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Marked Salmon Production by the Hatcheries of Russia in 2013

by

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Abstract

At Russian hatcheries salmon marking, as in previous years, is in general directed at evaluating the dynamics of number of hatchery raised salmon returns. In the recent years the main part of the hatchery raised salmon is marked in Sakhalin and Kurils region. The marking at hatcheries is conducted by two methods: thermal and “dry”. In 2013 the share of marked salmon in Sakhalin and Kurils made up 99%. It is connected with the fact that the major part of the hatcheries (38) is located in Sakhalin and Kurils and only 19 are in the other regions of the Far East.

Marked salmon production by the hatcheries of Russia in 2013

In 2013 Russian hatcheries released 582,2 million of marked juveniles. The major part of marked juvenile salmon are chum – 358,8 million (61,6%) and pink – 219,2 million (37,7%) from the total amount of marked salmon. The share of other species (sockeye, chinook and coho) did not exceed 1%. Sockeye were released in the number of 0,86 million, coho – 2,5 million, chinook – 0,9 million (Table 1).

Table 1

Release of marked Pacific salmon at the hatcheries of the Far East

Species/ province	NUMBER OF RELEASED, mln.						Share,%
	Magadan	Kamchatka	Sakhalin	Iturup	Khabarovsk	Total	
Chum	5,972	27,606	231,72	93,22	0,262	358,78	61,62
Pink	2,175	0	99,6	117,04	0,39	219,205	37,65
Coho	2,032	0,449	0	0	0	2,481	0,42
Sockeye	0	0,864	0	0	0	0,864	0,15
Chinook	0	0,91	0	0	0	0,91	0,16
Total	10,179	29,829	331,32	210,26	0,652	582,24	100

The major part of marked juveniles was released from the hatchery in Sakhalin (331,3 million) and Iturup (210,3 million). In Magadan region – 10,2 million, Kamchatka – 29,8 million, Khabarovsk region – 0,65 million. In Magadan juveniles were marked at three hatcheries, in Kamchatka – at five, in Khabarovsk region – at one hatchery, in Sakhalin – at fourteen and in Iturup – at four hatcheries.

All together 38 different mark patterns were used for marking, 28 of which were used for chum. 4 mark patterns were used in Magadan, in Kamchatka – 3, in Khabarovsk – 1, in Sakhalin – 13, in Iturup – 7.

Marked juvenile coho were released in Magadan region and Kamchatka. Juveniles were released at the age of fingerlings and yearlings. 2 mark patterns were used for fingerlings and 2 – for yearlings which were marked in 2011.

Sockeye and chinook were marked at the hatcheries of Kamchatka. 2 mark patterns were used for sockeye and 1 – for chinook.

As in previous years the major part of juveniles salmon (71%) were marked using “dry” method. Marking in general was conducted before embryos hatching.

Data on marked juveniles released are given in the Table 2.

References

Hagen, P. 1999. A modeling approach to address the underlying structure and constraints of thermal mark codes and code notation. (NPAFC Doc. 395) 12 p. Alaska Department of Fish and Game, Juneau, Alaska 99801-5526, USA.

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.

Munk, K. M., and H. J. Geiger. 1998. Thermal marking of otoliths: the "RBr" coding structure of thermal marks. (NPAFC Doc. 367) 19 p. CWT & Otolith Processing Lab., Alaska Department of Fish and Game, Juneau, Alaska, USA.

