752	1910	173,880	1926	185,213	1942	—	—	—
1879	50,298	1895	50,554	1911	95,997	1927	154,948	1943	—	—	—
1880	50,030	1896	66,362	1912	75,286	1928	148,848	1944	—	—	10,070
1881	48,126	1897	85,085	1913	94,607	1929	128,951	1945	—	—	26,308
1882	48,454	1898	81,464	1914	61,114	1930	77,902	1946	—	—	57,878
1883	58,012	1899	98,330	1915	48,927	1931	19,476	1947	5,991	71,352	77,343
1884	68,926	1900	89,013	1916	28,088	1932	17,810	1948	1,763	104,965	106,728
1885	73,130	1901	103,045	1917	33,461	1933	72,288	1949	1,572	116,570	118,142
1886	91,759	1902	66,595	1918	25,838	1934	76,032	1950	1,881	123,165	125,046
1887	105,089	1903	59,591	1919	74,070	1935	103,538	1951	1,469	111,000	112,469
1888	60,260	1904	53,340	1920	81,964	1936	65,858				
1889	57,994	1905	61,595	1921	90,070	1937	105,926				

SOURCES: 1874-1937: Statistics of the Catch of Cod off the East Coast of North America to 1926, by Oscar E. Sette, U. S. Bureau of Fisheries Document 1034 and its two supplements by R. H. Fiedler and E. A. Power, and by W. H. Stolting. Collected from official sources and converted to pounds round fresh weights. 1938: Statistics submitted by the Deputy Director for Marine Fisheries, France. Recorded in kilograms of green salted fish. 1944-46: Statistics from Supplement to Document No. 1034 by W. H. Stolting. 1947-51: as for 1938.

NOTE: 1938; 1947-51: Converted to round fresh weights, using conversion factor 2.50. 1938-51: Data do not include the results of some trawlers devoted to mixed fishing (fresh and salt fishing). 1939-43: No data available.

TABLE 2 f. ICELAND — COD LANDED

In Metric Tons Round Fresh

Sub-area	Year	Total
1	1951	14,302

SOURCE: Statistics submitted by Arni Fridriksson. Recorded in kilograms round fresh fish.

TABLE 2 g. ITALY — COD LANDED

In Metric Tons Round Fresh

Year	Sub-area				No indications	Total
	1-2-3	2-3	3	1-2		
1938	—	—	—	—	1,529	1,529
1939	—	—	—	—	5,477	5,477
1940	—	—	—	—	1,905	1,905
1941-47	—	—	—	—	—	—
1948	—	—	2,035	—	—	2,035
1949	—	—	1,640	—	—	1,640
1950	5,305	2,275	2,890	—	—	10,470
1951	—	—	5,462	5,700	—	11,162

SOURCES: 1938-40: Supplement to Document No. 1034, U. S. Bureau of Fisheries by W. H. Stolting. Recorded in pounds round fresh weights. 1948-51: Statistics by Eugenio Avezzano. Recorded in metric tons of salted cod.

NOTE: 1948-51: Converted to round fresh weights using conversion factor 2.50. 1949: Fishing campaign interrupted owing to collision of "Genepesca IV".

TABLE 2 h. NORWAY — COD LANDED

In Metric Tons Round Fresh

Year	Sub-area 1		No indications	Total
	Landed by Long Liners	Landed by Otter Trawlers		
1950	23,633	1,642	5,340	30,615
1951	35,548	240	7,390	43,178

SOURCE: Statistics submitted by Håvard Angerman. Recorded in metric tons eviscerated fresh fish.

NOTE: Converted to round fresh weights using conversion factor 1.40.

TABLE 2 i. PORTUGAL — COD LANDED

In Metric Tons Round Fresh

Year	Total	Year	Total	Year	Total	Year	Landed by Dory Schooners			Otter Trawlers	Grand Total
							Sub-area		Total	No Sub-area indicated	
							4-3	1			
1896	4,484	1911	14,507	1926	18,831	1941-42	—	—	—	—	56,342
1897	2,453	1912	10,490	1927	16,965	1942-43	—	—	—	—	57,190
1898	4,395	1913	7,040	1928	17,134	1943-44	—	—	—	—	62,061
1899	5,601	1914	6,654	1929	13,617	1944-45	—	—	—	—	67,164
1900	—	1915	10,615	1930	9,687	1945-46	—	—	—	—	77,045
1901	6,358	1916	9,394	1931	9,982	1947	20,351	31,603	51,954	32,343	84,297
1902	7,006	1917	5,552	1932	12,482	1948	18,391	34,942	53,333	33,894	87,227
1903	5,525	1918	4,228	1933	20,887	1949	11,867	43,634	55,501	54,667	110,168
1904	6,481	1919	3,374	1934	22,455	1950	20,072	40,189	60,261	68,219	128,480
1905	6,750	1920	4,567	1935	25,505	1951	12,958	48,361	61,319	61,089	122,408
1906	9,400	1921	11,152	1936	32,044						
1907	9,862	1922	16,639	1937	33,787						
1908	11,918	1923	12,075	1938-39	39,558						
1909	13,530	1924	17,749	1939-40	52,594						
1910	13,374	1925	13,694	1940-41	55,904						

SOURCES: 1896-1946: Statistics of the Catch of Cod off the East Coast of North America to 1926, by Oscar E. Sette, U. S. Bureau of Fisheries Document No. 1034, and its two supplements by R. H. Fiedler and E. A. Power, and W. H. Stolting. Collected from official sources and converted to pounds round fresh weights. 1947-51: Statistics submitted by Commander Tavares de Almeida. Recorded in quintals of wet salted fish.

NOTE: 1947-51: Converted to round fresh weights, using conversion factor 2.50.

