



VW

ANNUAL MEETING—JUNE, 1962.Serial No. 1024Document No. 80Review of Status of Fishery and of
Researches Carried out In Subarea
4 for 1961.

by

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Canada (Doc.21) reported regular hydrographic observations in subarea 4, including temperature and salinity distributions, circulation of surface and bottom waters, and marine geology. According to this document temperature revealed a general decrease from the 1960 values.

Sections were taken by France (Barguerean region)(Doc.28) in August and cold water was found to be present in great quantity above the bank.

In document No. 57, Lauzier presents in table and chart form a list of hydrographic stations occupied by the research vessels of the Fisheries Research Board of Canada during 1961.

Plankton

Zooplankton production has been studied by Canada in Division 4T, indicating in 1961 a relatively poor production compared to that of 1960 (Doc. 22).

Cod

Canada (Doc.20) tagged cod in 4T and 4S. Results conformed earlier evidence that cod of the 4T and 4V north area are distinct from those of 4R, 4S, 4V south and 4W. Both stocks are fished by Canadian fishermen and European other trawlers.

Summary of sampling operations carried out on board the Portuguese cod trawlers during the 1961 fishery is supplied in Doc. 25. Age distribution data indicated the predominance of year-classes 1954, 1955 and 1956. Length distribution is reported for Divisions 4R, 4Vn, and 4T. Other observations made in this area by Portugal concerned growth, sex, rates, stage of maturity and age at first maturity, age 7 being most frequent in catches (Doc.25).

Spain reported sampling of size distribution, age and growth of cod caught by Spanish fishing vessels (Doc.37 and 38). A modal length of 51-53 cm is mentioned for Division 4 Vs. No discards were reported. Age at first maturity was found to be at 6, according to Spanish sampling, in subarea 4, the dominating year-class was the 1957 one.

In document No. 13 McCracken, Jean and Martin details of measure of girth, length and weight of cod are presented (Divisions 4T and 4V). Opercular girth of cod was found to be greater than the first dorsal girth in both areas and seasons; cod girth measurements by one observer were consistently greater than those by the other. Document No. 47 by W. Templeman supplies information on divisions in cod stocks of the North-West Atlantic.

Food of Cod

A study of the food of cod as related to their vertical migration was done by Canada (Division 4T). The main purpose of this study being to determine specific group for codfish (Doc. 22).

Haddock

Canada (Doc. 200 reported good catches of haddock in 4 W during winter and early spring of 1961. A survey cruise by the Canadian research ship A.T. Cameron, indicated concentrations of haddock at depths of 45 to 60 fathoms at a temperature of 3° to 5° C. Year class evaluation indicated dominance of 1956 and 1957 year classes providing good landings.

A summary of information on haddock stock division and distribution has been prepared by Grosslein (Doc. 17).

Redfish

Trawl surveys made by France in depths of 150 to 350 metres in subarea 4 (Bonguerean region) have yielded satisfactory catches of redfish, in waters of 3° to 7° C.

Three documents dealing with redfish statistics by depth zones for otter-trawlers are mentioned here:

Document No. 33 by Le Boeuf gives observations made on French vessels.

Document No. 34 - by D.L. Hoy reports on the same question for U.S.A.

and De Baie summarized information supplied by a few other countries on the same question.

Halibut

Reference has to be made to document No. 43 - by A.G. Kohler - giving information on the distribution of halibut in the ICNAF convention area.

Pollock

Otter-trawler landings of pollock have become increasingly important to the Canadian mainland groundfish fishery. A study of the biology of pollock started in 1960 has been carried out in 1961, including distribution, migration and sampling (Doc. No. 20).

American plaice

Surveys made by Canada (4T) provided information on distribution of plaice which have a shoal-water distribution in spring and summer. In autumn this species moves to deep water along the western slope of the Laurentian Channel where they concentrate in winter (Doc. 20).

Great silver smelt

(Argentina silus)

It is worth mentioning the abundant catches of great silves. Smelt by French trawlers at the south and south east of Sable Island.

Discards

Canada, France, Portugal and U.S.A. have reported on discards. Jean (Doc. 11) mentioned that cod discards in the south-western Gulf of St. Lawrence have been reduced from 25% to 6% by numbers and from 9% to 6% by weight corresponds to 6 million pounds of codfish for this region.

G. Ravel (Doc. 45) reported discards as observed on the French otter-trawler.

Captain de Almeida has reported on cod discarded by Portuguese otter-trawlers (Doc. 42).

A similar report has been prepared by R.C. Hennemuth (Doc. No. 50) for U.S.A. - Document No. 74 - by Kohler summarizes the known discard practices of the fleets operating from ports of subarea 4 - and this for different species and gears.

Gearand gauges

McCracken and Holmes (Doc. 27) have prepared a paper dealing with codend materials, mesh sizes and topside chafers used by Canadian mainland otter-trawlers. Concerning these matters they summarized information collected and pointed out the changes which have taken place, during the period 1954 to 1961.

In document No. 72 Skerry, Holmes, Arambarri and Deseustre, have reported on topside cleaving gear and presented useful recommendation on this particular point.