Table 2. Marked salmon production by the hatcheries of Russia in 2013

ID#	MARK TYPE	BROOD YEAR	YEAR OF RELEASE	SPECIES	COUNTRY	STATE/ PROVINCE	AGENCY	FACILITY	STOCK
1	2	3	4	5	6	7	8	9	10
RU12-01	DM	2012	2013	CHUM	RUSSIA	MAGADAN	OKHOTSKRYBVOD	ARMANSKY HATCHERY	ARMAN RIVER
RU12-02	DM	2012	2013	CHUM	RUSSIA	MAGADAN	OKHOTSKRYBVOD	OL'SKY HATCHERY	KUL'KUTY RIVER
RU12-03	DM	2012	2013	CHUM	RUSSIA	MAGADAN	MAGADANNIRO	OL'SKY HATCHERY	KUL'KUTY RIVER
RU12-04	DM	2012	2013	CHUM	RUSSIA	MAGADAN	OKHOTSKRYBVOD	OL'SKY HATCHERY	KUL'KUTY RIVER
RU12-05	DM	2012	2013	CHUM	RUSSIA	MAGADAN	OKHOTSKRYBVOD	OL'SKY HATCHERY	LANKOVAYA RIVER
RU12-06	DM	2012	2013	CHUM	RUSSIA	MAGADAN	OKHOTSKRYBVOD	OL'SKY HATCHERY	TANON RIVER
RU12-07	DM	2012	2013	CHUM	RUSSIA	MAGADAN	OKHOTSKRYBVOD	OL'SKY HATCHERY	BOGURCHAN RIVER
RU12-08	DM	2012	2013	CHUM	RUSSIA	MAGADAN	OKHOTSKRYBVOD	YANSKY HATCHERY	YANA RIVER
RU12-09	DM	2012	2013	CHUM	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	OZERKOVSKY HATCHERY	BOL'SHAYA RIVER
RU12-10	DM	2012	2013	CHUM	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	KETKINSKY HATCHERY	AVACHA RIVER
RU12-11	TM	2012	2013	CHUM	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	PARATUNSKY HATCHERY	PARATUNKA RIVER
RU12-12	DM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	ADO-TYMOVSKY HATCHERY	TYM' RIVER
RU12-13	DM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	POBEDINSKY HATCHERY	PORONAY RIVER
RU12-14	DM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	BUYUKLOVSKY HATCHERY	BUYUKLINKA RIVER
RU12-15	TM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	SOKOLOVSKY HATCHERY	BOL'SHOY TAKOY RIVER
RU12-16	TM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	SOKOLOVSKY HATCHERY	NAYBA RIVER
RU12-17	TM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	SOKOLOVSKY HATCHERY	UDARNITSA RIVER
RU12-18	TM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	BEREZNYAKOVSKY HATCHERY	FIRSOVKA
RU12-19	TM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	BEREZNYAKOVSKY HATCHERY	BOL'SHOY TAKOY RIVER
RU12-20	TM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	BEREZNYAKOVSKY HATCHERY	TARANAY RIVER
RU12-21	TM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	BEREZNYAKOVSKY HATCHERY	BUYUKLINKA RIVER
RU12-22	TM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	BEREZNYAKOVSKY HATCHERY	TYM' RIVER
RU12-23	TM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	BEREZNYAKOVSKY HATCHERY	PORONAY RIVER
RU12-24	TM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	TARANAYSKY HATCHERY	TARANAY RIVER
RU12-25	DM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	SOKOL'NIKOVSKY HATCHERY	ZAVETINKA RIVER
RU12-26	DM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	YASNOMORSKY HATCHERY	YASNOMORKA RIVER
RU12-27	DM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	KALININSKY HATCHERY	KALINKA RIVER
RU12-28	DM	2012	2013	CHUM	RUSSIA	SAKHALIN	SAKHALINRYBVOD	UROZHAYNYY HATCHERY	CHERNAYA RIVER
RU12-29	DM	2012	2013	CHUM	RUSSIA	SAKHALIN	PILENGA GODO	MONETKA HATCHERY	OSTROVKA RIVER
RU12-30	DM	2012	2013	CHUM	RUSSIA	SAKHALIN	LOSOS 2004	AY HATCHERY	AY RIVER
RU12-31	DM	2012	2013	CHUM	RUSSIA	SAKHALIN	RRZ ARSENTJEVKA	MANUY HATCHERY	MANUY RIVER
RU12-32	DM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	KURIL'SKY HATCHERY	KURILKA RIVER
RU12-33	TM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	REYDOVYY HATCHERY	REYDOVAYA RIVER

Table 2 (Continued). Marked salmon production by the hatcheries of Russia in 2013