TABLE 2 j. SPAIN — COD LANDED

In Metric Tons Round Fresh

Year	Landed by Pair Trawlers	Landed by Otter Trawlers			Total
	Sub-area	Sub-area			
	3	3	2	2-3-4	
1951	36,976	7,340	1,106	20,625	66,047

SOURCE: Statistics submitted by José Maria Guitian y Vieito. Recorded in kilograms of fresh headed, gutted, backbone removed and in kilograms of green or salted fish.

NOTE: Converted to round fresh weights, using conversion factor 2.00 for fresh fish, headed, gutted, backbone removed, and 2.50 for green or salted fish.

TABLE 2 k. UNITED KINGDOM — COD LANDED

In Metric Tons Round Fresh

Year	Long Liner Landings			Otter Trawler Landings			Total Liners and Trawlers
	Sub-area		Total	Sub-area		Total	
	1	2		1	3		
1928	553	—	553	—	—	—	553
1929	1,081	—	1,080	—	—	—	1,080
1930	2,861	—	2,861	—	—	—	2,861
1931	3,063	—	3,063	—	—	—	3,063
1932	1,517	—	1,517	—	—	—	1,517
1933	262	63	325	—	—	—	325
1934	226	179	405	—	—	—	405
1935	536	1	537	1,122	605	1,727	2,264
1936	421	—	421	5,590	—	5,590	6,011
1937	687	—	687	—	—	—	687
1938	555	1	556	—	—	—	556
1939-45	—	—	—	—	—	—	—
1946	52	—	52	—	—	—	52
1947	94	—	94	—	—	—	94
1948	16	—	16	11,444	567	12,011	12,027
1949	—	—	—	16,892	444	17,336	17,336
1950	367	2	369	1,323	213	1,536	1,905
1951	55	—	55	12,238	63	12,301	12,356

SOURCE: Statistics submitted by E. C. Wood. Recorded in cwt=112 lb.
NOTE: 1928-47: Converted to round fresh weights using conversion factor 1.14. 1948-50: Statistics were given on a round fresh weight basis. 1951: As for 1928-47.

TABLE 2 1. UNITED STATES — COD LANDED

In Metric Tons Round Fresh

Year	Sub-area			Total	Year	Sub-area			Total	Year	Sub-area			Total
	5	4	3			5	4	3			5	4	3	
1893	48,641	7,129	19,646	75,416	1913	24,719	12,701	9,298	46,718	1933	37,498	18,569	134	56,201
1894	57,350	8,821	19,709	85,880	1914	33,661	11,591	4,809	50,061	1934	32,410	33,062	431	65,903
1895	63,687	8,551	23,796	96,034	1915	18,932	15,038	3,520	37,490	1935	36,185	29,518	275	65,978
1896	49,232	6,168	19,246	74,646	1916	19,268	13,685	3,733	36,686	1936	36,380	23,036	1,414	60,830
1897	47,106	5,953	13,035	66,094	1917	21,877	21,833	837	44,547	1937	46,396	27,358	1,271	75,025
1898	45,282	11,553	12,370	69,205	1918	30,563	19,553	1,300	51,416	1938	37,452	28,502	2,434	68,388
1899	49,528	23,149	19,333	92,010	1919	30,721	19,033	1,363	51,117	1939	31,903	28,195	120	60,218
1900	34,870	17,669	17,541	70,080	1920	28,046	15,201	1,131	44,378	1940	28,302	17,692	47	46,041
1901	46,398	21,994	13,864	82,256	1921	32,866	8,683	3,268	44,817	1941	32,263	22,954	3	55,220
1902	43,033	17,960	12,401	73,394	1922	31,638	11,381	1,937	44,956	1942	29,177	7,592	9	36,778
1903	40,209	10,898	14,015	65,122	1923	31,280	14,785	1,273	47,338	1943	31,232	5,650	—	36,882
1904	31,176	9,239	13,508	53,923	1924	33,475	12,925	581	46,981	1944	33,556	18,540	—	52,096
1905	37,247	15,344	4,006	56,697	1925	35,200	10,584	120	45,904	1945	33,709	43,885	—	77,594
1906	63,276	11,942	4,085	79,303	1926	41,130	22,291	342	63,763	1946	35,166	14,614	—	49,780
1907	57,965	18,727	2,056	78,748	1927	42,815	9,811	300	52,926	1947	27,538	7,989	—	35,527
1908	41,433	19,065	4,890	65,388	1928	40,756	8,663	337	49,756	1948	29,379	8,523	53	37,955
1909	40,689	34,905	4,195	79,789	1929	43,302	5,086	305	48,693	1949	28,873	4,220	—	33,093
1910	35,688	26,896	3,284	65,868	1930	48,390	8,107	118	56,615	1950	24,256	6,665	35	30,956
1911	27,105	26,009	1,641	54,755	1931	39,089	11,933	7	51,029	1951	18,358	4,340	79	22,777*
1912	28,678	18,761	5,467	52,906	1932	36,161	12,148	195	48,504					

SOURCE: Statistics submitted by North Atlantic Fishery Investigations, Fish and Wildlife Service. Recorded in thousand pounds, head on, eviscerated fish.

NOTE: Converted to round fresh weights, using conversion factor 1.20. *—Provisional.

TABLE 3 a. DIGEST OF HADDOCK STATISTICS FOR THE CONVENTION AREA 1951

In Metric Tons Round Fresh

Country	Sub-area				Sub-area not indicated	Total metric tons	Total million pounds
	5	4	3	1			
Canada							
Excluding Nfld.	—	27,227	939	—	—	28,166	
Newfoundland	—	—	3,214	—	—	3,214	
Total	—	27,227	4,153	—	—	31,380	69.181
Iceland							
Otter Trawler	—	—	—	2	—	2	.004
Spain*							
Pair Trawler	—	—	2,554	—	—	2.554	
Otter Trawlers	—	—	16,645	—	19,457	36,102	
Total	—	—	19,199	—	19,457	38,656	85.222
U. S. A. **	53,248	15,098	8	—	—	68,354	150.696
GRAND TOTAL	53,248	42,325	23,360	2	19,457	138,392	305.103

NOTE: *—Quantity attributed to: "Sub-area not indicated" are in reality from Sub-area 4 and 3. **—Provisional.