Comparisons of ICNAF and Westhoff gauges under field conditions have been presented in document No. 46 by May and Hodder. The 1959 model Westhoff gauge is considered to be superior to the ICNAF gauge, but for both gauges difficulties arose due to certain factors, the main one being the pressure applied.

Concerning this particular point Landeman and May reported in doc. No. 49 experiments carried out to determine the effects of various gauge pressures with the ICNAF and Westhoff 1959 gauges on mesh size measurements.

Table 2

Countries fishing in Subarea 4 for the years
1960 and 1961

<u>1960</u>	<u>1961</u>
Canada	Canada
France	France
Italy	Italy
Portugal	Portugal
Spain	Spain
United Kingdom	
United States	United States
	Norway
	U.S.S.R.

Table 1

Catch statistics of different species of fish -
in subarea 4 - for 1961

(See mr. De Baie)

Panel 4

Subarea 4

Stations 1961

	Cod	Had	Red	Hal	Flounder	Other	Total
Canada (MtQ)	94400	33818	11573	2218	25961	40526	208496
Canada (N)	16492	307	1159	55	317	18	18348
Denmark (F)	NR	NR	NR	NR	NR	NR	NR
Denmark (G)	-	-	-	-	-	-	-
France	35722	23	-	13	-	58	35816
France (StPAM)	1	21	4	-	-	-	-
Germany	-	-	-	-	-	-	-
Germany (E)	NR	NR	NR	NR	NR	NR	NR
Iceland	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-
Norway	-	-	-	8	-	23	31
Poland	-	-	-	-	-	-	-
Portugal	12589	-	-	-	-	-	12589
Spain	51351	3287	-	-	-	1009	55647
USSR	122	151	9	17	28	288	615
UK	-	-	-	-	-	-	-
USA	1346	9330	29160	41	21	NR	40088 ¹
1961 (Preliminary)	212023	46937	41905	2352	26517	41923	371657
1960	218487	46315	49699	2686	26140	47741	391068

1. This total does not include other Groundfish for USA series
They were not reported. This has been estimated as 3000 metric tons
2. Italy reported 2653 (M.tons) as caught in subareas 2,3,& 4.

REFERENCES

Research reports, 1961

<u>Canada-</u>	1962 - annual meeting - Document 20	ICNAF serial 958		
	" " " " "	21	" "	959
	" " " " "	22	" "	960
<u>France-</u>	1962	" " " "	28	" " 966
<u>Portugal-</u>	1962	annual meeting document 25	" "	963
<u>Spain-</u>	1962 - annual meeting -document	37	" "	97
	" " " " "	38	" "	978
	" " " " "	39	" "	979
<u>United States</u>	1962-annual meeting - document	12	" "	950

Research and General papers

Document 13 - (serial 951)	Mc. Gracken, F.D., Y.Jean and W.R. Martin. Girth, length and weight measurements of cod and haddock from subarea 4.
Document 17 - (serial 955)	Grosselein, M.O. Haddock stocks in the ICNAF convention area.
Document 43- (serial 984)	Kohler, A.G. Halibut distribution in the ICNAF convention area.
Document 47- (serial 989)	Templeman, W Divisions in cod stocks of the Northwest Atlantic
Document 57- (serial 1000)	Lauzier, L.M. Oceanographic observations by the Fisheries research Board of Canada in the ICNAF area during 1961
Document 66 (serial)	Vialov, Ju. A. Some results of oceanic investigations carried out on the New-Scotland shelf

Redfish

- Document 33 - Le Boeuf, Y.
(serial 972) Report on redfish statistics by Septh Zones for otter trawler by division and month for France (St. Pierse & Mequelen)
- Document 34 - Hay, D.S.
(serial 973) Report on redfish statistics by depth zones for otter trawler by division and month for the United States.
- Document 53 - De Baie, B.F.C.
(serial 966) Collection of abstracts on redfish depth zones from various sources.

Discards

- Document 11- Jean, Y
(serial 947) Discard of fish at sea by northern New Br draggers
- Document 42- De Almeida, P.N. Tavares.
Cod discarded at sea by Portuguese otter trawler
- Document 45- Ravel, Q
Discards
- Document 50 - Hennemuth, R.C.
Report of discard for A.S. Fishery, 1961
- Document 74 Kohler, A.C.
(serial 1018) Report on discards by the Canadian Moretunies fleet.

Gear

- Document 27- Mc. Gracken, F.D. and D.F. Holines -
(serial 965) Codend materialsm mesh sizes and topside chafers used by Ganadian manual and otter haulers.
- Document 46 - May, A.W. and V.M. Hodder
(serial 988) Comparisons of ICNAF and Westhoff gauges under field conditions
- Document 49- Sandeman, E.J and A.W. May -
(serial 991) Comparisons effects of gauge pressure on mesh size measurements of maintanents
- Document 72 - Skerry, J.B. D.F. Holines, L. Arambarri, and
(serial1015) A Dezeustre
A study to determine of topside chafing gear can be eluminated in subarea 4.