ID#	MARK TYPE	BROOD YEAR	YEAR OF RELEASE	SPECIES	COUNTRY	STATE/ PROVINCE	AGENCY	FACILITY	STOCK
1	2	3	4	5	6	7	8	9	10
RU12-34	TM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	REYDOVYY HATCHERY	REYDOVAYA RIVER
RU12-35	TM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	REYDOVYY HATCHERY	REYDOVAYA RIVER
RU12-36	DM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	HATCHERY ON BAY OLYA	OLYA RIVER
RU12-37	DM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	HATCHERY ON BAY OLYA	REYDOVAYA RIVER
RU12-38	DM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	HATCHERY ON BAY OLYA	REYDOVAYA RIVER
RU12-39	DM	2012	2013	CHUM	RUSSIA	ITURUP	GIDROSTROY	KITOVYY HATCHERY	KURILKA RIVER
RU12-40	DM	2012	2013	CHUM	RUSSIA	KHABAROVSK	OOO "KOMETA"	KOMETA HATCHERY	TIKHOE LAKE
RU12-41	DM	2012	2013	PINK	RUSSIA	MAGADAN	OKHOTSERYBOD	ARMANSKY HATCHERY	OYRA RIVER
RU12-42	DM	2012	2013	PINK	RUSSIA	MAGADAN	OKHOTSERYBOD	ARMANSKY HATCHERY	OKSA RIVER
RU12-43	DM	2012	2013	PINK	RUSSIA	MAGADAN	OKHOTSERYBOD	OL`SKY HATCHERY	LANKOVAYA RIVER
RU12-44	DM	2012	2013	PINK	RUSSIA	MAGADAN	OKHOTSERYBOD	YANSKY HATCHERY	YANA RIVER
RU12-45	DM	2012	2013	PINK	RUSSIA	SAKHALIN	SAKHALINRYBOD	ANIVSKY HATCHERY	BYSTRAYA RIVER
RU12-46	DM	2012	2013	PINK	RUSSIA	SAKHALIN	SAKHALINRYBOD	TARANAYSKY HATCHERY	TARANAY RIVER
RU12-47	DM	2012	2013	PINK	RUSSIA	SAKHALIN	SAKHALINRYBOD	UROZHAYNYY HATCHERY	CHERNAYA RIVER
RU12-48	DM	2012	2013	PINK	RUSSIA	SAKHALIN	PILENGA GODO	MONETKA HATCHERY	OSTROVKA RIVER
RU12-49	DM	2012	2013	PINK	RUSSIA	SAKHALIN	PILENGA GODO	MONETKA HATCHERY	OSTROVKA RIVER
RU12-50	DM	2012	2013	PINK	RUSSIA	SAKHALIN	PILENGA GODO	MONETKA HATCHERY	OSTROVKA RIVER
RU12-51	DM	2012	2013	PINK	RUSSIA	SAKHALIN	PILENGA GODO	MONETKA HATCHERY	OSTROVKA RIVER
RU12-52	DM	2012	2013	PINK	RUSSIA	SAKHALIN	PILENGA GODO	MONETKA HATCHERY	IGRIVAYA RIVER
RU12-53	DM	2012	2013	PINK	RUSSIA	SAKHALIN	LOSOS 2004	AY HATCHERY	AY RIVER
RU12-54	DM	2012	2013	PINK	RUSSIA	SAKHALIN	RRZ ARSENTJEVKA	MANUY HATCHERY	MANUY RIVER
RU12-55	DM	2012	2013	PINK	RUSSIA	ITURUP	GIDROSTROY	KURIL`SKY HATCHERY	KURILKA RIVER
RU12-56	DM	2012	2013	PINK	RUSSIA	ITURUP	GIDROSTROY	KURIL`SKY HATCHERY	KURILKA RIVER
RU12-57	DM	2012	2013	PINK	RUSSIA	ITURUP	GIDROSTROY	KURIL`SKY HATCHERY	KURILKA RIVER
RU12-58	TM	2012	2013	PINK	RUSSIA	ITURUP	GIDROSTROY	REYDOVYY HATCHERY	REYDOVAYA RIVER
RU12-59	TM	2012	2013	PINK	RUSSIA	ITURUP	GIDROSTROY	REYDOVYY HATCHERY	REYDOVAYA RIVER
RU12-60	TM	2012	2013	PINK	RUSSIA	ITURUP	GIDROSTROY	REYDOVYY HATCHERY	REYDOVAYA RIVER
RU12-61	DM	2012	2013	PINK	RUSSIA	KHABAROVSK	OOO "KOMETA"	KOMETA HATCHERY	GYDZHU RIVER
RU12-62	DM	2012	2013	COHO	RUSSIA	MAGADAN	OKHOTSERYBOD	ARMANSKY HATCHERY	ARMAN RIVER
RU12-63	DM	2012	2013	COHO	RUSSIA	MAGADAN	OKHOTSERYBOD	YANSKY HATCHERY	YANA RIVER
RU12-64	DM	2012	2013	COHO	RUSSIA	MAGADAN	OKHOTSERYBOD	YANSKY HATCHERY	IGONDZHA RIVER
RU12-65	TM	2012	2013	CHINOOK	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	MALKINSKY HATCHERY	BOL`SHAYA RIVER
RU12-66	TM	2012	2013	SOCKEYE	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	MALKINSKY HATCHERY	BOL`SHAYA RIVER
RU12-67	DM	2012	2013	SOCKEYE	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	OZERKOVSKY HATCHERY	BOL`SHAYA RIVER
RU11-61	DM	2011	2013	COHO	RUSSIA	KAMCHATKA	FGU DIREKCIA LRZ	VILYUYSKY HATCHERY	BOL`SHOY VILUY LAKE
RU11-62	DM	2011	2013	COHO	RUSSIA	MAGADAN	OKHOTSERYBOD	OL`SKY HATCHERY	OLA RIVER

