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LENGTH AND AGE DISTRIBUTION OF ATLANTIC SALMON FROM WEST GREENLAND 1969.

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This paper gives the results of age and length analyses from a sample from commercial landings of Atlantic salmon taken by drift nets in the southern part of Store Hellefiske Bank about 67°10'N the last fortnight in October 1969. The nets in use were mainly of monofile nylon with a mesh size of 130 - 140 mm.

Length measurements and scale samplings were taken by Mr. Ole Christensen, Danish Institute for Fisheries and Marine Research in close cooperation with the fishermen, and the scale analyses were carried out by the Freshwater Fisheries Laboratory in Pitlochry, Scotland.

The sample includes 2728 salmon of which the largest part, 83% were females. This percentage is somewhat higher than earlier reported, Munro 1969 gives the figures 80% in 1965, 78% in 1966, 72% in 1967 and 77% and 68% in 1968. All the salmon were reported as being in good condition. The length measurements refer to total length, and the scale material was taken out stratified so that possibly 10 salmon in each centimetre group could be analysed.

Table 1 gives the overall age distribution, the Tables 2a and 2b give the age distribution of females and males respectively, and Tables 3a and 3b give the length distributions in different age groups for females and males respectively. The two last-mentioned tables show a clear tendency of decline in growth rate with increasing time of residence in freshwater.

Literature:

Munro, W.R. 1969. Salmon Work in Greenland, 1968. ICNAF res. Doc. 69/70.

Table 1. Age distribution of 2728 Atlantic salmon as calculated from age determination of 366 individuals samples stratified. Numbers in brackets are percentages of total number in sample.

Smolt age	Sea winters			NK	previous spawners	overall
	1	2	3			
1	181 (6.6)	9 (.3)				190 (7.0)
2	1535 (56.3)	117 (4.3)			7 (.3)	1659 (60.8)
3	513 (18.8)	105 (3.8)			7 (.3)	625 (22.9)
4	102 (3.7)	8 (.3)			5 (.2)	115 (4.2)
5	29 (1.1)	20 (.7)			3 (.1)	52 (1.9)
6	17 (.6)		1 (-)			18 (.7)
NK	62 (2.3)	4 (.1)		3 (.1)		69 (2.5)
overall	2439 (89.4)	263 (9.6)	1 (-)	3 (.1)	22 (.8)	2728

Table 2a. Age distribution of 2265 females in sample as calculated from age determination of 268 individuals (stratified sampling). Numbers in brackets are percentages of total number of females.

Smolt age	Sea winters		NK	previous spawners	overall
	1	2			
1	103 (4.5)	9 (.4)			112 (5.0)
2	1311 (57.9)	101 (4.5)		7 (.3)	1419 (62.7)
3	413 (18.2)	94 (4.1)		5 (.2)	512 (22.6)
4	94 (4.1)	8 (.4)		5 (.2)	107 (4.7)
5	24 (1.0)	20 (.9)			44 (1.9)
6	7 (.3)				7 (.3)
NK	59 (2.6)	4 (.2)	1 (-)		64 (2.8)
overall	2011 (88.8)	236 (10.4)	1 (-)	17 (.8)	2265

Table 2b. Age distribution of 463 males in sample (including 6 with unknown sex) as calculated from age determination of 98 individuals (stratified sampling). Numbers in brackets are percentages of total number of males.

Smolt age	Sea winters				previous spawners	overall
	1	2	3	NK		
1	78 (16.8)					78 (16.8)
2	224 (48.4)	16 (3.5)				240 (51.9)
3	100 (21.7)	11 (2.3)			2 (.5)	113 (24.5)
4	8 (1.8)					8 (1.8)
5	5 (1.1)				3 (.6)	8 (1.7)
6	10 (2.1)		1 (.2)			11 (2.3)
NK	3 (.6)			2 (.5)		5 (1.1)
overall	428 (92.5)	27 (5.8)	1 (.2)	2 (.5)	5 (1.0)	463

