



1950

**International Commission
for the
Northwest Atlantic Fisheries**

RESTRICTED



1970

Serial No. 2324
(B.g. 14)

ICES/ICNAF Salmon Doc. 70/2
(also ICNAF Res. Doc. 70/3)

ANNUAL MEETING - JUNE 1970

ICES/ICNAF Joint Working Party
on North Atlantic Salmon

Size and Age of Salmon from
West Greenland, 1968 and 1969

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Introduction

A random sample of 442 salmon from the shore net commercial catch was examined at Godthaab from September 20-25, 1968, by kind permission of the Godthaab fish plant authorities. A further 175 salmon from shore net catches in October were collected by the plant and shipped frozen to St. John's. Age and length data from the combined samples (scale ages and fork lengths to the nearest centimetre) are presented in Table 1.

During research vessel drift net fishing in the Labrador Sea-West Greenland area from September 6 to October 2, 1969, 627 salmon were caught, mainly in Disko Bay (May, MS, 1970 - this meeting). Comparable size and age data from these fish are given in Table 2 (excluding 7 individuals for whom no age or no length was available).

Age and Length Distributions

Salmon which had complete one year of sea life accounted for 96% of the fish sampled in both 1968 and 1969; the remainder of the samples consisting of about 3% 2-sea-year fish and 1% previous spawners. Salmon which had entered the sea from fresh water after 2 or 3 years accounted for 75% of the sample in 1968 and 80% in 1969.

Distribution of river ages was essentially similar, except that fish of river age 2 were relatively more abundant in the 1969 drift net sample than in the 1968 shore net sample (48% vs. 41%). This high proportion of 2-river-year fish might be assumed to be largely European in origin (Templeman, 1967), and tends to confirm the conclusion of Nyman (MS, 1970) that over half the 1969 drift net sample was of salmon of European origin. Average smolt age for the 1968 sample was 2.90 years, and in 1969 was 2.82 years for tagged fish and 2.66 years for untagged fish. Average smolt ages from the latter group of 100 North American fish and 135 European fish (biochemically identified) were 2.91 years and 2.42 years respectively. The distribution of smolt ages in 1969 is almost exactly the same as shown in the first report of the Working Party (ICES, 1967).

The age-length keys show a decline in average size at capture of 1-sea-year salmon with increase in smolt age. Overall average sizes for 1-sea-year fish and for all fish were greater in 1969 than in 1968 (Tables 1 and 2,

Fig. 1). This was also true for each smolt class within the 1-sea-year group. The differences may be related to differential growth between the two years, to differences in selectivity of gear or to differential distribution of salmon. (Drift net fishermen in 1969 reported that larger salmon occur in the Disko area than elsewhere; average size of salmon taken at Disko Bay was 67.2 cm compared to 65.3 cm at southwest Greenland during drift net fishing by the *A. T. Cameron*).

The ratio of males to females was 1:3.5, based on a sample of 175 fish from Godthaab area shore nets in 1968, and 1:3.6, based on 243 fish from drift nets in 1969.