Table 2 (Continued). Marked salmon production by the hatcheries of Russia in 2013

ID#	FINAL RELEASE SITE	NUMBER OF RELEASED	HATCH CODE	RBr	GRAPHIC IMAGE		MARK SCHEDULE
					PREHATCH	POSTHATCH	
1	11	12	13	14	15	16	17
RU12-01	OKSA RIVER	381600	3n,4H	1:1.3n,2.4	III IIII		(2X)12D:12W,(1X)12D:60W,(4X)24D:24W
RU12-02	UGLIKANKA RIVER	501200	3n-3nH	1:1.3n-2.3n	III III		(2X)12D:12W,(1X)12D:108W,(3X)12D:12W
RU12-03	KUL`KUTY RIVER	1743000	3n-3nH	1:1.3n-2.3n	III III		(2X)12D:12W,(1X)12D:108W,(3X)12D:12W
RU12-04	UGLIKANKA RIVER	202398	3n-3nH	1:1.3n-2.3n	III III		(2X)12D:12W,(1X)12D:108W,(3X)12D:12W
RU12-05	UGLIKANKA RIVER	1937360	1,2H	1:1.1,2.2	I II		(1X)24D:48W,(2X)24D:24W
RU12-06	UGLIKANKA RIVER	699000	1,2H	1:1.1,2.2	I II		(1X)24D:48W,(2X)24D:24W
RU12-07	BOGURCHAN RIVER	151000	3n-3nH	1:1.3n-2.3n	III III		(2X)12D:12W,(1X)12D:108W,(3X)12D:12W
RU12-08	YANA RIVER	356000	5,1H	1:1.5,2.1	IIIIII I		(4X)24D:24W,(1X)24D:48W,(1X)24D:24W
RU12-09	PLOTNIKOVA RIVER	2662480	3H	1:1.3	III		(3X)24D:24W
RU12-10	ZELENOVSKIY SPRING	6105550	5H	1:1.5	IIIIII		(5X)24D:24W
RU12-11	TREZUBETC SPRING	18837500	H9	2:1.9		IIIIIIIIII	(9X)24H:24C
RU12-12	TYM' RIVER	30756040	3,2nH	1:1.3,2.2n	III II		(2X)24D:24W,(1X)24D:48W,(2X)12D:12W
RU12-13	PORONAY RIVER	18700070	1,4n,1H	1:1.1,2.4n,3.1	I IIII I		(1X)24D:48W,(3X)12D:12W,(1X)12D:48W,(1X)24D:24W
RU12-14	BUYUKLINKA RIVER	41239000	4,3H	1:1.4,2.3	IIII IIII		(3X)24D:24W,(1X)24D:48W,(3X)24D:24W
RU12-15	BELAYA RIVER	12317000	H1,4,1	2:1.1,2.4,3.1		I IIII I	(1X)24H:48W,(3X)24H:24W,(1X)24H:48W,(1X)24H:24W
RU12-16	BELAYA RIVER	4341500	H1,4,1	2:1.1,2.4,3.1		I IIII I	(1X)24H:48W,(3X)24H:24W,(1X)24H:48W,(1X)24H:24W
RU12-17	BELAYA RIVER	1130500	H1,4,1	2:1.1,2.4,3.1		I IIII I	(1X)24H:48W,(3X)24H:24W,(1X)24H:48W,(1X)24H:24W
RU12-18	BOL`SHOY TAKOY RIVER	16255620	H4	2:1.4		IIII	(4X)24H:24C
RU12-19	BOL`SHOY TAKOY RIVER	2287200	H4	2:1.4		IIII	(4X)24H:24C
RU12-20	BOL`SHOY TAKOY RIVER	3065941	H4	2:1.4		IIII	(4X)24H:24C
RU12-21	BOL`SHOY TAKOY RIVER	971000	H4	2:1.4		IIII	(4X)24H:24C
RU12-22	BOL`SHOY TAKOY RIVER	4391700	H4	2:1.4		IIII	(4X)24H:24C
RU12-23	BOL`SHOY TAKOY RIVER	1538953	H4	2:1.4		IIII	(4X)24H:24C
RU12-24	TARANAY RIVER	18180900	3,4H	1:1.3,1.4	III IIII		(2X)24H:24C,(1X)24H:48C,(4X)24H:24C
RU12-25	ZAVETINKA RIVER	15872000	4,1H	1:1.4,2.1	IIII I		(3X)24D:24W,(1X)24D:48W,(1X)24D:24W
RU12-26	YASNOMORKA RIVER	8980000	1,3n,1H	1:1.1,2.3n,3.1	I IIII		(1X)24D:48W,(2X)12D:12W,(1X)12D:48W,(1X)24D:24W
RU12-27	KALINKA RIVER	35367000	1,2n,2H	1:1.1,2.2n,3.2	I II II		(1X)24D:48W,(1X)12D:12W,(1X)12D:48W,(2X)24D:24W
RU12-28	CHERNAYA RIVER	4166550	9nH	1:1.9n	IIIIIIII		(9X)12D:12W
RU12-29	OSTROVKA RIVER	7503400	3n,2,1H	1:1.3n,2.2,3.1	III III I		(2X)12D:12W,(1X)12D:48W,(1X)24D:24W,(1X)24D:48W,(1X)24D:24W
RU12-30	AY RIVER	2655200	1,2,2H	1:1.1,2.2,3.2	I III I		(1X)24D:48W,(1X)24D:24W,(1X)24D:48W,(2X)24D:24W
RU12-31	MANUY RIVER	2000460	4n,2H	1:1.4n,2.2	IIII II		(3X)12D:12W,(1X)12D:48W,(2X)24D:24W
RU12-32	KURILKA RIVER	20450	3,2H	1:1.3,2.2	III III		(2X)24D:24W,(1X)24D:48W,(2X)24D:24W
RU12-33	REYDOVAYA RIVER	2578600	H3n,3	2:1.3n,2.3		III III	(2X)12H:12W,(1X)12H:48W,(3X)24H:24W

