

Tagging of Salmon Smolts in the Lone River, the Eira Hatchery  
and the Lundesokna Hatchery in Norway.

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Preliminary Report by Leiv Rosseland.

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The Lone river near Bergen is one of the smallest salmon rivers in Norway, and with a population mainly of small grilse.

Since 1956 small numbers of smolts have been tagged in the river. The smolts have been caught by electrical fishing gear shortly before their seaward migration - mainly in April - and both Carlin tags and Lea tags have been used. As shown in table I the percentages of recapture from these taggings have been the highest ever obtained in Norway.

In the Lundesokna hatchery near Trondheim the smolt tagging experiments started in 1957. In that year, and in the following two years dr. Børje Carlin took part in the experiments, and taught us the technique which he had used in Sweden. He also brought with him "Carlin tags" made in Sweden. In the following years both Carlin tags and Lea tags have been used.

The smolts have been reared in ponds and troughs and usually the smolt stage is reached in two years.

The smolt reared in Lundesokna should be, as far as I can see - comparable to the smolt reared in Sweden. The tagging technique used should also be nearly identical with the Swedish procedure.

But, as seen in table II, the percentage of recapture is far lower than usually in Sweden, perhaps with exception of the 1961 tagging.

## II.

The Eira Hatchery is situated some 50 kilometers from Molde. In this hatchery the smolts also usually are two years old.

The same kind of tags and the same tagging technique is used in Eira as mentioned before for the Lundesokna experiments.

As seen in table III the percentages of recapture are very low, especially for the first year of the experiment.

In all the experiments the majority of tagged salmon were recaptured after one winter in the sea.

None of the experiments indicate that the smolt rearing is economically sound, but there is a remarkable increase in the recapture percentage, both in the Lundesokna experiment, and in the Eira experiment.

Finally I will draw your attention to the remarkable differences in sea and river recaptures in our smolt tagging and clean salmon tagging experiments. As seen from table I and table II only 6.4 - 8.0 per cent of the recaptures from reared smolts have been made in rivers, while 92 - 93.6 per cent have been caught in the sea. From table IV will be seen that of clean salmon a considerably higher percentage has been recaptured in rivers. I have a feeling that the main reason for this difference may be the fact that the stock of clean salmon has already been reduced by the sea-fishing when tagging begins.

Oslo, October 1st 1962.



II

Salmon Smolts tagged in the Lundesokna hatchery, Norway

Year	Numb. tagged	Mean length in cm	Recaptured as adults								Total Wght. % caught					
			1958		1959		1960		1961			1962				
			Numb.	Wght.	Numb.	Wght.	Numb.	Wght.	Numb.	Wght.		Numb.	Wght.			
1957	2957	16,8	21	47.-	5	27.1	1	8.5					27	83	1.-	
1958	2353	17,6			19	50.3	10	64.1	6	54.5	2	18.1		37	187	1.6
1959	2095						2	4						2	4	0.1
1960	1213	14,3							14	23,4	4	22		18	45	1.5
1961	6558	16,6										197	648	197	648	3.0
1962	7499															
Total	22675													281	967	

Reported until 28<sup>th</sup> September 1962 Recaught in rivers 6,4 %  
 ————— in sea 93,6 %

III

Salmon smolts tagged in the river Eira, Norway.  
(Smolts from the Eira hatchery.)

Year	Numb. tagged	Mean length in cm	Recaptured as adults						% re-captured		
			1960		1961		1962			Total	
			Numb.	Wght.	Numb.	Wght.	Numb.	Wght.	Numb.	Wght.	
1959	753	14.9	1	4.7					1	4.7	0.13
1960	2000	13.9			14	36.9	5	38.1	19	75.-	0.95
1961	2100						30	82.3	30	82.3	1.43
1962	3000										
Total									50	165	

Reported until 28<sup>th</sup> September 1962.

*Recought in rivers 8, - %  
- " - sea 92, - "*

IV

Clean Salmon tagged at the Norwegian coast  
1935 - 1961

Locality	Tagged fish		Recaptured fish					
	Year	Number tagged	Number recaptured	Percent recaptured	Percent recaptured in rivers in Norway	Percent recaptured in the sea in Norway	Percent recaptured in foreign countries	Percent recaptured at unknown locality in Norway
Hille	1957-1959	234	123	52.6	35.8	64.2	0.0	0.0
Wigan	1940	28	9	32.3	22.2	77.8	0.0	0.0
Rong	1935-1936	174	85	48.8	13.0	80.0	3.5	3.5
Melvær	1936-1940	615	287	46.9	11.8	81.0	6.3	1.0
Kinn	1947-1961	1479	850	57.5	16.7	80.2	2.9	0.1
Titran	1935-1940 1947-1958	1879	857	45.6	17.3	81.6	0.6	0.6
Farva	1956-1961	1638	987	60.3	22.6	76.9	0.1	0.4
Bjørøyvær	1951-1956	669	352	52.1	14.5	85.5	0.0	0.0
Kvaløyham	1954-1956	435	252	57.9	18.7	81.0	0.4	0.0
Bortsund	1961	34	15	44.1	26.7	73.3	0.0	0.0
Ersvik	1937-1938	694	250	36.0	22.8	61.6	15.2	0.4
Total		7879	4067					
				51.6				