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Report on Recaptures in Greenland Waters of Salmon Tagged in Rivers
in America and Europe, and of Recaptures from Tagging Experiments
in Greenland.

by Jens Møller Jensen.

The purpose of this paper is to give a survey of all recaptures of salmon in Greenland waters and the distribution of these. In the second part of this paper, there is a survey of the tagging experiments in Greenland and the recaptures from these.

Recaptures in 1967.

Table 1. shows the recaptures in Greenland waters of salmon tagged in America and Europe.

Table 1. S = salmon tagged as smolts; A = salmon tagged as adult, E.G. = East. Greenland.

Div.	Canada.		U.S.A.		Scotland.		England.		Sweden.		Iceland.	
	S	A	S	A	S	A	S	A	S	A	S	A
1 A	-	-	-	-	-	-	-	-	-	-	-	-
1 B	11	-	10	1	2	2	-	1	2	-	-	-
1 C	25	1	9	2	6	-	3	-	1	-	1	-
1 D	37	-	8	-	10	-	1	-	3	-	-	-
1 E	23	-	4	1	3	1	1	-	-	-	-	-
1 F	8	-	1	-	1	-	-	-	2	-	-	-
E.G.	-	-	-	-	-	-	-	-	-	-	-	-
1 NK	1	-	2	-	1	1	-	-	-	-	-	-
Total	105	1	34	4	23	4	5	1	8	-	1	-

The total number of recaptures in 1967 was 186, of these 176 were tagged as smolts and 10 tagged as adult.

The recapture of a salmon tagged in Iceland is the first recapture from this country and a demonstration of the supposition that salmon from Iceland migrate to Greenland, too.

Recaptures from 1956 - 1967.

Tables 2 - 8 shows the total number of recaptures in Greenland waters. The years in the tables are the year of recapture, not of tagging.

Canada:

Table 2. Recaptures in Greenland of salmon tagged in Canada.

Div.	1960		1961		1962		1963		1964		1965		1966		1967	
	S	A	S	A	S	A	S	A	S	A	S	A	S	A	S	A
1 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 B	-	-	-	1	-	-	2	2	1	-	1	-	30	-	11	-
1 C	1	-	2	1	-	-	1	1	5	-	3	-	35	-	25	1
1 D	-	-	-	-	-	-	-	-	1	-	1	-	30	-	37	-
1 E	-	-	-	-	-	-	-	-	2	-	5	-	17	-	23	-
1 F	-	-	-	-	-	-	-	-	2	-	2	-	8	-	8	-
E.G.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 NK.	-	-	-	-	-	-	-	-	3	-	3	1	14	-	1	-
Total	1	-	2	2	-	-	3	3	14	-	15	1	134	0	105	1

There are 6 recaptures more from Canada, the years for the recaptures are unknown, but 3 of them were tagged in 1964, and the last 3 were tagged in 1965, all of them as smolts.

The total number of recaptures from Canada are 287, of these 280 were tagged as smolts and 7 as adult salmon.

U.S.A.

Table 3. Recaptures in Greenland of salmon tagged in U.S.A.

Div.	1963		1964		1965		1966		1967	
	S	A	S	A	S	A	S	A	S	A
1 A	-	-	-	-	-	-	-	-	-	-
1 B	-	-	-	1	-	-	-	-	10	1
1 C	1	-	-	-	-	-	-	1	9	2
1 D	-	-	-	-	-	-	-	-	8	-
1 E	-	-	-	-	-	-	-	-	4	1
1 F	-	-	-	-	-	-	-	1	1	-
E.G.	-	-	-	-	-	-	-	-	-	-
1 NK.	-	-	-	-	-	-	-	-	2	-
Total	1	-	-	1	-	-	-	2	34	4

The total number of recaptures of salmon tagged in U.S.A. is 42, of these 35 were tagged as smolts and 7 as adult.

Scotland:

Table 4. Recaptures in Greenland of salmon tagged in Scotland.

Div.	1956		1962		1963		1964		1965		1966		1967	
	S	A	S	A	S	A	S	A	S	A	S	A	S	A
1 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 B	-	-	-	-	-	-	2	-	1	1	1	3	2	2
1 C	-	1	2	-	-	-	7	-	1	-	1	1	6	-
1 D	-	-	-	-	-	1	-	-	-	-	1	-	10	-
1 E	-	-	-	-	1	-	-	-	2	-	3	-	3	1
1 F	-	-	-	-	-	-	2	-	1	-	1	-	1	-
E.G.	-	-	-	-	-	-	-	-	-	-	1	-	-	-
1 NK.	-	-	-	-	-	-	-	-	-	-	1	-	1	1
Total	-	1	2	-	1	1	11	-	5	1	9	4	23	4

The total number of recaptures in Greenland waters of salmon tagged in Scotland is 62, 51 of these were tagged as smolts and 11 were tagged as adult salmon.