Table 2 (Continued). Marked salmon production by the hatcheries of Russia in 2013

ID#	FINAL RELEASE SITE	NUMBER OF RELEASED	HATCH CODE	RBr	GRAPHIC IMAGE		MARK SCHEDULE
					PREHATCH	POSTHATCH	
1	11	12	13	14	15	16	17
RU12-34	REYDOVAYA RIVER	9931700	H3n,3	3:1.3n,2,3		III III	(2X)12H:12W,(1X)12H:48W, (3X)24H:24W
RU12-35	REYDOVAYA RIVER	16874000	3n,3H	1:1.3n,2,3	III III		(2X)12H:12W,(1X)12H:48W, (3X)24H:24W
RU12-36	OLYA RIVER	7871200	5nH	1:1.5n	IIII		(5X)12D:12W
RU12-37	OLYA RIVER	15623600	1,2,3nH	1:1.1,2,2,3,3n	I III III		(1X)24D:48W,(1X)24D:24W,(1X)24D:48W,(3X)12D:12W
RU12-38	OLYA RIVER	11889200	1,2n,3H	1:1.1,2,2n,3,3	I II III		(1X)24D:48W,(1X)12D:12W,(1X)12D:48W,(3X)24D:24W
RU12-39	KITOVAYA RIVER	28432800	3,3H	1:1.3,2,3	III III		(2X)24D:24W,(1X)24D:48W,(3X)24D:24W
RU12-40	GYDZHU RIVER	262000	3,1,1H	1:1.3,2,1,3,1	IIII I		(2X)24D:24W,(1X)24D:48W,(1X)24D:48W,(1X)24D:48W
RU12-41	ARMAN RIVER	179540	3n,4H	1:1.3n,2,4	III IIII		(2X)12D:12W,(1X)12D:60W, (4X)24D:24W
RU12-42	ARMAN RIVER	1240460	3n,4H	1:1.3n,2,4	III IIII		(2X)12D:12W,(1X)12D:60W, (4X)24D:24W
RU12-43	UGLIKANKA RIVER	300000	7H	1:1.7	IIIIIII		(7X)24D:24W
RU12-44	YANA RIVER	455000	5,1H	1:1.5,2,1	IIII I		(4X)24D:24W,(1X)24D:48W,(1X)24D:24W
RU12-45	BYSTRAYA RIVER	35938100	8nH	1:1.8n	IIIIIII		(8X)12D:12W
RU12-46	TARANAY RIVER	15347000	7nH	1:1.7n	IIIIIII		(7X)12D:12W
RU12-47	CHERNAYA RIVER	1510800	9nH	1:1.9n	IIIIIII		(9X)12D:12W
RU12-48	OSTROVKA RIVER	4059100	3n,1H	1:1.3n,2,1	III I		(2X)12D:12W,(1X)12D:48W,(1X)24D:48W
RU12-49	OSTROVKA RIVER	15996800	3n,1,2H	1:1.3n,2,1,3,2	III I II		(2X)12D:12W,(1X)12D:48W,(1X)24D:48W,(2X)24D:24W
RU12-50	CHIRKOVA RIVER	3952800	1,2,4nH	1:1.1,2,2,3,4n	I III III		(1X)24D:48W,(1X)24D:24W,(1X)24D:48W,(4X)12D:12W