TABLE 3 b. CANADA — HADDOCK LANDED

In Metric Tons Round Fresh

CANADA — EXCLUDING NEWFOUNDLAND (1)												NEWFOUNDLAND (2)			
Year	Total	Year	Total	Year	Sub-area		Total	Year	Sub-area		Total	Year	Total Sub-area 3	Year	Total Sub-area 3
					4	3			4	3					
1910-11	23,616	1921	13,921	1932	—	—	18,625	1943	15,769	129	15,898	1929-30	785	1941	162
1911-12	27,417	1922	15,912	1933	13,903	—	13,903	1944	12,082	1,344	13,426	1930-31	959	1942	15
1912-13	26,052	1923	15,749	1934	18,412	—	18,412	1945	16,511	150	16,661	1931-32	173	1943	24
1913-14	20,975	1924	17,470	1935	19,051	—	19,051	1946	17,347	616	17,963	1932-33	298	1944	239
1914-15	29,267	1925	17,808	1936	20,839	—	20,839	1947	14,811	1,507	16,318	1933-34	439	1945	551
1915-16	30,122	1926	25,689	1937	20,106	—	20,106	1948	24,959	4,406	29,365	1934-35	538	1946	2,642
1916-17	30,096	1927	21,806	1938	20,352	—	20,352	1949	21,804	2,282	24,086	1936	473	1947	4,756
1917	36,838	1928	24,908	1939	19,364	552	19,916	1950	22,882	1,586	24,468	1937	856	1948	10,187
1918	28,666	1929	28,202	1940	18,128	258	18,386	1951	27,227	939	28,166	1938	782	1949	12,573
1919	29,193	1930	25,148	1941	14,725	155	14,880					1939	—	1950	10,598
1920	22,842	1931	18,814	1942	13,447	103	13,550					1940	2	1951	3,214

SOURCES: (1) 1910-11/1932: Department of Fisheries, Ottawa. Compiled from official sources and recorded in hundred pounds head on eviscerated fish. 1933-51: Estimated for subareas from official sources by the Atlantic Biological Station, recorded in hundred pounds head on eviscerated fish. (2) 1929-30/1951: Estimated for subareas from official sources by the Newfoundland Fisheries Research Station. Recorded in thousand pounds head on eviscerated fish.

NOTE: (1), (2) Converted to round fresh weights, using conversion factor 1.14.

TABLE 3 c. ICELAND — HADDOCK LANDED

In Metric Tons Round Fresh

Sub-area	Year	Total
1	1951	2

SOURCE: Statistics submitted by Arni Fridriksson. Recorded in round fresh weights.

TABLE 3 d. SPAIN — HADDOCK LANDED

In Metric Tons Round Fresh

Year	Landed by Pair Trawlers	Landed by Otter Trawlers		Total
	Sub-area	Sub-area		
	3	3	2-3-4	
1951*	2,554	16,645	19,457	38,656

SOURCE: Statistics submitted by Jose Maria Guitian y Vieito. Recorded in kilograms of fresh, headed, gutted, backbone removed and in kilograms of green or salted fish.

NOTE: Converted to round fresh weights, using conversion factor 2.00 for fresh fish, headed, gutted, backbone removed, and 2.50 for green or salted fish. Haddock landed from Sub-area 2 should be considered as nil.

TABLE 3 e. UNITED STATES — HADDOCK LANDED

In Metric Tons Round Fresh

Year	Sub-area			Total	Year	Sub-area			Total	Year	Sub-area			Total
	5	4	3			5	4	3			5	4	3	
1893	15,937	1,620	—	17,557	1913	21,039	6,806	30	27,875	1933	51,707	24,022	17	75,746
1894	21,279	2,309	—	23,588	1914	28,015	8,631	15	36,661	1934	31,808	42,661	99	74,568
1895	19,808	1,721	—	21,529	1915	29,196	9,465	14	38,675	1935	43,500	47,949	—	91,449
1896	14,089	1,510	—	15,599	1916	25,067	9,968	178	35,213	1936	49,611	33,798	3	83,412
1897	14,366	1,652	—	16,018	1917	18,575	12,498	55	31,128	1937	53,964	25,490	123	79,577
1898	13,935	2,899	—	16,834	1918	26,579	10,675	166	37,420	1938	52,008	26,668	41	78,717
1899	14,349	2,881	—	17,230	1919	44,419	7,731	75	52,225	1939	59,397	20,289	194	79,880
1900	14,781	2,311	—	17,092	1920	45,736	4,354	17	50,107	1940	54,219	16,318	29	70,566
1901	12,194	2,812	—	15,006	1921	36,326	4,844	—	41,170	1941	69,413	15,956	—	85,369
1902	17,462	2,284	109	19,855	1922	36,074	9,036	—	45,110	1942	58,702	6,758	—	65,460
1903	18,177	2,686	—	20,863	1923	37,158	10,169	—	47,327	1943	52,321	4,591	—	56,912
1904	21,599	3,142	379	25,120	1924	44,742	6,869	—	51,611	1944	51,948	12,796	—	64,744
1905	30,196	3,454	75	33,725	1925	51,451	6,246	—	57,697	1945	44,907	25,691	—	70,598
1906	29,512	2,525	33	32,070	1926	56,784	4,156	—	60,940	1946	56,545	14,230	27	70,802
1907	17,939	4,130	25	22,094	1927	84,136	3,996	—	88,132	1947	59,053	16,151	7	75,211
1908	20,913	4,235	33	25,181	1928	107,837	4,400	—	112,237	1948	53,542	17,902	790	72,234
1909	17,859	4,493	17	22,369	1929	126,204	6,012	—	132,216	1949	49,319	12,189	—	61,508
1910	22,328	3,463	16	25,807	1930	107,634	15,668	—	123,302	1950	47,152	24,355	148	71,655
1911	24,651	4,524	112	29,287	1931	67,829	21,964	—	89,793	1951	53,248	15,098	8	68,354*
1912	27,725	5,263	38	33,026	1932	59,689	16,039	32	75,760					

SOURCE: Statistics submitted by North Atlantic Fishery Investigations, Fish and Wildlife Service. Recorded in thousand pounds head on eviscerated fish.

