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# **Statistics on Chum Salmon Reproduction in the Tim River, Sakhalin**

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## **Statistics on Chum Salmon Reproduction in the Tim' River, Sakhalin**

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The Tim' river which is the second largest river on Sakhalin (length - 325 km, watershed - 7,850 km<sup>2</sup>) flows into the Niyskiy Bay (north-eastern Sakhalin). The Tim' river provides habitat to the Sakhalin largest chum salmon stock. Spawning grounds cover 880,000 m<sup>2</sup>. Natural reproduction of the stock is supplemented by aquaculture; there are two chum hatcheries. Since 1960 there is regular monitoring of chum salmon reproduction which includes assessment of spawner stocks at spawning grounds, spawners' age composition, length, weight, and fecundity, as well as number of smolts. Counts are made during foot survey of headstreams with their 60% of the total spawning grounds and the data are extrapolated to the whole river. Results are summed up with the amount of fish return to hatcheries. The number of outmigrants is determined similarly. Results of outmigrant counting from the up-river spawning grounds are also extrapolated to the whole river. The obtained value is summed up with the number of smolts released by hatcheries.

Table 2

Number of outmigrants (mln. fish) and return of adults ( thous. fish)

Year	outmigrants	adults
1957	-	702,6
1958	-	1210,0
1959	-	843,7
1960	-	672,4
1961	144,4	497,3
1962	72,7	1407,4
1963	103,3	262,4
1964	157,4	189,7
1965	90,9	199,5
1966	89,8	220,2
1967	71,4	25,6
1968	46,4	352,3
1969	49,9	139,5
1970	46,5	275,9
1971	58,8	392,3
1972	61,2	228,9
1973	73,8	375,7
1974	57,1	455,5
1975	83,9	579,1
1976	71,1	447,8
1977	89,2	848,5
1978	98,8	561,5
1979	119,3	256,6
1980	136,7	501,6
1981	124,1	306,2
1982	116,2	287,2
1983	86,1	499,9
1984	105,3	974,6
1985	103,5	707,3
1986	82,0	214,5
1987	84,4	271,2
1988	104,1	271,1
1989	99,7	211,7
1990	60,3	184,8
1991	107,7	184,9
1992	72,6	228,1
1993	45,0	231,8
1994	51,5	85,8
1995	45,0	221,4
1996	74,8	-
1997	46,5	-
1998	74,2	-
1999	24,0	-

Table 4

## Average length, weight and fecundity

Year	Length (cm)			Weight (g)			Fecundity (number eggs)
	female	male	all fishes	female	male	all fishes	
1960	66	71	68	3150	3910	3530	-
1961	71	75	74	3400	4220	3900	2860
1962	71	74	72	3710	4640	4160	2650
1963	68	73	71	3620	4710	4270	3030
1964	67	70	68	3600	4160	3840	2670
1965	66,8	70,4	68,4	3300	4020	3690	3040
1966	69,6	72,8	71,4	3640	4510	4100	3200
1967	71	75	73	3900	4860	4460	2800
1968	70	73	71	3530	4040	3730	3060
1969	69	75	73	3730	4860	4420	3330
1970	68	73	71	3480	4290	3950	2950
1971	68	73	70	3910	4920	4390	3175
1972	67	71	70	3770	4310	4100	3150
1973	71	75	73	4300	5060	4700	3290
1974	70	73,5	71,6	3940	4720	4390	3070
1975	66,4	70,3	68	3420	4230	3760	3250
1976	68,3	72,2	69,5	3300	4140	3560	2880
1977	70,2	75,5	73,4	3870	4670	4360	3220
1978	67,7	73,5	70,5	3730	4830	4330	3260
1979	66,3	70,6	68,6	3590	4310	3970	3130
1980	66,8	71,2	68,9	3400	4200	3900	2842
1981	65,3	69,5	67,3	3600	4160	3800	3112
1982	66,5	69,9	68,2	3900	4700	4300	2759
1983	64,2	68	66,2	3500	4300	3900	2784
1984	66,8	70,9	69,1	3900	4700	4300	2957
1985	64,7	68	66,4	3400	4100	3800	2786
1986	65,2	66,3	65,6	3600	3800	3700	2705
1987	66,9	67,7	67,3	3600	4100	3900	2697
1988	65,4	69,1	67	3600	4400	3900	2688
1989	65	69,5	67,4	3600	4500	4100	2636
1990	64,9	69,7	67,3	3200	3700	3400	3218
1991	65,2	68,6	66,8	3500	4100	3800	2463
1992	64,6	68	66,9	3400	4200	3800	2489
1993	64,6	68,6	66,6	3700	4600	4100	2405
1994	64	68,2	66,3	3400	4200	3900	2395
1995	64,3	68,3	66,4	3400	4300	3900	2695
1996	66,2	69,8	68,2	3600	4400	4000	2759
1997	61,8	65,6	63	3000	3800	3300	2811
1998	62,2	65,8	64,3	3100	3700	3500	2618
1999	61,4	64,8	63,3	3100	3700	3400	2505