RU12-51	IGRIVAYA RIVER	1380400	1,3,2nH	1:1.1,2,3,3,2n	I III II		(1X)24D:48W,(2X)24D:24W,(1X)24D:48W,(2X)12D:12W
RU12-52	IGRIVAYA RIVER	4257200	3,2nH	1:1.3,2,2n	III II		(2X)24D:24W,(1X)24D:48W,(2X)12D:12W
RU12-53	AY RIVER	6642400	1,2,2H	1:1.1,2,2,3,2	I III II		(1X)24D:48W,(1X)24D:24W,(1X)24D:48W,(2X)24D:24W
RU12-54	MANUY RIVER	10517000	4n,2H	1:1.4n,2,2	IIII I		(3X)12D:12W,(1X)12D:48W,(2X)24D:24W
RU12-55	KURILKA RIVER	32959300	3,2H	1:1.3,2,2	III III		(2X)24D:24W,(1X)24D:48W,(2X)24D:24W
RU12-56	KURILKA RIVER	8946100	1,2n,2H	1:1.1,2,2n,3,2	I II III		(1X)24D:48W,(1X)12D:12W,(1X)12D:48W,(2X)24D:24W
RU12-57	KURILKA RIVER	29712000	1,4H	1:1.1,2,4	I IIII		(1X)24D:48W,(4X)24D:24W
RU12-58	REYDOVAYA RIVER	6239500	H5	2:1.5		IIII I	(5X)24H:24C
RU12-59	REYDOVAYA RIVER	12819500	H5	3:1.5		IIII I	(5X)24H:24C
RU12-60	REYDOVAYA RIVER	26363300	5H	1:1.5		IIII I	(5X)24H:24C
RU12-61	GYDZHU RIVER	390000	3,1,1H	1:1.3,2,1,3,1	IIII I		(2X)24D:24W,(1X)24D:48W,(1X)24D:48W,(1X)24D:48W
RU12-62	ARMAN RIVER	102300	3n,4H	1:1.3n,2,4	III IIII		(2X)12D:12W,(1X)12D:48W, (4X)24D:24W
RU12-63	YANA RIVER	1006400	5,1H	1:1.5,2,1	IIII I		(4X)24D:24W,(1X)24D:48W,(1X)24D:24W
RU12-64	YANA RIVER	15494	5,1H	1:1.5,2,1	IIII I		(4X)24D:24W,(1X)24D:48W,(1X)24D:24W
RU12-65	KLYUCHYEVKA RIVER	909750	H3,2	2:1.3,2,2		III II	(2X)48C:48H,(1X)48C:144H,(3X)48C:48H
RU12-66	KLYUCHYEVKA RIVER	545820	3,2H	1:1.3,2,2	III II		(2X)24C:24H,(1X)24C:72H,(3X)24C:24H
RU12-67	PLOTNIKOVA RIVER	318170	3H	1:1.3	III		(3X)24D:24W
RU11-61	BOL'SHOY VILUY LAKE	448630	3,3H	1:1.3,2,3	III III		(2X)24D:24W,(1X)24D:78W,(3X)24D:24W
RU11-62	UGLIKANKA RIVER	908000	3,2nH	1:1.3,2,2n	III II		(2X)24D:24W,(1X)24D:48W, (2X)12D:12W