NOTE: Converted to round fresh weight, using conversion factor 1.14. * — Provisional.

TABLE 4 α. DIGEST OF REDFISH STATISTICS FOR THE CONVENTION AREA 1951

In Metric Tons Round Fresh

Country	Sub-area				Total Metric tons	Total Million pounds
	5	4	3	1		
Canada						
Excluding Nfld.	—	744	1,096	—	1,840	
Newfoundland	—	—	16,211	—	16,211	
Total	—	—	17,307	—	18,051	39.796
Denmark	—	—	—	12	12	.027
Iceland						
Otter Trawler	—	—	—	27	27	.059
United Kingdom						
Long Liners	—	—	—	**	**	
Otter Trawlers	—	—	—	124	124	
Total	—	—	—	124	124	.273
U. S. A.*	30,077	83,315	—	—	113,392	249.988
GRAND TOTAL	30,077	84,059	17,307	163	131,606	290.143

NOTE: * — Provisional. See note on table for U. S. A. ** — Less than one metric ton.

TABLE 4 b. CANADA — REDFISH LANDED

In Metric Tons Round Fresh

CANADA — EXCLUDING NEWFOUNDLAND (1)						NEWFOUNDLAND (2)			
Year	Total Sub-area 4	Year	Sub-area 4	Sub-area 3	Total	Year	Total Sub-area 3	Year	Total Sub-area 3
1936	96	1944	12	—	12	1942	5	1950	11,716
1937	44	1945	11	—	11	1943	12	1951	16,211
1938	217	1946	137	—	137	1944	37		
1939	267	1947	195	—	195	1945	144		
1940	127	1948	573	25	598	1946	264		
1941	17	1949	895	33	928	1947	1,741		
1942	58	1950	678	261	939	1948	4,572		
1943	15	1951	744	1,096	1,840	1949	7,437		

SOURCES: (1) 1936-45. Estimated by Department of Fisheries, Ottawa. Recorded in cwt. = 100 lb. round fish. 1946-51: Estimated by Atlantic Biological Station. (2) 1942-51: Newfoundland Fisheries Research Station. Recorded in thousand pounds round fresh.

NOTE: (2) Mainly from Subarea 3; a small unknown portion of the landings came from Subarea 4 in the Gulf of St. Lawrence. From 1938-41, small amounts of no more than 1000 lb. were landed and there is no report of Redfish landings prior to 1938.

TABLE 4 c DENMARK — REDFISH LANDED

In Metric Tons Round Fresh

Sub-area	Year	Total
1	1951	12

SOURCE: Statistics submitted by A. Strubberg. Recorded in kilograms redfish filet.

NOTE: Converted to round fresh weight, using conversion factor 4.0.

TABLE 4d ICELAND — REDFISH LANDED

In Metric Tons Round Fresh

Sub-area	Year	Total
1	1951	27

SOURCE: Statistics submitted by Arni Fridriksson. Recorded in round fresh weights.

TABLE 4 e. UNITED KINGDOM — REDFISH LANDED

In Metric Tons Round Fresh

Year	Long Liner Landings			Otter Trawler Landings			Total Liners and Trawlers
	Sub-area		Total	Sub-area		Total	
	1	2		1	3		
1935	8	—	8	—	—	—	8
1936	2	—	2	—	—	—	2
1937	10	—	10	—	—	—	10
1938	13	—	13	—	—	—	13
1939-45	—	—	—	—	—	—	—
1946	—	—	—	—	—	—	—
1947	1	—	1	—	—	—	1
1948	—	—	—	112	2	114	114
1949	—	—	—	82	*	82	82
1950	3	—	3	1	—	1	4
1951	*	—	*	124	—	124	124

SOURCE: Statistics submitted by E. C. Wood. Recorded in cwt. = 112 lb.
NOTE: 1935-47: Converted to round fresh weights using conversion factor 1.14. 1948-50: Statistics were given on a round fresh weight basis. 1951: As for 1935-47. * Less than one metric ton.

TABLE 4 f. UNITED STATES — REDFISH LANDED

In Metric Tons Round Fresh

Year	Total Sub-area 5	Year	Sub-area		Total	Year	Sub-area		Total	Year	Sub-area		Total
			5	4			5	4			5	4	
1916	53	1925	25	—	25	1934	519	361	880	1943	48,349	3,695	52,044
1917	82	1926	30	—	30	1935	7.549	233	7,782	1944	50,439	4,089	54,528
1918	41	1927	30	—	30	1936	23,162	7,195	30,357	1945	37,912	21,886	59,798
1919	25	1928	55	2	57	1937	14,823	11,647	26,470	1946	42,423	38,383	80,806
1920	31	1929	32	2	34	1938	20.640	8,846	29,486	1947	40,160	26,330	66,490
1921	13	1930	47	6	53	1939	25,406	9,799	35,205	1948	43,631	64,367	107,998
1922	14	1931	80	28	108	1940	26,763	11,856	38,619	1949	30,743	76,751	107,494
1923	7	1932	28	29	57	1941	59,796	10,436	70,232	1950	34,308	59,662	93,970
1924	35	1933	85	35	120	1942	55,893	2,208	58,101	1951	30,077	83,315	113,392*

SOURCE: Statistics submitted by North Atlantic Fishery Investigations, Fish and Wildlife Service. Recorded in thousand pounds round weight fish.
NOTE: Negligible landings prior to 1916. In 1950, 282 metric tons were landed from Sub-area 3, and in 1951, 2,737 metric tons. * — Provisional. While this report was being printed 15,199 metric tons were reported from Sub-area 3.

