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Proposed Otolith Marks for Brood Year 2018 Salmon in Russia

by

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Abstract

Otolith marking of salmon of 2018 brood year will be conducted in five regions of the Far East: Kamchatka, Magadan, Sakhalin, Khabarovsk and Kuril regions. Marking will be carried out using two methods: thermal and "dry". Their application will be determined by the possibilities and specificity of water supply of incubated embryos at hatcheries of the Far East. The dominating method of marking will be a "dry" one—it will be used on the 69% of salmon hatcheries. Salmon will be marked at 28 hatcheries. Totally 34 otolith marks will be used.

Keywords: otolith marking, method of marking, juvenile salmon, hatcheries, marks.

The plan of otolith marking of salmon of 2018 generation

Mass marking of juvenile salmon is an important instrument that allows evaluating a rate of survivability of hatchery-raised salmon after their seaward run from the rivers into the seashore area and studying the ways of migration and fry salmon distribution in the Sea of Okhotsk and areas of fattening in the ocean. Moreover, otolith marking allows determining the effectiveness of hatcheries' work by looking at the amount of returned hatchery fish.

Salmon of 2018 generation will be marked at 28 hatcheries of the Far East: 17 in Sakhalin, 5 in Kamchatka, 3 in Magadan, 2 in Khabarovsk and 1 in Kuril Islands. Totally 34 marks will be used. Like in previous years, marking of juvenile salmon in the Far East will be carried out by using two methods: thermal at 9 hatcheries and "dry" at 22 hatcheries. At two of these hatcheries both marking methods will be used. Thermal marking will be conducted mainly by decreasing a temperature rate.

It is necessary to mention that otolith marking will dominate at the "prehatch" stage (71%). Ten marks will be used at the "post hatch" stage.

Russian plan of marking is shown in the Table 1. Samples of thermal and "dry" marking are given in the system of Hatch code (Hagen et al., 2000).

References

Hagen, P., H. J. Geiger, E. C. Volk, and J. J. Grimm. 2000. Thermal mark patterns applied to salmon from Alaska, Washington and Oregon for brood year 1999 and some proposed marks for brood year 2000. (NPAFC Doc. 463 rev. 1) 8 p. Alaska Department of Fish and Game, Juneau, Alaska 99801-5526, USA.

Table1. Plan marks from Russia for 2018 brood year stocks of salmon

MARK TYPE	BROOD YEAR	SPECIES	COUNTRY	STATE/ PROVINCE	FACILITY	HATCH CODE	GRAPHIC IMAGE	
							PREHATCH	POSTHATCH
1	2	3	4	5	6	7	8	9
TM	2017	Chum	Russia	Sakhalin	Ado-Tymovsky Hatchery	H5,1		I I I I I
DM	2017	Chum	Russia	Sakhalin	Buyuklovsky Hatchery	3,4nH	I I I IIII	
TM	2017	Chum	Russia	Sakhalin	Pobedinsky Hatchery	H4		I I I I
TM	2017	Chum	Russia	Sakhalin	Bereznyakovsky Hatchery	H6		I I I I I I
TM	2017	Chum	Russia	Sakhalin	Sokolovsky Hatchery	H3,4		I I I I I I I
DM	2017	Chum	Russia	Sakhalin	Urozhayny Hatchery	5,1H	I I I I I	
DM	2017	Chum	Russia	Sakhalin	Sokol`nikovsky Hatchery	1,2,2H	I I I I I	
DM	2017	Chum	Russia	Sakhalin	Kalininsky Hatchery	3,2H	I I I I I	
DM	2017	Chum	Russia	Sakhalin	Yasnomorsky Hatchery	4n,2H	IIII I I	
TM	2017	Chum	Russia	Sakhalin	Taranaysky Hatchery	H1,3,1		I I I I I
DM	2017	Chum	Russia	Sakhalin	Lesnoy Hatchery	4,3H	I I I I I I I	
DM	2017	Chum	Russia	Sakhalin	Okhotskiy Hatchery	5,2H	I I I I I I I	
DM	2017	Chum	Russia	Sakhalin	Bakhura Hatchery	4,2nH	I I I I II	
DM	2017	Chum	Russia	Sakhalin	Sobolinyy Hatchery	5H	I I I I I	
DM	2017	Chum	Russia	Sakhalin	Porech'e Hatchery	4,2H	I I I I I I	
TM	2017	Chum	Russia	Sakhalin	Porech'e Hatchery	H3,1		I I I I
TM	2017	Chum	Russia	Sakhalin	Porech'e Hatchery	H4,1		I I I I I
TM	2017	Chum	Russia	Sakhalin	Porech'e Hatchery	H1,5		I I I I I I
DM	2017	Chum	Russia	Sakhalin	Lebedinyy Hatchery	4,1H	I I I I I	
DM	2017	Chum	Russia	Magadan	Armansky Hatchery	1,3,1H	I I I I I	
DM	2017	Chum	Russia	Magadan	Ol'sky Hatchery	3n,3H	III I I I	
DM	2017	Chum	Russia	Magadan	Ol'sky Hatchery	5,3nH	I I I I I III	
DM	2017	Chum	Russia	Magadan	Yansky Hatchery	3,2n,2H	I I I II I I	
DM	2017	Chum	Russia	Magadan	Tauysky Hatchery	3n,4H	III I I I I	