Age	1.1	2.1	3.1	4.1	5.1	6.1	NK.1	1 SW	1.2	2.2	3.2	4.2	5.2	NK.2	2 SW	NK.NK	2.PS	3.PS	4.PS	PS	TOT
99																.04	.04				.04
98								Age/length distribution of females from sample. All figures are percentages of 2265 measured females of which 268 were age analysed.													
97								SW - sea winters	.04	.04	.04				.08						.08
96								PS - previous spawners	.09	.09	.09				.09						.09
95									.04	.04	.18				.04						.09
94									.04	.13	.04				.18						.04
93									.09	.22	.04				.21						.18
92									.07	.22	.09	.04			.35						.21
91										.22	.25				.35						.35
90		.08								.34	.40				.59			.08			.75
89										.13	.23	.11			.60		.07				.67
88										.23	.36				.57						.57
87										.24	.32				.60						.84
86		.12								.64	.32	.20		.06	1.02		.12				.12
85										.79	.10				1.09		.16				.16
84		.10								.45	.15				.60			.10			.10
83		.30							.21	.21	.64				.42			.15			.15
82		1.04													.64						1.46
81		.64	.22							.55					.55						1.50
80		2.38	1.09												.64						2.38
79		2.73													.55						4.37
78		4.86													.88						4.86
77		6.14																			7.02
76		4.72	2.36				1.18														9.44
75	1.18	4.72																			9.44
74	.94	7.56	.94																		8.30
73		7.26	1.04																		8.39
72	1.20	4.79	1.20								1.20										6.88
71		4.13	2.75																		6.76
70	.68	2.70	1.35	.68			1.35														5.12
69		2.99	1.28	.85																	5.48
68		1.99	2.49	.50	.50																2.96
67	.33	.98	1.32	.33																	1.98
66	.22	.22	1.10	.44																	1.94
65		.65		.65	.32	.32															1.40
64		.60	.40	.40																	1.10
63		.55	.27	.14	.14					.14											.39
62		.13	.18	.04	.04																.33
61		.13	.13				.07														.06
60		.06	.09	.12																.07	.40
59																					.21
58																					.04
57	4.55	57.85	18.21	4.15	1.04	.32	2.60	88.72	.41	4.46	4.13	.35	.88	.06	10.29	.04	.32	.24	.23	.79	99.84
56	2.25	73.55	70.67	66.92	63.70	65.00	72.05	72.42	85.02	83.82	81.46	84.70	76.00	84.00	82.28	98.00	86.42	77.81	84.15	83.14	73.53

Length	Age	1.1	2.1	3.1	4.1	5.1	6.1	NK.1	1 SW	2.2	3.2	2 SW	6.3	3 SW	NK.NK	3.PS	5.PS	PS	TOT
103										.22		.22							.22
- 98										.22		.22							.22
- 93										.22	.22	.22	.22	.22					.22
92										.22		.22							.22
90										.32	.32	.64	.22	.22					.22
- 88										.32	.43	.43							.64
87										.22	.32	.32							.43
86		.32	.43	.97					.32	.22	.43	.65							.64
85									1.29										1.08
84										.22	.43								1.29
- 82			.50																
81			1.14	.50					1.00						.50				1.50
80		.86	2.59						1.14		.58	.58							1.72
79			5.03	.84					3.45										3.45
78			4.32						5.87	.84		.84							6.71
77		2.85	.95						4.32										4.32
76		1.47	5.90						3.80	.95		.95							4.75
75		2.12	6.33						8.84										8.84
74		7.99			1.47				8.45										8.45
73		1.14	7.99						7.99										7.99
72			3.46						7.99										7.99
71				1.14					6.88										6.88
70			5.03						5.62										5.62
69				2.53					7.56										7.56
68			1.73						3.89										3.89
67									3.46										3.46
66				3.24					3.24										3.24
65				1.51					1.51										1.51
64			.48	.95					1.43	.48		.48							1.43
63			.35	.69	.35				1.39										1.39
62			.58	.58					1.74										1.74
61			.32	.22					.22										.22
TOT		16.75	48.42	21.71	1.82	1.14	2.05	.32	92.47	3.47	2.30	5.77	.22	.22	.50	.48	.57	1.05	100.01
Av. length		75.18	74.94	69.40	73.71	72.00	66.89	63.00	73.37	81.18	85.58	82.93	93.00	93.00	82.00	65.00	63.23	64.04	73.91

Table 3b. Age/length distribution of males from sample. All figures are percentages of 463 measured males of which 90 were age analysed. PS = sea winters