TABLE 5 a. DIGEST OF HALIBUT STATISTICS FOR THE CONVENTION AREA 1951

In Metric Tons Round Fresh

Country	Sub-area					Total metric tons	Total million pounds
	5	4	3	2	1		
Canada							
Excluding Nfld.	—	2,215	2,336	—	—	4,551	
Newfoundland	—	—	255	—	—	255	
Total	—	—	2,591	—	—	4,806	10.595
Denmark							
Faroes	—	—	—	—	—	—	
Denmark	—	—	—	—	16	16	
W. Greenland	—	—	—	—	114	114	
Total	—	—	—	—	130	130	.287
Norway	—	—	—	196	312	508	1.120
Iceland							
Otter Trawler	—	—	—	—	49	49	.108
United Kingdom							
Long Liners	—	—	—	22	240	262	
Otter Trawlers	—	—	2	—	274	276	
Total	—	—	—	22	514	538	1.186
U. S. A. *	154	74	6	—	—	234	.516
GRAND TOTAL	154	2,289	2,599	218	1,005	6,265	13.812

NOTE: * — Provisional.

TABLE 5 b. CANADA — HALIBUT LANDED

In Metric Tons Round Fresh

CANADA — EXCLUDING NEWFOUNDLAND (1)												NEWFOUNDLAND (2)			
Year	Total	Year	Total	Year	Sub-area		Total	Year	Sub-area		Total	Year	Total Sub-area 3	Year	Total Sub-area 3
					4	3			4	3					
1910-11	877	1921	1,647	1932	—	—	1,304	1943	703	15	718	1929-30	201	1941	195
1911-12	2,562	1922	1,602	1933	1,565	—	1,565	1944	849	11	860	1930-31	268	1942	157
1912-13	1,532	1923	1,025	1934	1,329	—	1,329	1945	691	106	797	1931-32	218	1943	173
1913-14	1,650	1924	1,474	1935	1,575	—	1,575	1946	851	15	866	1932-33	159	1944	155
1914-15	1,329	1925	1,135	1936	1,698	—	1,698	1947	1,102	29	1,131	1933-34	153	1945	138
1915-16	1,630	1926	1,295	1937	1,741	—	1,741	1948	1,302	34	1,336	1934-35	175	1946	127
1916-17	1,031	1927	1,487	1938	2,206	—	2,206	1949	2,293	193	2,486	1936	224	1947	210
1917	1,382	1928	1,414	1939	2,544	104	2,648	1950	4,067	2,069	6,136	1937	236	1948	202
1918	1,091	1929	1,664	1940	1,159	94	1,253	1951	2,215	2,336	4,551	1938	354	1949	125
1919	1,704	1930	1,450	1941	1,164	29	1,193					1939	172	1950	139
1920	1,249	1931	1,509	1942	659	18	677					1940	290	1951	255

SOURCE: (1) 1910-11/1932: Department of Fisheries, Ottawa. Compiled from official sources and recorded in hundred pounds, head on, eviscerated fish. 1933/1951: Estimated for subareas from official sources by the Atlantic Biological Station. From 1940 to 1951, statistics were recorded on the basis of head off and eviscerated fish. (2) 1929-30/1951: Estimated for Subarea 3 from official sources by the Newfoundland Fisheries Research Station. Recorded in thousand pounds head on, eviscerated fish.

NOTE: (1) (2) Converted to round fresh weights using conversion factor 1.15 except for Canada — excluding Newfoundland for the years 1940-51, where conversion factor 1.30 was used.

TABLE 5 c. DENMARK — HALIBUT LANDED

In Metric Tons Round Fresh

LANDED IN DENMARK (1)

	Year	1948	1949	1950	1951
Sub-area 1	—	14	32	47	16

LANDED IN WEST GREENLAND (2)

IN TONS MEAN CATCHES PER YEAR

	Year	1915-20	1921-25	1926-30	1931-35	1936-39	1948	1949	1950	1951
Sub-area 1	—	71	95	218	48	7	—	—	50	114

SOURCES: (1) Statistics submitted by A. Strubberg. (2) Statistics submitted by Paul Hansen. All statistics reported in round fresh weights.

TABLE 5 d. NORWAY — HALIBUT LANDED

In Metric Tons Round Fresh

	Year	1950	1951
Sub-area 1	Long line	161	312
Sub-area 2	Trawl	88	196

SOURCE: Statistics submitted by Håvard Angerman. Recorded head on eviscerated fresh weight.
NOTE: Converted to round fresh weights, using conversion factor 1.4.

TABLE 5 e. ICELAND — HALIBUT LANDED

In Metric Tons Round Fresh

Sub-area	Year	Total
1	1951	49

SOURCE: Statistics submitted by Arni Fridriksson. Recorded in round fresh weights.

TABLE 5 f. UNITED KINGDOM — HALIBUT LANDED

In Metric Tons Round Fresh

Year	Long Liner Landings			Otter Trawler Landings			Total Liners and Trawlers
	Sub-area		Total	Sub-area		Total	
	1	2		1	3		
1928	2,866	—	2,866	—	—	—	2,866
1929	5,791	—	5,791	—	—	—	5,791
1930	4,861	—	4,861	—	—	—	4,861
1931	5,541	—	5,541	—	—	—	5,541
1932	3,587	—	3,587	—	—	—	3,587
1933	3,028	299	3,327	—	—	—	3,327
1934	3,833	215	4,048	—	—	—	4,048
1935	2,627	115	2,742	19	4	23	2,765
1936	1,657	—	1,657	10	—	10	1,667
1937	1,312	—	1,312	—	—	—	1,312
1938	328	21	349	—	—	—	349
1939-45	—	—	—	—	—	—	—
1946	51	—	51	—	—	—	51
1947	82	—	82	—	—	—	82
1948	16	—	16	99	3	102	118
1949	—	—	—	76	2	78	78
1950	489	—	489	5	2	7	496
1951	240	22	262	274	2	276	538

SOURCE: Statistics submitted by E. C. Wood. Recorded in cwt = 112 lb.
NOTE: 1928-47: Converted to round fresh weights using conversion factor 1.14. 1948-50: Statistics were given on a round fresh weight basis. 1951: As for 1928-47.

