

THIRD ANNUAL MEETINGSurvey of Research Work in 1952 by Subareas, compiled from Reports received from the Participating Countries.

In accordance with Recommendation 21 (19) of the Second Annual Meeting asking member governments to forward for presentation to the Third Annual Meeting summaries of research for publication, the Secretariat asked, by letter of 5 December 1952, for such summaries.

Summaries of research for 1952 have to date been received from Canada, Denmark, France, Iceland, Norway, United Kingdom, and United States. They are distributed as documents for the Third Annual Meeting. In the table below, showing the distribution of research by subareas and by countries, the document number is given in brackets.

Subarea	1	2	3	4	5
Canada (23)		++	++	++	
Denmark (20)	++				
France (29)		++	++		
Iceland (14)	+				
Norway (28)	+				
United Kingdom (15)	++				
United States(13)			+	++	++

++ indicates researches from special research vessels.

It should be noted that this table in no way accounts for the quantity of work carried out, but only for the dispersion of it.

In 1952 research work was carried out in all 5 subareas, and in all of them research vessels from one or more countries were operating. Further, biologists were working from commercial vessels in most of the subareas. These facts stress the necessity of a combined planning of the researches in order that possible gaps may be filled up and duplication of work avoided.

Subarea 1.

Research vessel "Dana" (Denmark), 6 July - 10 August
 Research vessel "Ad. S. Jensen" (Denmark), April-Oct.
 Research vessel "Ernest Holt" (England), 4-16 Sept.

Further collections of data and material were made by specially designed persons from

the commercial trawler "Petur Halldorsson" (Iceland)
 Sept -Oct.
 the long-liner "Havmann" (Norway), Aug.-Sept.

A. Hydrography

8 sections across the offshore Greenland banks (Denmark)
Observations between Kap Farvel and Kap Desolation
(England)
Observations of sea temperatures in connection with
line fishing for cod (Norway).

The 1952 season is reported a cold one, especially in the southern part of the area as far north as to Lille Hellefiske Banke.

B. The Fishes

Plankton collections with Hensen net and fishing with ringtrawl for eggs and larvae, mainly cod and redfish, were carried out from the "Dana".

The small numbers of cod larvae found are reported to indicate a poor survival year.

Young cod. From investigations in the coastal area it appears that the 1950 year-class is fairly rich.

Age composition of samples of commercially caught cod is reported by all 4 countries. Danish, Icelandic, and United Kingdom analyses of trawl caught cod show a great predominance of the 1947 year-class in the northern part and of the 1945 year-class in the southern part of the area.

In the Norwegian line-fishing the 1942 year-class was predominating.

Taggings of cod were carried out by Denmark and by U.K.

By Norway and by U.K. a special study of the dependance of cod fishing on sea temperature was made. The Norwegian line fishing for pelagic cod yielded the biggest catches at 2.5°C - 4.0°C, for bottom living cod at 2.1°C - 2.5°C. The trawl fishing (U.K.) yielded the best catches (of feeding cod) at temperatures just below 2°C.

The results by the separate countries as to age- and size-distribution of cod are in good agreement. This shows that the material collected is sufficient for a proper judgement of the age composition. Thus the possibility exists that the research vessels could leave part of the collecting of such material to the biologists on board commercial fishing vessels, thus saving additional time for those researches which can be carried out only from the specially equipped research vessels.

Subarea 2.

Research vessel "Investigator II" (Canada), July-Sept.
Research vessel "President Theodore Tissier" (France)
Aug.-Sept.

A. Hydrography

A section across the Labrador current south of Hamilton Bank, 26 July - 3 August (Canada).

A section along the Hamilton Bank, August (France).

The Hamilton Bank was in August completely covered by arctic water (below 0°C.) up to 50 m. from the surface.

B. The Fishes

Cod. Measurements and samplings of otoliths were carried out on the Hamilton Bank. The French researches in August and the Canadian in September both showed the biggest trawlcatches on the southern part of the Bank in arctic water (below 0°C). In somewhat warmer water (1.2°C) on the eastern bulge of the Bank large catches were made in late September.

American plaice (*Hippoglossoides platessoides*) were caught in large quantities on the Bank in depth of nearly 200 m. in September in water of \pm 0.3°C.

It should be noted that the researches of the two countries nearly coincide as to time. Thus they sooner control than supplement one another.

For general results of the last years' researches cfr. Templeman: "Knowledge of Divisions of Stocks of Cod, Haddock, Redfish and American Plaice of Subareas 3 and 2" (Document No.33).

Subarea 3.

Research vessel "Investigator II" (Canada), throughout the year.
Research vessel "President Theodore Tissier" (France), Aug.- Sept.

A. Hydrography

Sections, Southern Great Bank and St. Pierre Bank, March-April and July-Aug., and across the Labrador current off Bonavista, July-Aug. (Canada).

Sections, N.E. of Newfoundland, across the Great Bank and St. Pierre Bank and E. to about 39°W.Long., Aug.-Sept. (France).

