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Preliminary Report of Salmon Tags of Maine (USA) Origin Recovered from Fisheries in the ICNAF Convention Area during 1971.

by

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During 1971, a combined total of 479 salmon tags were recovered in the commercial fisheries north of New England and from home-water areas. In all, 70 percent (336 tags) were recovered from the West Greenland area and only 15 percent, or 71 tags from ICNAF Subarea 5, comprised home-water recoveries. Tag recovery data by month and area are represented in Table 1. Recoveries by month for the divisions of Subarea 1 are presented in Table 2, and include 7 tags recovered from the East Greenland coastal area.

Data received with the recovered tags enabled us to determine mean lengths and gutted head-on mean weights for the US stocks fished in Subarea 1 during 1971. Lengths were available from 268 specimens and weights from 242 specimens of hatchery-reared smolts of known origin recovered as 1+ sea-winter fish. Data are presented in Table 3. The slight difference in mean length of fish recovered in July as compared with the mean length of fish recovered in August may well be a reflection of inadequate sampling as the July returns were primarily from the last quartile of the month.

In the period 1963 through 1970, a total of 127 salmon tags were recovered from US stocks in the West Greenland fishery. Tags were recovered throughout the fishing period with the earliest recorded date reported as July 30 in 1967, for a hatchery-reared smolt released in the spring of 1966. In 1971, the first tag was recovered on June 24 in Division 1 E, with 13 additional tags recovered on or before July 31st. The dates of the tag recoveries in the various divisions of Subarea 1 may give some indication of the movement of salmon stocks along the West Greenland coast and bracket the period during which these fish are subjected to commercial exploitation. The recovery dates of the first and last tags reported from each division of Subarea 1 in 1971 are presented in Table 4.

The updated return figures for smolts tagged and subsequently recovered in Greenland and other areas are presented in Table 5. Recoveries of hatchery-reared smolts tagged in the years 1966-71 are presented in Table 6. The increased returns for the 1969 and 1970 tagged smolt releases as indicated in Table 6 cannot be fully explained at this time. However, these releases were of native stock origin and may reflect improved hatchery-rearing techniques. The increased returns for the 1970 releases, as shown by the 6.8 returns per thousand tagged figure for the West Greenland area alone, is indicative of an increased smolt survival in the marine environment, and portrays vividly the vulnerability of 2-year stocks to commercial exploitation.

The continued cooperation of the representative national agencies of the ICNAF member nations was amply demonstrated during 1971. We are most appreciative of the assistance rendered by the staff of the Greenland Fisheries Investigations, Charlottenlund, Denmark. Tags and recovery data were also received from the Norwegian Directorate of Freshwater Fisheries, and from the Faroe Fisheries Laboratory at Torshavn. The direct assistance of the Fisheries Research Board Biological Stations at St. John's, Newfoundland and St. Andrews, New Brunswick, as well as the offices of the Resource Development Branch at St. John's and Halifax is gratefully acknowledged.

Table 1.

Recoveries of USA Tagged Salmon during 1971. All age classes combined and data presented by ICNAF area and month of recovery.

Month	ICNAF Areas					Total
	1	2	3	4	5	
May	-	-	4	-	-	4
June	1	-	9	-	11	21
July	13	5	13	3	23	57
August	99	3	-	-	16	118
September	116	8	-	-	14	138
October	56	-	1	-	7	64
November	11	-	13	1	-	25
December	-	-	11	-	-	11
Unknown	40	-	1	-	-	41
Totals	336	16	52	4	71*	479

* Home-water recoveries

Table 2.

1971 Catch of USA Tagged Salmon in Subarea 1. Data presented by month and subarea divisions.

Subarea I Div.	Months							Total
	June	July	August	September	October	November	Unknown	
A	-	-	4	17	6	2	-	29
B	-	-	5	12	7	1	-	25
C	-	-	7	19	16	5	-	47
D	-	-	29	16	10	2	-	57
E	1	9	25	19	4	-	-	58
F	-	4	26	25	3	-	-	58
UK	-	-	3	5	6	1	40	55
E. GRLD	-	-	-	3	4	-	-	7
Total	1	13	99	116	56	11	40	336

Table 3.

Length-weight data by month for USA tagged salmon (1+ sea-winter only) recovered in ICNAF Subarea 1 fishery during 1971. Lengths and weights given in centimeters and kilograms respectively.

	Months				
	July	August	September	October	November
Mean Length	64.3	64.1	65.1	66.7	70.1
(Range)	59.0-68.0	54.0-74.0	57.0-79.0	58.0-80.0	60.0-82.0
No. Obs.	12	91	104	51	10
Mean Weight ¹	2.32	2.51	2.61	2.89	3.09
(Range)	2.1-2.5	1.4-4.2	1.7-3.8	2.1-5.0	2.1-5.0
No. Obs.	9	87	93	45	8

¹ All weights are gutted head-on.

Table 4.

Tag recovery dates as indicators of fishing periods in Subarea 1 divisions.

<u>Division</u>	<u>Total Tags Recovered</u>	<u>Date of 1st Recovery</u>	<u>Date of Last Recovery</u>	<u>Est. Fishing Period in Days</u>
I A	29	Aug. 26	Nov. 3	69
I B	25	Aug. 9	Nov. 16	99
I C	47	Aug. 4	Nov. 17	105
I D	57	Aug. 2	Nov. 10	100
I E	50	June 24*	Oct. 15	113(85)
I F	56	July 28	Oct. 11	75

* Best tag recovered July 22, 1971. Fishing period based on this recovery 85 days.

Table 5.

Number of halts tagged in the winters 1962/63 - 1970/71 and recaptured in Greenland and in other areas, including hump-waters, up to the end of 1971.

<u>Country</u>	<u>Winter of Tagging</u>	<u>Number Tagged</u>	<u>Recaptures</u>		<u>Total</u>
			<u>Greenland</u>	<u>Other Areas</u>	
USA	1962-63	131	1	13	14
	1963-64	123	1	10	11
	1964-65	160	0	23	23
	1965-66	146	2	16	18
	1966-67	572	5	75	80
	1967-68	340	5	56	61
	1968-69	210	1	16	17
	1969-70	315	1	12	13
	1970-71	400	1	8	9*
1971-72	240	-	-	-	

Note:

Table 4. ICNAF Comm. Doc. 71/14 - Revised for USA through 3/1/72

Table 6.

Number of hatchery-reared smolts tagged in the years 1963-71 and recaptures in Greenland and in other areas, including hump-waters, up to March 1972. Figures in brackets are returns per thousand tagged.

<u>COUNTRY</u>	<u>Year of Tagging</u>	<u>Number Tagged</u>	<u>Recaptures</u>				<u>Grand Total</u>
			<u>West Greenland</u>	<u>Norwegian Sea and Faeroes</u>	<u>All Other Areas</u>		
			<u>Greenland</u>	<u>Greenland</u>	<u>Greenland</u>	<u>Salmon</u>	
USA	1966	82250	39(0.4)	-	69	168(2.0)	276
	1967	60717	1 -	-	12	10(0.1)	23
	1968	73730	7(0.1)	-	9	12(0.2)	28
	1969	73418	64(0.8)	-	32	77(1.0)	173
	1970	48190	329(6.8)	-	57	-	386*
	1971	29905	- -	-	-	-	-

Note:

Table 3. ICNAF Comm. Doc. 71/14 - Revised for USA through 3/1/72