TABLE 5 g. UNITED STATES — HALIBUT LANDED

In Metric Tons Round Fresh

Year	Sub-area					Total	Year	Sub-area				Total	Year	Sub-area			Total
	5	4	3	2	1			5	4	3	2			5	4	3	
1893	684	4,774	648	—	—	6,106	1913	402	588	754	458	2,202	1933	279	574	263	1,116
1894	843	2 867	1,436	—	1,443	6,589	1914	329	1,146	556	—	2,031	1934	192	642	164	998
1895	4,200	2,220	1,626	—	999	9,045	1915	336	1,186	644	106	2,272	1935	292	870	154	1,316
1896	4,908	1,497	3,674	—	244	10,323	1916	478	731	704	45	1,958	1936	374	750	282	1,406
1897	733	3,060	2 296	—	—	6,089	1917	293	754	237	—	1,284	1937	187	533	370	1,090
1898	564	1,957	4,045	—	—	6,566	1918	375	427	205	—	1,007	1938	146	517	201	864
1899	407	2,378	2,439	—	—	5,224	1919	498	508	209	—	1,215	1939	124	461	88	673
1900	331	2,881	2,325	—	—	5 537	1920	896	646	550	—	2,092	1940	497	344	41	882
1901	287	1,109	1,832	—	—	3,228	1921	689	1,252	1,143	—	3,084	1941	145	261	2	408
1902	367	2,328	1,494	—	—	4,189	1922	694	1,133	1,219	—	3,046	1942	250	134	12	396
1903	502	868	1,492	—	—	2,862	1923	508	1,231	906	—	2,645	1943	76	17	—	93
1904	332	1,394	379	—	402	2,507	1924	616	1,070	717	7	2,410	1944	77	33	—	110
1905	580	473	1,133	—	—	2,186	1925	843	875	247	—	1,965	1945	55	50	—	105
1906	542	1,398	894	—	—	2,834	1926	944	764	338	11	2,057	1946	124	30	11	165
1907	447	826	1,521	18	—	2,812	1927	831	867	849	53	2,600	1947	198	63	10	271
1908	891	285	1,474	—	—	2,650	1928	781	343	915	24	2,063	1948	156	62	—	218
1909	193	2,470	1,420	—	—	4,083	1929	570	310	598	26	1,504	1949	157	58	—	215
1910	329	1,627	517	—	977	3,450	1930	716	510	353	31	1,610	1950	116	93	6	215
1911	389	1,450	259	47	188	2,333	1931	511	481	348	—	1,340	1951	154	74	6	234*
1912	460	1,320	96	407	15	2,298	1932	443	596	191	—	1,230					

SOURCE: Statistics submitted by North Atlantic Fishery Investigations, Fish and Wildlife Service. Recorded in thousand pounds, head on, eviscerated fish.

NOTE: Landings from Subarea 1 include some landings from Iceland. Statistics were converted to round fresh weights, using conversion factor 1.15.
* — Provisional.

TABLE 6 a. DIGEST OF FLOUNDERS STATISTICS FOR THE CONVENTION AREA 1951

In Metric Tons Round Fresh

Country	Sub-area			Sub-area not indicated	Total metric tons	Total million pounds
	5	4	3			
Canada						
Excluding Nfld.	—	8,968	8,428	—	17,396	
Newfoundland	—	—	6,865	—	6,865	
Total	—	8,968	15,293	—	24,261	53.487
Spain						
Pair Trawler	—	—	—	110	110	.241
U. S. A. *	27,680	1,275	1,273	—	30,228	66.643
GRAND TOTAL	27,680	10,243	16,566	110	54,599	120.371

NOTE: Represents plaice, yellowtail, witch, fluke, lemon sole. * — Provisional

TABLE 6 b. CANADA — FLOUNDERS LANDED

In Metric Tons Round Fresh

CANADA — EXCLUDING NEWFOUNDLAND (1)											NEWFOUNDLAND (2)	
Year	Total	Year	Total	Year	Sub-area 4	Total	Year	Sub-area 4	Sub-area 3	Total	Year	Sub-area 3
1910-11	582	1921	99	1932	—	559	1942	2,195	65	2,260	1941	32
1911-12	365	1922	145	1933	661	661	1943	2,293	49	2,342	1942	7
1912-13	218	1923	303	1934	910	910	1944	1,674	16	1,690	1943	4
1913-14	279	1924	390	1935	1,086	1,086	1945	2,633	65	2,698	1944	37
1914-15	251	1925	673	1936	1,448	1,448	1946	3,205	65	3,270	1945	208
1915-16	248	1926	951	1937	1,880	1,880	1947	2,659	44	2,703	1946	289
1916-17	324	1927	990	1938	1,673	1,673	1948	3,813	137	3,950	1947	284
1917	382	1928	811	1939	2,279	2,279	1949	5,394	537	5,931	1948	1,297
1918	287	1929	660	1940	2,240	2,240	1950	7,524	1,189	8,713	1949	3,116
1919	188	1930	771	1941	2,603	2,603	1951	8,968	8,428	17,396	1950	5,363
1920	164	1931	516								1951	6,865

SOURCES: (1) 1910-11/31: Department of Fisheries, Ottawa. Compiled from official sources and recorded in hundred pounds round weights. 1932-51: Estimated for subareas from official sources by the Atlantic Biological Station, recorded in hundred pounds head on eviscerated fish. (2) 1941-51: Estimated for subareas from official sources by the Newfoundland Fisheries Research Station. Recorded in thousand pounds round fish.