High spring temperatures were found on the Banks. The temperature during summer was lower owing to intermingling with cold water from the north. In August temperature of the bottom water on the northern part of the Bank was below 0°C, in September on the central part of the Bank just above 0°C, in the channels, however, water below zero was still present.

B. The Fishes

The Canadian research was centered on cod, haddock, redfish, and to a minor degree American plaice and witch, covering stages from the young fish to the commercial sizes.

The growth-rate of cod from the southern part of the great Bank was twice that of the cod off the Labrador coast, the growth-rate of the Newfoundland East coast was intermediate. New rich fishing grounds for cod were discovered in deep water N.E. of Newfoundland.

Redfish on the S.W. edge of the Banks showed increasing individual size and percentage of females going from shallower (180 m.) to deeper water (350 m.)

Tagging of cod was carried out around Iles St. Pierre et Miquelon (by France).

By U.S.A. meristic studies of haddock were carried out.

For general results of the last years' researches cfr. Templeman: "Knowledge of Divisions of Stocks of Cod, Haddock, Redfish and American Plaice of Subareas 3 and 2"(Document No.33).

Subarea 4.

Research vessel "Sackville" (Canada) for periods.
Research vessel "Investigator II" (Canada) for periods.
Various smaller research vessel (Canada) for periods.
Research vessel "Albatross III" (U.S.A.) for periods.
Further experimental work (by Canada) from commercial fishing vessels.

A. Hydrography.

Regular, quarterly cruises in the Bay of Fundy, on the Scotian Shelf, and in the Gulf of St. Lawrence (Canada).

A considerable incursion of "slope water" to the Scotian Shelf was observed. During the last years the surface temperature reached the highest mean values recorded. This climatic change has a great effect on certain fisheries.

B. The Fishes.

The researches by Canada have dealt mainly with the question of identification of stocks and of the discreteness of the stocks on the various fishing grounds. Besides studies on abundance, recruitment, growth and mortality were carried out.

Refined statistical data on catch and effort were used combined with the biological researches.

Landings of cod are decreasing gradually from the peak in 1945. Also the abundance, measured by catch per effort, has diminished. The decline is particularly apparent for large cod.

The researches of haddock show a smaller growth-rate in Subarea 4 than in 5. The variation in strength of yearclasses is big. Based on calculation of recruitment a good availability of haddock in Subarea 4 is predicted for 1953.

Meristic studies of haddock were carried out by U.S.A., and the relative abundance of redfish for areas of the Nova Scotian Shelf was determined. The catches of redfish per unit of effort have decreased.

The reports for Subarea 4 show a decline in abundance of cod and redfish. As these species account for $\frac{3}{4}$ of the total landings of groundfish from the Subarea such a decline is a serious matter calling for the closest attention.

For general results of the last years' research cfr. W.R. Martin: "Identification of Major Groundfish Stocks in Subarea 4 of the Northwest Atlantic Convention Area". (Document No. 27).

Subarea 5.

Research vessel "Albatross III" (U.S.A.) for periods. Observations and fishing experiments were carried out from commercial vessels.

A. Hydrography.

No reporting.

B. The Fishes.

The research efforts were directed chiefly towards the two most important species, haddock and redfish.

The rich 1948 year-class of haddock failed to maintain its dominance in 1952. Landings of scrod have now for three years exceeded landings of large haddock. Total landings were less than in 1951. The catch in 1953 is predicted to be still lower.

Significant differences as to vertebral numbers indicate that the haddock stocks in the areas off New England, Nova Scotia and Newfoundland are relatively independent.

The researches show that areas of the Gulf of Maine and off Long Island are important nursery grounds from where recruitment of the haddock stock on Georges Bank takes place.

Extensive investigations bearing on the effects of the proposed haddock regulations are carried out.

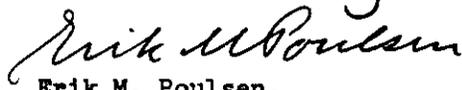
The abundance of redfish in the Gulf of Maine is decreasing. The spawning of redfish in Subareas 4 and 5 was studied.

By submitting this survey of the research reports received by the Commission it is requested that the question of the publication of the reports is considered.

For such a consideration the following points are noted:

1. Some of the reports exceed (the figures included) the stipulated 1,000 - 2,000 words by up to 100%. By redrawing a considerable saving of figures is possible. It is suggested that the limit should not be strictly adhered to.
2. Should the separate reports (by countries) be published as they are, or should they be divided and recompiled by Subareas? This question especially concerns the Subareas where several countries are working (mainly 1, 2, and 3).
3. The separate reports are not quite consistent at to content as far as some countries to a higher degree than others have limited their reports so as to deal mainly with just the work carried out, whereas others have dealt comprehensively also with results obtained. It is mainly these last countries that have exceeded the 2,000 words' limit.

It is suggested that results should be stated as well as efforts.


Erik M. Poulsen,
Executive Secretary.