References

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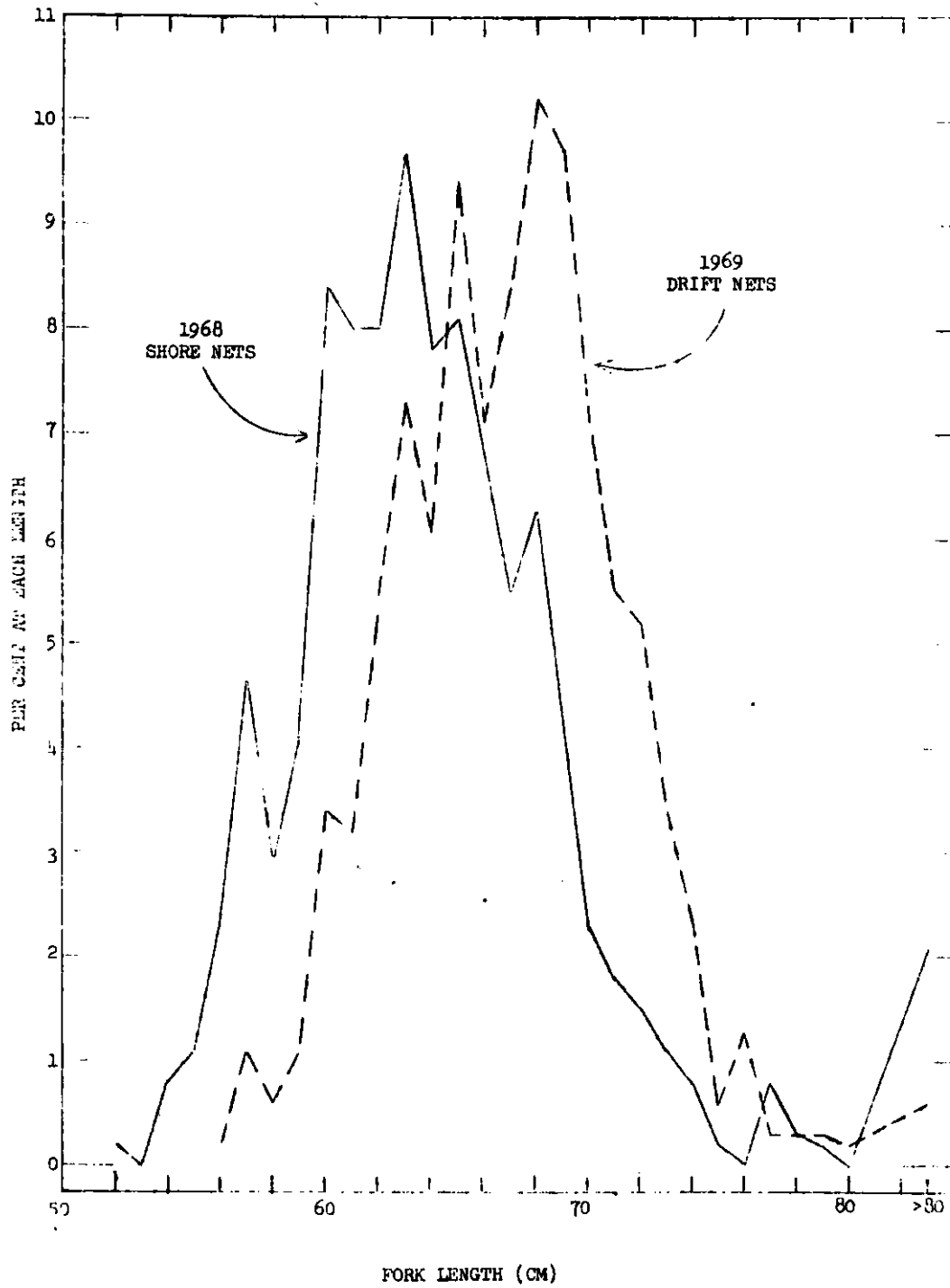


Fig. 1. Length distributions of salmon taken by shore nets in the Godthaab area in 1968, and by research vessel drift nets, mainly at Disko Bay, 1969.

Table 2. Atlantic salmon age-length key, Labrador Sea and West Greenland, 1969 (research vessel drift net catches). SY = Sea years.
PS = Post-spawners.

Length	Age	2.1	3.1	4.1	5.1	6.1	7.1	15Y	2.2	3.2	4.2	7.2	2SY	PS	Total	%
56				1				1							1	0.2
57			1	4	2			7							7	1.1
58		1	1	4	1			4							4	0.6
59			2	4	1			7							7	1.1
60		3	11	5	2			21							21	3.4
61		1	8	5	4			20							20	3.2
62		5	13	10	6	2		34							34	5.5
63		11	18	14	2			45							45	7.3
64		13	15	6	3	1		38							38	6.1
65		23	22	6	1	4		58							58	9.4
66		20	19	4	1			44							44	7.1
67		31	17	2			2	52							52	8.4
68		33	24	2	2		1	62		1			1		63	10.2
69		49	7	1	1		2	60		1			1		60	9.7
70		25	11	2	2		2	42			1			1	44	7.1
71		24	8	2				34							34	5.5
72		23	7	1			1	32					4		32	5.2
73		10	6	1			1	17				1			14	2.3
74		11	2					13				1			4	0.6
75		1	1					1				1			1	0.3
76		1						2		3			6		8	1.3
77								1		1			1		2	0.3
78		1						1					1		1	0.2
79													1		1	0.2
80													1		1	0.2
81													1		1	0.2
82													1		1	0.2
83													1		1	0.2
84													1		1	0.2
85													1		1	0.2
86													1		1	0.2
87													1		1	0.2
88													1		1	0.2
Total		286	194	70	28	7	11	596	10	7	2	1	20	4	620	-
%		46.1	31.3	11.3	4.5	1.1	1.8	96.1	1.6	1.1	0.3	0.2	3.2	0.6	-	-
Av. Length		68.3	66.0	63.1	62.8	64.0	68.6	66.6	75.1	80.3	69.5	75.0	76.3	74.0	67.0	-
Av. Smolt Age																2.76