NOTE: (1) 1932-51: Converted to round fresh weights, using conversion factor 1.20. (2) In 1939 and 1940 small amounts of less than one metric ton were landed in Newfoundland.

TABLE 6 c. SPAIN — FLOUNDERS LANDED

In Metric Tons Round Fresh

Year	Landed by Pair Trawlers
1951	110

SOURCE: Statistics submitted by Jose Maria Guitian y Vieito. Recorded in kilograms of fresh, headed, gutted, backbone removed fish.
NOTE: Converted to round fresh weights, using conversion factor 2.00.

TABLE 6 d. UNITED STATES — FLOUNDERS LANDED

In Metric Tons Round Fresh

Year	Sub-area 5	Year	Sub-area 5	Year	Sub-area			Total	Year	Sub-area			Total
					5	4	3			5	4	3	
1897	2,495	1911	—	1925	18,144	—	—	18,144	1939	24,320	1,559	*	25,879
1898	2,262	1912	—	1926	21,319	—	—	21,319	1940	29,321	1,330	—	30,651
1899	—	1913	—	1927	22,679	—	—	22,679	1941	34,337	755	—	35,092
1900	—	1914	—	1928	26,089	3	—	26,092	1942	41,168	114	—	41,282
1901	—	1915	5,443	1929	25,394	27	—	25,421	1943	35,486	199	—	35,685
1902	2,884	1916	4,989	1930	25,131	164	—	25,295	1944	31,043	397	—	31,440
1903	—	1917	7,711	1931	21,956	283	—	22,239	1945	29,434	2,752	—	32,186
1904	—	1918	8,165	1932	19,951	233	—	20,184	1946	32,415	1,782	—	34,197
1905	3,746	1919	9,000	1933	19,131	367	—	19,498	1947	33,495	1,157	—	34,652
1906	—	1920	10,886	1934	17,186	1,411	—	18,597	1948	33,831	1,700	57	35,588
1907	—	1921	9,525	1935	18,144	2,137	—	20,281	1949	31,005	2,658	—	33,663
1908	6,523	1922	12,247	1936	20,585	2,548	—	23,133	1950	31,153	2,634	552	34,339
1909	—	1923	13,608	1937	22,661	2,779	*	25,440	1951	27,680	1,275	1,273	30,228**
1910	—	1924	16,263	1938	24,649	2,163	1	26,813					

SOURCE: Statistics submitted by North Atlantic Fishery Investigations, Fish and Wildlife Service. Recorded in thousand pounds round fish.
NOTE: *Less than one metric ton. ** — Provisional.

TABLE 7 a. DIGEST OF OTHER GROUNDFISH STATISTICS FOR THE CONVENTION AREA 1951

In Metric Tons Round Fresh

Country	Sub-area				Sub-area not indicated	Total metric tons	Total million pounds
	5	4	3	1			
Canada							
Excluding Nfld.	—	21,172	1,811	—	—	22,983	50.669
Denmark	—	—	—	33	—	33	
West Greenland	—	—	—	313	—	313	
Total	—	—	—	346	—	346	.763
Iceland	—	—	—	42	—	42	.093
Spain							
Pair Trawler	—	—	310	—	—	310	
Otter Trawler	—	—	269	—	2,477	2,746	
Total	—	—	579	—	2,477	3,056	6.738
United Kingdom							
Long Liners	—	—	—	11	—	11	
Otter Trawlers	—	—	157	227	—	384	
Total	—	—	157	238	—	395	.871
U. S. A.*	70,360	2,534	15	—	—	72,909	160.738
GRAND TOTAL	70,360	23,706	2,562	626	2,477	99,731	219.872

NOTE: Represents: pollock, whiting, white and red hake, cusk, wolffish, Greenland halibut.
* — Provisional.

TABLE 7 b. CANADA — EXCLUDING NEWFOUNDLAND — OTHER GROUNDFISH LANDED

In Metric Tons Round Fresh

Year	Sub-area 4	Year	Sub-area		Total	Year	Sub-area		Total	Year	Sub-area		Total
			4	3			4	3			4	3	
1933	12,648	1938	20,005	—	20,005	1943	20,490	101	20,591	1948	31,240	137	31,377
1934	18,186	1939	16,491	381	16,872	1944	21,422	944	22,366	1949	23,131	238	23,369
1935	14,999	1940	18,062	191	18,253	1945	27,965	131	28,096	1950	29,145	131	29,276
1936	19,506	1941	14,761	185	14,946	1946	30,193	76	30,269	1951	21,172	1,811	22,983
1937	25,745	1942	18,386	114	18,500	1947	24,341	41	24,382				

SOURCES: 1933-1945. Estimates by Department of Fisheries, Ottawa. 1946-1951: Estimates by the Atlantic Biological Station. Recorded in hundred pounds head on and eviscerated fish.
NOTE: Other Groundfish represented are hake, cusk, pollock and catfish. Converted to round fresh weights, using conversion factor 1.20.

TABLE 7 c. DENMARK — OTHER GROUNDFISH LANDED

In Metric Tons Round Fresh

LANDED IN DENMARK (1)

Year	1948	1949	1950	1951
Sub-area 1	100	14	15	33

LANDED IN WEST GREENLAND (2)

Year	1915-20	1921-25	1926-30	1931-35	1936-39	1948	1949	1950	1951
Sub-area 1	337	589	708	465	372	219	191	253	313

SOURCES: (1) Statistics submitted by A. Strubberg. (2) Statistics submitted by Paul Hansen. Recorded in kilograms.
NOTE: (1) The data for 1948-50 refer to wolffish only. In 1951 wolffish are represented by 5, and Greenland halibut by 28 metric tons. Wolffish filet data converted to round fresh weight by using conversion factor 3.0. (2) Greenland halibut only. Recorded in yearly mean catch for five-year periods 1915-39.