England:

Table 5. Recaptures in Greenland of salmon tagged in England.

Div.	1961		1962		1963		1964		1965		1966		1967	
	S	A	S	A	S	A	S	A	S	A	S	A	S	A
1 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 B	-	-	-	-	-	-	-	-	1	-	-	-	-	1
1 C	2	-	2	-	2	-	7	2	6	-	1	-	3	-
1 D	-	-	-	-	-	1	-	-	-	-	2	-	1	-
1 E	-	-	-	-	-	-	-	-	2	1	1	1	1	-
1 F	-	-	-	-	-	-	1	-	-	-	1	-	-	-
E.G.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 NK.	-	-	-	-	-	-	1	-	2	-	7	-	-	-
Total	2	-	2	-	2	1	9	2	11	1	12	1	5	1

The total number of recaptures in Greenland waters of salmon tagged in England is 49, of these 43 were tagged as smolts and 6 as adult salmon.

Ireland:

Table 6. Recaptures in Greenland of salmon tagged in Ireland.

Div.	1964		1965		1966		1967	
	S	A	S	A	S	A	S	A
1 A	-	-	-	-	-	-	-	-
1 B	-	-	-	1	-	-	-	-
1 C	-	3	-	-	-	-	-	-
1 D	-	-	-	-	-	-	-	-
1 E	-	-	-	1	-	1	-	-
1 F	-	1	-	-	-	-	-	-
E.C.	-	-	-	-	-	-	-	-
1 NK	-	-	-	-	-	-	-	-
Total	-	4	-	2	-	1	-	-

The number of recaptures from Ireland is 7, and all were tagged as adult salmon.

Sweden:

Table 7. Recaptures in Greenland of salmon tagged in Sweden.

Div.	1961		1962		1963		1964		1965		1966		1967	
	S	A	S	A	S	A	S	A	S	A	S	A	S	A
1 A	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 B	-	-	-	-	-	-	-	-	-	-	-	-	2	-
1 C	1	-	1	-	-	-	-	-	-	-	-	-	1	-
1 D	-	-	-	-	-	-	-	-	-	-	-	-	3	-
1 E	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 F	-	-	-	-	-	-	-	-	-	-	-	-	2	-
E.G.	-	-	-	-	-	-	-	-	1	-	-	-	-	-
1 NK.	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Total	1	-	1	-	1	-	-	-	1	-	-	-	8	-

The total number of recaptures from Sweden amounts 12, all tagged as smolts, 2 of these were tagged in Luleå, in the northern part of Sweden.

Table 8. Recaptures in Greenland of salmon tagged in various countries.

Year	Canada.		U.S.A.		Scotland.		England.		Ireland.		Sweden.		Iceland.	
	S	A	S	A	S	A	S	A	S	A	S	A	S	A
1956	-	-	-	-	-	1	-	-	-	-	-	-	-	-
1960	1	-	-	-	-	-	-	-	-	-	-	-	-	-
1961	2	2	-	-	-	-	2	-	-	-	1	-	-	-
1962	-	-	-	-	2	-	2	-	-	-	1	-	-	-
1963	3	3	1	1	1	1	2	1	-	-	1	-	-	-
1964	14	-	-	1	11	-	9	2	-	4	-	-	-	-
1965	15	1	-	-	5	1	11	1	-	2	1	-	-	-
1966	134	-	-	2	9	4	12	1	-	1	-	-	-	-
1967	105	1	34	4	23	4	5	1	-	-	8	-	1	-
1 NK	6	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	280	7	35	7	51	11	43	6	-	7	12	-	1	-

Table 8 gives the total number of recaptures in Greenland waters of salmon tagged in various countries. The total number is 460, of these were 422 tagged as smolts, and 38 tagged as adult salmon.

Distribution of the recaptures.

It is very difficult to find any regularity in the distribution of the recaptures, and unfortunately the number of recaptures from salmon tagged in Europe is much smaller than the number of salmon tagged in North America. There are many reasons: the difference in the number of fish tagged, migration to other areas, and proportion between salmon and grilse. If just the various countries would use the same type of smolt tag, it would be easier to compare recaptures from different areas.

Table 9 shows the frequency of recaptures in 1966 and 1967 of salmon tagged as smolts in North America and Europe.

Table 9. The frequency is expressed in % recaptures per % number of salmon caught. ($= \frac{n \cdot C}{N \cdot c}$, where N= total number of recaptures per year and tagging area (N. America and Europe resp.) n= number of recaptures per year, tagging area and division. C= total catch (in number) per year. c= catch (in number) per year and division.)