Table 1 (continued). Plan marks from Russia for 2018 brood year stocks of salmon

MARK TYPE	BROOD YEAR	SPECIES	COUNTRY	STATE/ PROVINCE	FACILITY	HATCH CODE	GRAPHIC IMAGE	
							PREHATCH	POSTHATCH
1	2	3	4	5	6	7	8	9
TM	2017	Chum	Russia	Kamchatka	Paratunsky Hatchery	H3,3		I I I I I I
DM	2017	Chum	Russia	Kamchatka	Ozerkovsky Hatchery	3,3H	I I I I I I	
DM	2017	Chum	Russia	Kamchatka	Ketkinsky Hatchery	7H	I I I I I I I	
TM	2017	Chum	Russia	Khabarovsk	Kometa Hatchery	3,4H	I I I I I I I	
DM	2017	Chum	Russia	Khabarovsk	Aniuysky Hatchery	1,5H	I I I I I I	
DM	2017	Pink	Russia	Sakhalin	Anivsky Hatchery	5,1H	I I I I I I	
TM	2017	Pink	Russia	Sakhalin	Taranaysky Hatchery	7nH	IIIIIII	
TM	2017	Pink	Russia	Sakhalin	Taranaysky Hatchery	H3,2n		I I I II
DM	2017	Pink	Russia	Sakhalin	Lesnoy Hatchery	3,2H	I I I I I	
DM	2017	Pink	Russia	Sakhalin	Urozhayny Hatchery	3n,4H	III I I I I	
DM	2017	Pink	Russia	Sakhalin	Bakhura Hatchery	3,4H	I I I I I I I	
DM	2017	Pink	Russia	Sakhalin	Pugachevsky Hatchery	4,2H	I I I I I I	
DM	2017	Pink	Russia	Magadan	Armansky Hatchery	1,5H	I I I I I I	
DM	2017	Pink	Russia	Magadan	Ol'sky Hatchery	5H	I I I I I	
DM	2017	Pink	Russia	Magadan	Yansky Hatchery	4,2nH	I I I I II	
DM	2017	Pink	Russia	Khabarovsk	Kometa Hatchery	1,4H	I I I I I	
TM	2017	Coho	Russia	Kamchatka	Paratunsky Hatchery	H3,3		I I I I I I
DM	2017	Coho	Russia	Kamchatka	Viluysky Hatchery	3,2H	I I I I I	
DM	2017	Sockeye	Russia	Kamchatka	Ozerkovsky Hatchery	3,3H	I I I I I I	
TM	2017	Sockeye	Russia	Kamchatka	Malkinsky Hatchery	3,1H	I I I I	
TM	2017	Chinook	Russia	Kamchatka	Malkinsky Hatchery	H4		I I I I