TABLE 7 d. ICELAND — OTHER GROUNDFISH LANDED

In Metric Tons Round Fresh

Sub-area	Year	Total
1	1951	42

SOURCE: Statistics submitted by Arni Fridriksson. Recorded in round fresh weights.

TABLE 7 e. SPAIN — OTHER GROUNDFISH LANDED

In Metric Tons Round Fresh

Year	Landed by Pair Trawlers	Landed by Otter Trawlers		Total
	Sub-area	Sub-area		
	3	3	2-3-4	
1951	310	269	2,477	3,056

SOURCE: Statistics submitted by Jose Maria Guitian y Vieito. Recorded in kilograms of fresh, headed, gutted, backbone removed and in kilograms of green salted fish.

NOTE: Converted to round fresh weights, using conversion factor 2.00 for fresh fish and 2.50 for green salted fish. Amounts represent approximately equal parts of hake and pollock.

TABLE 7 f. UNITED KINGDOM — OTHER GROUNDFISH LANDED

In Metric Tons Round Fresh

Year	Long Liner Landings			Otter Trawler Landings			Total Liners and Trawlers
	Sub-area		Total	Sub-area		Total	
	1	2		1	3		
1928	171	—	171	—	—	—	171
1929	225	—	225	—	—	—	225
1930	251	—	251	—	—	—	251
1931	262	—	262	—	—	—	262
1932	143	—	143	—	—	—	143
1933	33	6	39	—	—	—	39
1934	74	22	96	—	—	—	96
1935	133	31	164	5	271	276	440
1936	79	—	79	86	—	86	165
1937	159	—	159	—	—	—	159
1938	92	*	92	—	—	—	92
1939-45	—	—	—	—	—	—	—
1946	1	—	1	—	—	—	1
1947	7	—	7	—	—	—	7
1948	6	—	6	177	24	201	207
1949	*	—	*	365	172	537	537
1950	20	—	20	1	623	624	644
1951	11	—	11	227	157	384	395

SOURCE: Statistics submitted by E. C. Wood. Recorded in cwt. = 112 lb.
NOTE: 1928-47: Converted to round fresh weights using conversion factor 1.14. 1948-50: Statistics were given on a round fresh basis. 1951: As for 1928-47. "Other groundfish landed" represents catfish, pollock, and other groundfish. * — Less than one metric ton.

TABLE 7 g. UNITED STATES — OTHER GROUNDFISH LANDED

In Metric Tons Round Fresh

Year	Sub-area			Total	Year	Sub-area			Total	Year	Sub-area			Total
	5	4	3			5	4	3			5	4	3	
1893	27,181	4,784	—	31,965	1913	30,772	4,939	342	36,053	1933	17,402	3,896	—	21,298
1894	23,973	4,414	—	28,387	1914	26,265	5,194	196	31,635	1934	23,944	3,633	10	27,587
1895	23,814	2,078	—	25,892	1915	27,527	5,367	152	33,046	1935	32,994	5,728	3	38,725
1896	21,000	1,165	—	22,165	1916	28,572	3,764	287	32,623	1936	45,159	7,732	19	52,910
1897	19,493	4,037	—	23,530	1917	23,390	1,908	90	25,368	1937	37,122	6,331	110	43,563
1898	30,104	3,687	—	33,791	1918	27,615	1,924	51	29,590	1938	36,817	7,488	11	44,316
1899	24,855	3,433	—	28,288	1919	38,511	1,611	58	40,180	1939	28,199	5,425	2	33,626
1900	20,150	2,174	1	22,325	1920	16,604	912	152	17,668	1940	43,237	3,572	2	46,811
1901	23,783	1,782	2	25,567	1921	15,712	1,047	94	16,153	1941	41,185	4,817	—	46,002
1902	33,096	2,982	45	36,123	1922	15,520	1,176	63	16,759	1942	41,000	2,064	—	43,064
1903	26,654	3,988	18	30,660	1923	16,109	1,268	67	17,444	1943	42,950	1,366	—	44,316
1904	17,524	4,410	245	22,179	1924	20,620	907	65	20,592	1944	41,846	3,640	—	45,486
1905	29,485	4,713	97	34,295	1925	20,322	1,035	2	21,359	1945	48,748	7,719	—	56,467
1906	39,775	3,847	45	43,667	1926	21,128	858	5	21,991	1946	48,658	5,571	2	54,231
1907	25,863	6,268	54	32,185	1927	20,709	861	14	21,584	1947	45,629	1,780	—	47,409
1908	35,505	3,649	81	39,235	1928	17,494	820	10	18,324	1948	60,518	4,535	—	65,053
1909	38,355	2,584	62	41,001	1929	23,582	1,899	9	25,490	1949	78,744	2,371	—	81,115
1910	34,298	4,282	39	38,619	1930	28,011	2,213	21	30,245	1950	52,243	2,609	4	54,856
1911	31,833	7,495	139	38,467	1931	16,188	2,934	6	19,128	1951*	70,360	2,534	15	72,909
1912	30,045	5,720	89	35,854	1932	15,866	2,732	—	18,598					

SOURCE: Submitted by North Atlantic Fishery Investigations, Fish and Wildlife Service. Recorded in thousand pounds.
NOTE: The following conversion factors were used.—Pollock — 1.14, white hake — 1.34, whiting — 1.66, cusk — 1.14. Data for red hake were recorded on a round weight basis. Whiting accounts for the greater part of the total (in 1950 the landings amounted to 26,353 metric tons of whiting and 11,541 metric tons of pollock). * — Provisional.