

International Commission for



the Northwest Atlantic Fisheries

Serial No. 5035
(D.c.2)

ICNAF Res.Doc. 77/VI/15

ANNUAL MEETING - JUNE 1977

Changes in the growth rate of Flemish Cap cod in ICNAF Div. 3M

by

C.A. Bishop
Department of Fisheries and Environment
Fisheries and Marine Service
Research and Resource Services
St. John's, Newfoundland, Canada

At the annual ICNAF meeting (May - June 1976) a report was submitted (Res. Doc. 76/VI/33, 53; Summ. Doc. 76/VI/20) to the assessments committee which included information on cod in Division 3M. Sampling data during 1975 had indicated "that a considerable increase in growth rate may have occurred over the past few years". As the growth rate change was considered substantial it was decided to examine in more detail the data which led to the reported conclusion.

The data (otoliths and length frequencies) were obtained from commercial pair trawler landings in Newfoundland during June 1975. A total of 489 otoliths were collected from 2250 measured fish. A subsample of 83 otoliths covering the entire frequency range were circulated among four additional readers at the Biological Station. A comparison of these independent readers indicate approximately 80% (79-85) agreement of each with the modal reading. As such the age readings that produced the original Age/Length key are considered representative.

A look at Age/Length keys and frequencies from ICNAF sampling yearbooks indicates that there has been an increase in growth rate in terms of average length-age over the period 1960 to 1975. This is shown in table 1 and Figure 1. The U.S.S.R. figures for 1960, 61, 62 were found to be somewhat similar and as such an average figure was obtained and this was plotted with U.S.S.R. 1968 and Can. (N) 1975. All were first quarter (March) except Can. (N) which was 2nd quarter (June).

Table - Average length at age data obtained from adjusted Age/Length keys. U.S.S.R. (OT) 1961 - 63, 1968-1st quarter Can. (N) (PT) 1975 - 2nd quarter.

AGE	U.S.S.R.		TOTAL		AVE.	U.S.S.R.	CAN.(N)
	1960	1961	1962	1960-62		1968	1975
2		20.5	23.4	43.9	22.0		
3		34.3	29.9	64.2	32.1		43.8
4		42.5	41.1	83.6	41.8		54.8
5	47.7	48.3	48.3	144.3	48.1	56.1	57.6
6	52.2	50.2	53.8	156.2	52.1	63.2	59.5
7	55.1	57.2	55.2	167.5	55.8	68.2	72.0
8	58.5	58.3	61.6	178.40	59.5	74.8	76.4
9	61.4	59.1	61.6	182.10	60.7	77.7	83.2
10	62.1	61.1	64.3	187.50	62.5	83.6	84.8
11	65.5	67.0	63.6	196.1	65.4		91.9
12	69.4	70.1	74.7	214.2	71.4		105.0
13	70.0	67.6	65.0	202.6	67.5		110.3
14	81.8	71.0	73.0	225.8	75.3		

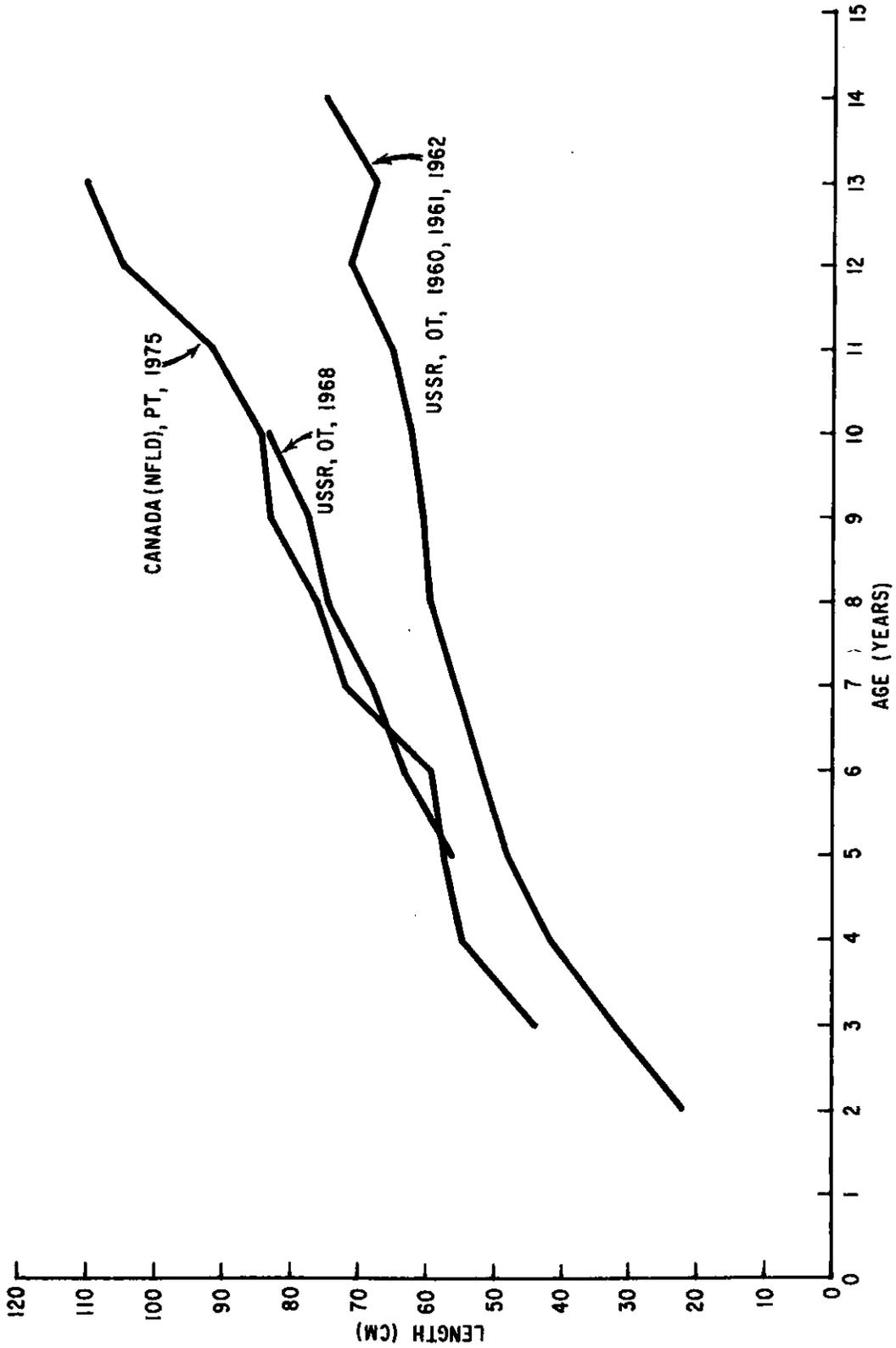


FIG.: Average length at age data obtained from adjusted Age/Length keys U.S.S.R. (OT) 1961-63, 68 1st quarter ; Can.-N (PT) 1975-2nd quarter.