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Recent Variations in Haddock Growth (II)

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Document 3, Appendix III (ICNAF, Serial No. 600, 1959) compares back-calculated sizes of haddock captured in 1958 to average growth of the year classes 1931-1947 to determine if increases in the average weight of fish landed since 1953 by the regulation 4-1/2-inch mesh net might be accounted for by an increase in growth rate. We now compare the growth history of the 1952 year class to the average growth of the 1931-1947 year classes.

Material. A total of 387 haddock from the 1952 year class are represented in the scale collection of 1955, 1956, 1957, and 1958. In 1955 the only 3-year-old (1952 year class) fish in the collections were from Subarea J. In 1957 the scale samples of Subarea H were from scrod haddock only. The 8 fish from the 1952 year class appearing in this sample are not considered representative of average growth, leaving a total of 379 fish.

Scales collected for back-calculation and comparative growth studies of haddock, 1931 to 1958, are collected during the months of February, March, and April. Total length is measured to the nearest millimeter.

Comparative growth. Table 1 shows the average back-calculated sizes by age of capture of the 1952 year class in Georges Bank Subareas G, H, J, and M. Figure 1 compares the average back-calculated size in each subarea to the average back-calculated size of year classes 1931-1947 at ages 4 to 6 (Subareas G, H, and M) and ages 3 to 6 (Subarea J).

Variations in average weight. Table 2 shows the average weight of fish landed from the 1948 to 1956 year classes at ages 1 to 5. The 1952 and subsequent year classes have been fished with the regulation (4-1/2-inch mesh) net.

Discussion. The deviations of the 1952 year class from average growth are rather less than those shown in Document 3, Appendix III, but it is noteworthy that the deviations in each subarea are in the same direction as shown by the 1958 data.

Conclusions. Observed variations in growth of haddock on Georges Bank over the period 1953 to 1958 are not of sufficient magnitude to account for observed increases in the weight of landed fish over the same period.

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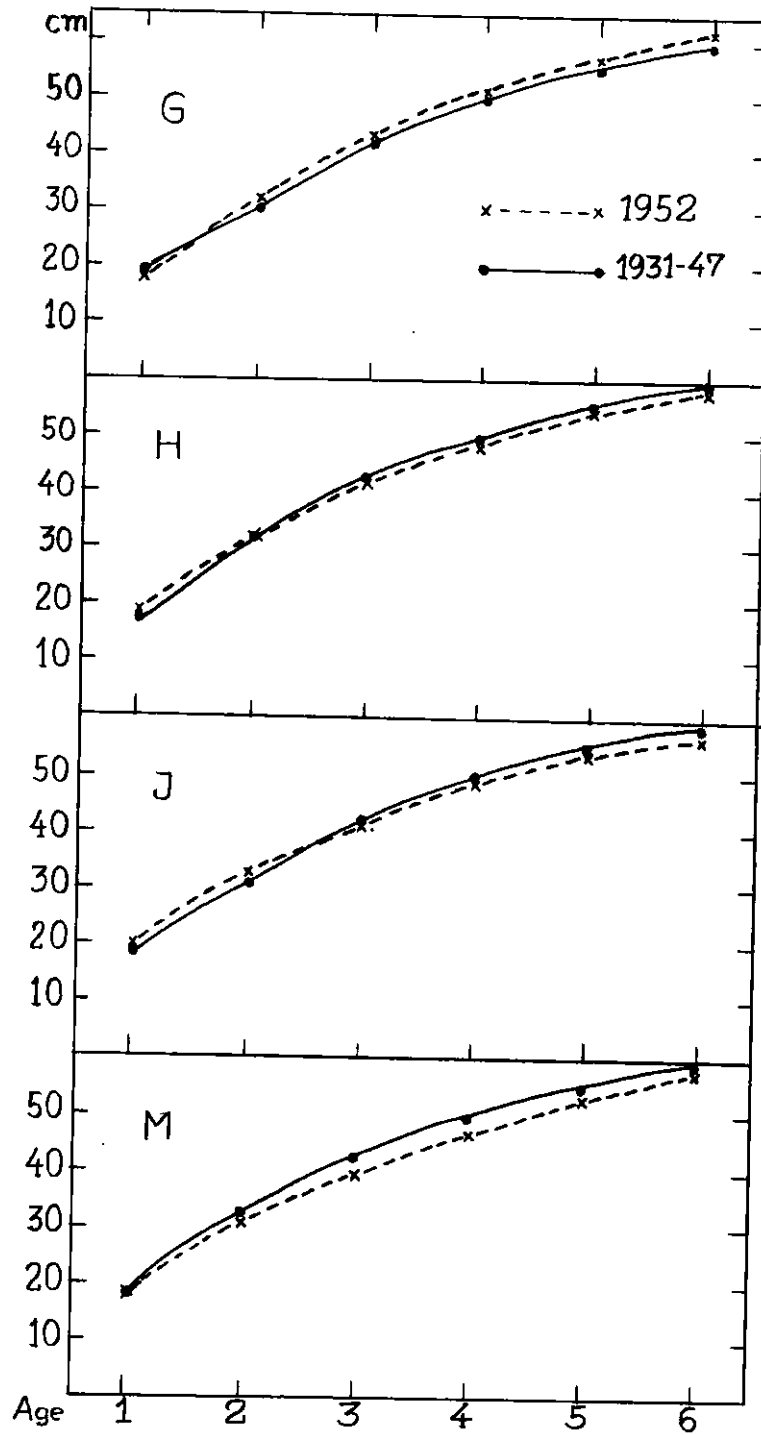