Div.	1966		1967	
	N - America.	Europe.	N - America.	Europe.
1 B.	1.64	0.55	1.16	0.82
1 C.	1.13	0.65	0.88	1.06
1 D.	1.42	1.42	1.79	2.06
1 E.	0.47	1.10	0.69	0.38
1 F.	0.68	1.70	0.69	0.86
Number:	120	12	134	36

The frequency of salmon from North America is higher in Div.1 B than the frequency of salmon from Europe, in Div.1 F it is opposite. For both categories of salmon in Div. 1 D the frequency is very high, this might be caused by the fact that the laboratory of Greenland Fisheries Investigations is placed in Godthåb, Div. 1 D.

An explanation of the higher frequency of European recaptures in Div. 1 F. might be that the salmon from North America and Europe migrate to West Greenland by two different routes. The European salmon probably migrates along the Irminger Current to East Greenland and around Cape Farewell to West Greenland. There are two recaptures of salmon tagged in Europe, one in Scotland 1966 and one in Sweden 1965 from Angmagssalik (65°50'N-37°00'W). About the route of migration from North America to West Greenland, it is, however, natural to presume that salmon arrives at the shore of West Greenland direct from North America and not via East Greenland. Therefore the concentration of salmon from Europe should be bigger in Div.1 F than the concentration of salmon from North America.

Recaptures from the Tagging Experiments in Greenland Waters.

The Tagging Experiments 1965.

The total number of salmon tagged was 223, and 3 of these salmon were recaptured. Two of them were locally recaptured and these salmon had spent 3 and 26 days respectively in the sea after the tagging. The third recapture was taken in Canada, it was reg.0071-DA-4.

<u>Tag No.0071-DA 4.</u>	<u>Details of Tagging.</u>	<u>Details of Recapture.</u>
Date:	29th September, 1965.	June 1966.
Place:	Praestefjord.	Grand Bruit, Burges-LaPoile District.
Length:	57 - 60 cm.	-
Weight:	-	About 7 lb.
Sex:	Female.	-
Age:	4.1+	-

The Tagging Experiment 1966.

The total number of salmon tagged was 728. There were 28 local recaptures, of these 24 had spent between 1 and 8 days in the sea after the release, the last four had spent from 10 to 50 days in the sea after the tagging. Two of the recaptures were caught near Fiskenaasset, which is about 50 miles south of Godthåb, where tagging was carried out. Four salmon were caught in their native rivers, 3 in Scotland and 1 in Canada.

<u>Tag No.0809-DA 4.</u>	<u>Details of Tagging.</u>	<u>Details of Recapture.</u>
Date:	14th October, 1966.	18th March, 1967.
Place:	Praestefjord.	Net and Coble fishery at Horncliffe, River Tweed.
Length:	64 cm (fork length).	68.5 cm (fork length)
Weight:	-	3.1 kg.
Sex:	-	-
Age:	3.1+	3.2
Remarks:	-	Good condition.

Tag No.0957-DA 4.

Date:	27th October,1966.	
Place:	Praestefjord.	Set net,Lower Newcastle in the upper part of the Miramichi estuary.
Length:	69 cm(fork length)	28"(to tip of relaxed tail)
Weight:	-	9 lb.
Sex:	Female.	-
Age:	3.1+	3.2

Tag No.0936-Da 4.

Date:	26th October,1966.	7th July,1967.
Place:	Praestefjord.	Net and Coble fishery at Yarrow, River Tweed.
Length:	69.5(fork length)	74.0 cm(fork length)
Weight:	-	4.3 kg.
Sex:	Female.	Female.
Age:	2.1+	2.2+
Remarks:	-	Slight tag wound,net burns visible but slight.General appearance of fish good.

Tag No.0403-DA 4.

Date:	30th September,1966.	11th October,1967.
Place:	Praestefjord.	R.Livet,a tributary of the River Avon which is itself a tributary of the r.Spey.
Length:	70 - 74 cm.	80 - 85 cm.
Weight:	-	4.55 kg.
Sex:	Male.	Male(partly spent)
Age:	2.1+	2.2+(6 ⁰ of erosion on scales)
Remarks:	-	General appearance good,no signs of net marks or fungus.The tag had been carried about an inch up the fin rays of the dorsal fin during growth.

The Tagging Experiment 1967.

The total number of salmon tagged in the autumn 1967 was 372. There were five locally recaptured, and all were caught less than 3 weeks after the tagging, and very near to the tagging place. One recapture of a long migrated salmon has been reported from Ireland.

Tag No.1152 DA 4.

Details of Tagging.

Details of Recapture.

Date:	3rd November.	3rd March.
Place:	Praestefjord.	River Slaney on the south east coast of Ireland.
Length:	71 - 76 cm.	-
Weight:	-	3.5 kg.