Figure 1. Back-calculated Size, in cm (to the left) for Ages 1-6 (below), of the year class 1952 and of year classes 1931-47.

Table 1. -- Average calculated length at each age of 1952 year-class haddock captured in Subareas G, H, J, and M (Season A), 1955 to 1958

Age of capture	1 <sub>1</sub>	1 <sub>2</sub>	1 <sub>3</sub>	1 <sub>4</sub>	1 <sub>5</sub>	1 <sub>6</sub>	
<u>SUBAREA G</u>							
IV	17.97	32.39	42.88	50.57			61
V	18.01	31.42	42.04	50.49	56.04		84
VI	16.50	31.42	42.08	50.58	57.17	61.50	12
X	17.49	31.74	42.33	50.55	56.80	61.50	157
<u>SUBAREA H</u>							
IV	18.65	31.57	42.03	49.46			37
V	---	---	---	---			---
VI	18.25	31.04	40.54	47.88	54.17	58.62	24
X	18.45	31.30	41.28	48.67	54.17	58.62	61
<u>SUBAREA J</u>							
III	19.71	33.18	41.76				17
IV	21.22	34.78	43.00	49.33			9
V	20.33	32.02	41.43	48.54	53.87		39
VI	18.40	31.33	40.87	48.00	52.73	56.33	15
X	19.92	32.83	41.76	48.82	53.30	56.33	80
<u>SUBAREA M</u>							
IV	19.85	32.44	41.02	47.64			39
V	17.11	27.89	37.67	44.33	50.30		27
VI	18.93	31.07	40.40	47.80	54.47	57.33	15
X	18.63	30.47	39.70	46.59	52.38	57.33	81
TOTAL							379

Table 2. -- Average weight of haddock landed from year classes 1948 to 1956 at ages 1 to 5

Pre-regulation					Post-regulation				
Age	Year Class					1953	1954	1955	1956
	1948	1949	1950	1951	1952				
1	1.08	.94	1.02	--	1.06	.85	1.12	1.26	1.05
2	1.32	1.36	1.33	1.23	1.49	1.64	1.61	1.54	--
3	1.84	1.82	1.81	1.75	2.09	2.05	2.15	--	--
4	2.50	2.31	2.44	2.49	2.60	2.72	--	--	--
5	3.14	2.88	3.34	3.15	3.43	--	--	--	--

